

**The State of the Economy and the Relationship Between Prisoner Reentry and  
Crime**

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## **Abstract**

Previous research has identified a positive relationship between prisoner reentry and crime rates. The relationship potentially reflects both the recidivism of reentering offenders and the broader impact of the releases on the social organization of the areas to which they return. This paper explores how economic conditions moderate the association between the size of the reentering population and crime rates. Using a state-level panel spanning the years 1978-2003, and two alternative measures of economic strength, the results demonstrate that the amount of increase in property and violent crime associated with prisoner societal reentry is substantially lessened by strong economic conditions. The findings suggest that economic conditions and criminal justice policies should not be pitted against each other as simply competing explanations for variation in crime rates. Instead, they should be recognized as irreducibly interdependent.

Key words:

mass incarceration; prisoner reentry; crime rate; unemployment; economic conditions

For most of the 20th century incarceration rates in the U.S. were around 110 per 100,000 (Lynch 2007). Then something changed. Between 1975 and the end of 2008 the incarceration rate steadily increased from 111 to 504 per 100,000 (Sabol et al. 2010). An unavoidable consequence of that increase has been a burgeoning population of individuals reentering society with an incarceration record.

In a letter to the Safe Communities Reentry Council in 2008, then Senator Barack Obama noted that, “You don't have to be told that America's urban communities are facing an incarceration and post-incarceration crisis.” Citing high recidivism rates for the more than 600,000 ex-offenders released from prison each year, Obama promised that if he was elected president, he would work “to create ties between employers and third-party agencies that provide training and support services to ex-offenders and to improve ex-offender employment and job retention rates” (Accessed on-line May 2009). However, the current deep economic recession may reorient President Obama's priorities. With overall unemployment rates at unusually high levels, the goal of helping ex-offenders and their communities succeed could take a backseat to other initiatives.

Research has consistently shown that in places where job vacancies are scarce, low-skilled and low-prestige workers disproportionately suffer as employers can afford to be more discriminating in their hiring practices (Leiman 1993; Offner and Holzer 2002). Few job seekers are at a greater disadvantage than ex-offenders (Raphael 2007; Uggen 2000; Western 2006; Western, Kling, and Weiman 2001). Harry Holzer (1996) reported that only a third of employers in his multi-city survey would even consider hiring an applicant with a criminal record. Likewise, Devah Pager's (2003) audit study demonstrated that a criminal record is very damaging to the employment prospects of

young men; only 10% of applicants with a record were called back for an entry-level position, compared to 23% of those without a record. Combined with an economic recession, and in the absence of significant governmental assistance, a prison record may present an almost insurmountable obstacle for long-term employment. Lacking legitimate quality employment opportunities, ex-offenders might feel that they have little choice but to pursue criminal careers. Indeed, while the previously incarcerated may be disadvantaged in the legitimate labor market, their experiences behind bars may actually increase their employability in illegitimate enterprises (Hagan 1993; Sampson and Laub 1993).

There is surprisingly little research at the ecological level on the significance of conditions in the legitimate labor market for successful prisoner reintegration. Along these lines, Christopher Uggen, Sarah Wakefield, and Bruce Western (2005) have pointed out that, “Research and policy discussion of the problem of prisoner reentry commonly focuses on the deficits of offenders that place them at high risk of unemployment, marital instability, and subsequent offending. However, we seldom ask how the communities to which prisoners are returning might affect the likelihood of obtaining a steady job, reestablishing family ties, and staying out of prison” (p. 231). Likewise, Michael Reisig and co-authors (2007) have noted that there has been “almost no attention devoted to the social or economic characteristics of the geographic areas to which released inmates return” (p. 409). This is important because, for example, the unemployment rate of an area may affect the likelihood of individual recidivism via community control mechanisms, regardless of the employment status of the individual ex-offender (see Robert Sampson and Janet Lauritsen 1994 for discussion of the “individualistic fallacy”

in criminology). In addition, existing research focuses almost exclusively on individual recidivism as the means through which large-scale prisoner reentry increases crime. However, it is also quite possible, indeed in our view quite likely, that higher societal reentry rates increase the criminal behavior of the never-incarcerated via social disorganization and/or social learning effects (Clear 2007; Travis and Visher 2005). An aggregate-level analysis would incorporate such effects in estimating the potential criminogenic impact of the other side of mass incarceration—mass release.

Our goal is to add to the relatively small literature in this area by examining the potential conditioning impact of regional economic conditions on the relationship between prisoner reentry and crime rates. In our view, such an investigation is particularly important in light of the current economic recession. Using a state panel dataset (1978-2003), the results suggest that prison releases are significantly more criminogenic in the context of high unemployment rates and low economic activity. Thus, considering the current state of the economy, the findings underscore the critical importance of carefully implementing prisoner reentry programs, such as those called for in the Second Chance Act of 2008. The results are also a reminder that there is nothing inevitable about the association between the number of former inmates and crime. Areas with a strong economy may be able to successfully absorb returning ex-offenders without damaging social bonds or overtaxing communal resources. Moreover, the findings suggest that economic conditions and criminal justice policies should not be pitted against each other as simply competing explanations for variation in crime rates. Instead, they should be recognized as irreducibly interdependent.

## **Conceptual Framework <A>**

From a variety of perspectives, there are good reasons to expect that the relationship between prisoner release rates and crime rates would be contingent on economic conditions. As mentioned, a considerable amount of research in labor economics suggests that a scarcity of jobs disproportionately harms the most disadvantaged job seekers, and ex-inmates appear to be near the bottom of the list in terms of employer preferences (Holzer, Raphael, and Stoll 2007). Thus, job scarcity could translate into a much greater probability of unemployment for ex-offenders. This in turn could mean a stronger relationship between prison reentry and crime rates, since unemployed former inmates might be more likely to recidivate than those with steady work (Bushway, Stoll, and Weiman 2007; Uggen, 1999, 2000, although see Spohn and Holleran 2002). While previous research has generally found that simply having a job will produce at least modest declines in the likelihood of recidivism, the relationship hinges on various factors. For example, both the age of the ex-offenders and the quality of their jobs can affect the likelihood that work will significantly reduce recidivism (Uggen 1999, 2000).

The classic sociological cumulative disadvantage perspective would also predict that a lack of good-paying jobs exacerbates the extent to which prisoner societal reentry increases crime. From this perspective, an unemployed or under-employed ex-offender will find it especially difficult to overcome the alienating stigma of a criminal label, since he or she will lack the potentially counterbalancing normalizing prestige of a regular job. Robert Merton (1973) aptly summarized the phenomenon of cumulative disadvantage citing a verse from the Bible: “For unto every one that hath shall be given, and he shall

have abundance: but from him that hath not shall be taken away even that little which he hath” (p. 45). Thus, according to Merton and the classic cumulative disadvantage perspective, in the absence of resource buffers, the initially disadvantaged are particularly vulnerable to the harms that go along with a weak economy.

Elaborating on this general perspective and applying it directly to the impact of criminal justice interventions on attainment throughout the life course, Robert Sampson and John Laub (1997) argued that “Among the disadvantaged things seem to work differently . . . Perhaps most problematic, the process of cumulative disadvantage restricts future options in conventional domains that provide opportunities for social ‘interdependence’ (e.g., stable employment), while simultaneously encouraging options within subcultures that ‘reject the rejecters’” (p. 317). According to Sampson and Laub’s version of the cumulative disadvantage perspective, for the disadvantaged, the acquisition of a deviant label not only limits access to opportunities for occupational success, but also promotes opportunities for occupational failure. Incorporating concepts from the social learning perspective, Sampson and Laub theorize that the absence of steady work does more than erode the ex-offender’s beliefs about the legitimacy of mainstream institutions. It also solidifies the ex-offender’s bonds within deviant subcultures.

Along these lines, John Hagan (1993) has argued that ex-offenders, particularly those from lower-class backgrounds, frequently become “embedded” in criminal networks that deny them informal opportunities for legitimate employment while increasing opportunities to participate in illegitimate markets. This criminal embeddedness ultimately affects not only the nature of one’s livelihood, but also other life-course outcomes, such as where one lives and whether one gets married. Consistent

with Sampson and Laub's (1997) viewpoint, Hagan's perspective suggests that even seemingly minor initial erosions of conformist social capital associated with criminal justice interventions can have major effects on long-term life trajectories.

From a "stake in conformity" perspective, criminal justice interventions may only have a significant deterrent effect on those with gainful employment (Sherman and Smith 1992). Released offenders might better appreciate the significance of their recent deprivation of liberty when they can contrast the experience with their current, relatively resource-rich employed status. Likewise, in terms of general deterrence, individuals without a criminal record who are unemployed or underemployed may see little advantage to their life of conformity in comparison to recently released unemployed ex-offenders. Thus, criminal justice sanctions may be seen as irrelevant, and could increase defiance of the law for those convinced that they have little to gain by playing by the rules.

As Shawn Bushway, Michael Stoll, and David Weiman (2007) observe, high incarceration rates and high societal reentry rates "disrupt the local low-skilled labor market as a whole, not just for released prisoners" (p. 5). Moreover, the criminogenic ex-offender label may extend beyond the individual ex-offender to his or her community, and potentially even to the racial group to which the individual belongs (Sampson and Raudenbush 2005). Thus, it is important to recognize that the recidivism of ex-offenders is not the only way that prisoner releases can potentially affect crime rates.

Indeed, an increasing amount of macro research suggests that incarceration and reentry rates have important implications for overall levels of social organization, especially for disadvantaged areas with high levels of joblessness (Clear 2007; Garland

2001; Hagan and Dinovitzer 1999; Irwin and Austin 1997; Travis and Waul 2004; Tonry and Petersilia 1999). One of the cornerstones of classic social disorganization theory is the idea that resource deprivation and high population turnover negatively affect the ability of law-abiding community residents to mobilize to achieve collective goals, such as maintaining a safe neighborhood (Shaw and McKay 1942). Applying this general concept to the era of mass incarceration, Todd Clear (2007) has argued that in disadvantaged communities the “normative consensus and interpersonal connectedness that are the foundation of collective efficacy are undermined by high levels of concentrated incarceration and reentry” (p. 84). Furthermore, citing research by Jeffrey Fagan and Tom Tyler (2005), Clear (2007) noted that even the attitudes of neighbors who have not been to prison are significantly affected by incarceration’s “coercive mobility,” particularly in terms of diminished respect for the police and government authority. This lessened legitimacy of law enforcement in disadvantaged areas can ultimately lead to higher crime rates via the lack of cooperation with police crime control efforts.

In sum, increased prisoner reentry rates may lead to higher crime rates through a variety of mechanisms. While previous research has focused on the recidivism of released offenders as the main contributor, place-level processes that include the behaviors of those without a recent incarceration experience are also likely to play an important role. Regardless of the exact mechanism through which prisoner reentry causes higher crime rates, there is increasing speculation, from several different perspectives, that broader economic conditions will affect the strength of this causal relationship.

## **Previous Studies <A>**

In this section, we review studies relevant to the current work. These include studies that connect aggregate economic conditions to individual recidivism and those that link reentry rates to area crime rates.

### *Aggregate Economic Conditions and Ex-offender Recidivism <B>*

While there are sound theoretical reasons to expect that broader economic conditions would affect an ex-offender's likelihood of recidivism, there has been very little empirical research in this area. In an analysis of existing statistics, Richard Freeman (2003) compared the recidivism rates of offenders released from state prisons in two years characterized by very different labor markets: 1983 and 1994. Freeman (2003) argued that because "the labor market was much stronger in the mid-1990s than in the mid-1980s, we would expect recidivism to be lower for the 1994 cohort than for the 1983 cohort, all else the same" (p. 8). However, the recidivism rate was lower for the 1983 cohort, leading Freeman (2003) to conclude that the "1990s job market did not reduce recidivism even as it contributed to the crime reduction in that period" (p. 8).

Citing Freeman's (2003) analysis, William Sabol (2007) noted that further research was needed on the specific question of whether general unemployment rates are significantly related to employment outcomes for former inmates. Focusing on the impact of labor market conditions on the employment of ex-prisoners released from state prison in Ohio 1999-2000, Sabol reported that county unemployment rates indeed mattered for the probability that ex-offenders will find work. As expected from general labor economics theory, ex-prisoners had a much easier time securing employment where

jobs were plentiful. However, Sabol noted that his analysis was limited to a period of relatively low unemployment and that future studies should consider using data for a longer time period that covers a broader range of economic conditions.

Incorporating Sabol's estimate of the impact of unemployment rates on the probability that an ex-offender will find work, Steven Raphael and David Weiman (2007) examined the relationship between local labor market conditions and the likelihood that parolees will be returned to correctional custody. Using administrative data from the California State Department of Corrections for the 1990s, Raphael and Weiman reported evidence suggesting that offenders attempting to reintegrate in high unemployment areas were more likely to be returned to custody. They noted that the effect of local labor market conditions was particularly pronounced when the monitoring period was widened. That is, the impact of local unemployment rates was significantly greater when examining the probability that an offender would be returned within twenty-four months versus examining the probability of an offender being returned within six months. Furthermore, Raphael and Weiman (2007) found that labor market conditions appeared to be of greatest importance in determining recidivism for offenders who would generally be considered less likely to violate parole terms.

Including unemployment in their combined index of neighborhood disadvantage, Charis Kubrin and Eric Stewart (2006) examined the role of neighborhood socioeconomic context in determining the likelihood of individual recidivism for a sample of 4,630 former inmates living in 156 neighborhoods in the Portland, Oregon metropolitan area. Consistent with Raphael and Weiman's (2007) conclusions, Kubrin and Stewart reported that recidivism was significantly more likely in resource-

disadvantaged neighborhoods. This neighborhood-level effect was independent of several individual-level characteristics, although Kubrin and Stewart apparently did not have data regarding ex-inmate employment status.

While the national generalizability of Kubrin and Stewart's research could be questioned due to the exclusive focus on one relatively small metropolitan area, Kubrin and Stewart noted that Portland's general socioeconomic and demographic characteristics and recidivism rates did not differ considerably from the national average. Moreover, building on Kubrin and Stewart's (2006) research, Daniel Mears and co-authors (2008) provided an important replication and extension. Consistent with Kubrin and Stewart's results for Portland area neighborhoods, Mears et al. reported that county-level socioeconomic disadvantage independently contributed to the likelihood of individual recidivism for a large sample of 49,420 former inmates from Florida.

#### *Prisoner Reentry Rates and Overall Crime Rates <B>*

Thus far, the studies we have reviewed have used ex-inmate recidivism as the dependent variable. Closer to our own research design, we now review relevant prisoner reentry studies that focus on explaining variation in overall crime rates. While these studies tend to emphasize the connection between an individual ex-offender's recidivism and crime rates for an area, all recognize, to some extent, that recidivism is only one facet of the relationship between reentry rates and overall crime.

For example, an influx of former inmates can strain community resources that serve to prevent criminal offending among residents without a prison record. This point was well made in a tract-level study by John Hipp and Daniel Yates (2009) that

illustrated how the effect of returning parolees on crime rates was moderated by the presence of various community organizations as well as the informal social capital that goes along with relative population stability. The tendency to ignore social context and focus on the individual dangerousness of the ex-offender was aptly described in Todd Clear's (1996) seminal article, "Backfire: When Incarceration Increases Crime." Clear (1996) noted that from such an "atomistic" perspective,

Incarcerating specific offenders is considered to be a self-contained process--affecting that offender and almost nobody else. The walls of the prison stand symbolically as a black box into which citizens disappear for a time and later emerge, changed or not. The number of black boxes in existence and the frequency of experiences within them are, therefore, important only for the individuals who go through the process. This perspective ignores the potential impact of incarceration upon families, communities, economics, and politics (p. 2).

Since the time of Clear's call for a broader understanding of the public safety implications of offender removal and reentry, a number of studies have documented the socially disruptive, and thus potentially criminogenic effects of mass incarceration and mass release (Clear, Rose and Ryder 2001; Clear et al. 2003; Fagan, West and Holland 2003; Lynch and Sabol 2004; Rose and Clear 1998;).

In their state-panel analysis of the relationship between prison release rates and crime rates, Steven Raphael and Michael Stoll (2004) found positive and significant relationships for both property and violent crime rates. They argued that an important mechanism through which higher reentry rates might lead to higher crime rates is

“reverse-incapacitation.” That is, because incarceration is thought to reduce crime mostly through the incapacitation of motivated offenders, releasing offenders reinstates their capacity to act on criminal motivations thus increasing overall crime rates. However, Raphael and Stoll (2004) also point out that “the extent of this reversal may differ in magnitude from the incapacitation effect of incarcerating a new prisoner for a number of reasons...prisoners may undergo personal transformations that either increase or decrease their propensity to commit crimes upon release” (p. 6). Moreover, while Raphael and Stoll (2004) emphasize the crimes committed by recently released offenders, they also note that the “growing number of former inmates generates a host of problems for receiving communities” (p. 1).

Like Raphael and Stoll (2004), Richard Rosenfeld, Joel Wallman and Robert Fornango (2005) focus on the recidivism of released inmates as a straightforward mechanism through which prisoner reentry rates could influence total levels of violent and property crime. Examining data on arrest recidivism for former inmates, they estimate the direct contribution of ex-prisoners to overall crime rates. However, they explicitly recognize that the total criminogenic influence of prisoner reentry goes beyond the ability of ex-offenders to recidivate. Citing Todd Clear, Elin Waring, and Kristen Scully (2005), Rosenfeld et al. (2005) note that high levels of incarceration and reentry can increase crime in the long run through the impact of population “churning” on the social capital of affected regions. Furthermore, Rosenfeld et al. note that “released prisoners could potentiate the offending of others by reactivating former criminal networks or creating new ones, by propagating criminal norms in the community, and by increasing the pool of attractive crime targets (persons with criminal records have high

rates of victimization)” (p. 82). Thus, while the threat of offender recidivism via reverse-incapacitation is the simplest way to envision the association between reentry rates and crime, such an “atomistic” perspective (Clear 1996) ignores important sociological insights. Moreover, exclusive focus on the reverse-incapacitation effect of reentry dismisses the potential for incarceration to actually further the problem it was meant to solve.

Of particular relevance to the research design of the current study, Lynne Vieraitis, Tomislav Kovandzic and Thomas Marvell (2007) conducted a state-level pooled time-series analysis of the effect of prisoner release rates on crime rates. Consistent with earlier studies (e.g., Raphael and Stoll 2004), Vieraitis et al. (2007) reported significant positive relationships between prisoner reentry rates and crime rates. Also consistent with earlier research, the positive effects of prisoner reentry on crime were independent of an array of socioeconomic variables, including the unemployment rate. Because they controlled for the overall level of incarceration, Vieraitis et al. (2007) suggested that one interpretation of their results is that the experience of imprisonment makes former inmates more likely to commit crimes (see also, Kovandzic et al. 2004:213).<sup>i</sup>

However, Vieraitis et al. (2007) also recognized that released offenders could affect the likelihood of criminal behavior for others, regardless of whether or not they have experienced imprisonment firsthand. Reiterating a point made by Clear (1996), Vieraitis et al. (2007) note that it is possible that “the increased use of incarceration has lessened the general deterrent potential of prison because it has become a normal experience for so many citizens... prison release would increase crime if potential

offenders were convinced, by an increasing number of prison releasees, that prison is not costly” (p. 595).

While informative, previous research has not addressed the question of whether economic conditions affect the relationship between prisoner reentry and crime rates. While these studies typically included several controls for labor market conditions, they do not report examining any interaction effects between, for example, unemployment and prisoner reentry. Considering the results of other research on how labor markets affect the probability of employment and recidivism for individual ex-offenders, and given the considerable economic, sociological, and criminological theory that would predict such an interaction at the aggregate level, further research is warranted.

### **Research Design <A>**

The object of the empirical analysis is to test whether economic conditions moderate the relationship between societal reentry and crime at the state level.<sup>ii</sup> This is done by including reentry rates, measures of economic strength, and interactions between reentry and economic strength in an otherwise standard model of crime rates.<sup>iii</sup> Separate models for violent and property crimes are estimated in which the crimes depend on the key variables of interest as well as a variety of controls, including socio-demographic measures and incarceration rates. The models are estimated using panel data techniques applied to annual U.S. state data covering the years 1978 to 2003. In addition to explicit controls that vary both across states and time, the models include state-fixed effects, time-fixed effects and state-specific time trends. State-fixed effects account for persistent differences across states, such as regional location and associated cultural norms. Time-

fixed effects account for influences that are common to all states in a particular year, for example, changes in federal laws. State-specific time trends capture regular slow-moving trends within a state that are different from the national movements accounted for by the time-fixed effects (for example, gradual shifts in the sex ratio of a particular state's population). Given that we account for these deterministic components, the models seek to explain within-state variation in crime that deviates from trends. The use of fixed effects and trends in addition to the explicit control variables provides a stringent test of the possible roles of release rates on crime and the moderating influence of economic conditions.

The specific form of the empirical model is:

$$(1) \text{Crime}_{s,t} = \alpha + \gamma_1 \text{Release}_{s,t} + \gamma_2 \text{Econ}_{s,t} + \gamma_3 \text{Interact}_{s,t} + \gamma_4 \text{Incar}_{s,t} + \sum_{i=5}^k \gamma_i X_{i,s,t} + \beta_s + \eta_t + \delta_s \text{time} + \varepsilon_{s,t}$$

where  $s$  and  $t$  index states and time, respectively;  $\alpha$  is a constant term; *Crime* is the chosen crime rate; *Release* refers to state release rates; *Econ* is a measure of economic strength; *Interact* is the product of *Release* and *Econ*; *Incar* refers to state incarceration rates;  $X_i$  is the  $i^{\text{th}}$  control variable;  $\gamma_i$  are response coefficients;  $\beta_s$  is a state dummy variable;  $\eta_t$  is a time dummy variable;  $\delta_s$  is the coefficient on the state-specific time trend, *time*; and,  $\varepsilon$  is a random error term.

State-level violent and property crime rates, societal reentry rates, and incarceration rates come from the Bureau of Justice Statistics.<sup>iv</sup> Consistent with previous research, these are all based on year-end counts that are divided by the total resident population and multiplied by 100,000.

Control variables are selected to be consistent with the standard empirical model of crime (e.g., Chiricos 1987; Johnson and Raphael 2006; Kovandzic and Vieraitis 2006;

Levitt 1996; Vieraitis et al. 2007). These include the strength of each state's economy in a given year, the incarceration rate, and a variety of demographic variables.

State economic strength is measured in two alternative ways. The first is by the state's unemployment rate, a standard approach that gauges job availability. State unemployment rates are obtained from the Bureau of Labor Statistics. Some authors, such as Thomas Arvanites and Robert DeFina (2006) and Richard Rosenfeld and Robert Fornango (2007), have argued that unemployment might be too restrictive a metric of economic strength for the purposes of crime studies, and have suggested the use of broader measures such as gross state product. In response, we employ a second and more encompassing index of state economic activity developed by the Federal Reserve System. The index combines four state-level indicators to summarize current economic conditions in a single statistic and is available beginning in 1979.<sup>v</sup> The four state-level variables in each coincident index are nonfarm payroll employment, average hours worked in manufacturing, the unemployment rate, and wage and salary disbursements deflated by the consumer price index (U.S. city average).<sup>vi</sup> Gross state product, the most complete measure of state aggregate economic activity, contains a discontinuity in the official series during the 1990s resulting from definitional changes, and so cannot be used given the study period. The state economic index is the next best alternative. The value of the correlation between the unemployment rate and the economic index is -0.55, and is significant at the 5 percent level. Thus, while the alternative measures of economic strength are clearly linked, each measure also provides a substantial amount of unique information.

Demographic controls are derived from Census data. These include the percent of female-headed families, the percent of individuals over twenty-four years old with a college degree, the percent of individuals over twenty-four years old who are divorced, the percent of the population that is white, the percent of the population between 18 and 24 years old, the percent of the population between 25 and 44 years old, and the percent living in a metropolitan area. Consistent with previous research (e.g., Arvanites and DeFina 2006) we control for age structure because younger populations are known to be more likely to engage in criminal behavior. Also, consistent with earlier research (e.g., Levitt 1996), we include the percent living in metropolitan areas as a control variable because crime rates are consistently higher in such areas than in non-metropolitan areas. Because some research has speculated that educational attainment depresses criminal involvement (e.g., Vieraitis et al. 2007), we also control for the proportion of the population with a college education. Likewise, research in the anomie and social disorganization traditions has frequently implicated high divorce rates and rates of female-headship as criminogenic at the regional level (e.g., Kovandzic and Vieraitis 2006). Finally, in line with previous studies (e.g., Johnson and Raphael 2004), we include a control for percent white, since this population may experience advantages in the opportunity structure that limit pressures to engage in crime. Summary statistics for the variables used in the analysis are displayed in Table 1.

<Table 1 about here>

As is common when estimating interaction effects, the level of each variable in the interaction is de-meanned (Aiken and West 1991). Doing so allows us to interpret the coefficients on the level variables as the response of crime to changes in each variable at the respective means. It also automatically provides the standard errors for the partial effects at the mean values.

Following Vieraitis et al. (2007) we test whether the data are stationary, as non-stationary stochastic trends in the data can give rise to spurious relationships and interfere with valid hypothesis testing (also, see Liedka, Piehl, and Useem 2006). There are procedures to test whether series are not stationary that have been designed specifically for panel data. We use Hashem Pesaran's (2007) panel procedure, which is one of the newer or "second generation" tests that account for dependence among the units of analysis (here U.S. states) that is generally present in panel data. Tests include three lags and allow for possible state-fixed effects and state-specific trends (as well as cross-sectional dependence.) Consistent with earlier research (Liedka et al. 2006; Vieraitis et al. 2007), the test results indicate that the null hypothesis of non-stationarity can easily be rejected for each of the crime rates ( $p < 0.001$ ).<sup>vii</sup> Non-stationarity is also rejected for the release rate and each of the economic indicators.

Further diagnostic testing revealed the presence of both heteroskedasticity and serial correlation.<sup>viii</sup> Consequently, we rely on corrected standard errors that are constructed specifically to account for arbitrary forms of heteroskedasticity and serial correlation, and thus allow valid hypothesis testing (Newey and West 1987). This approach coincides with current trends in the empirical analysis of panel data and has advantages over other methods such as the use of feasible generalized least squares (see Wooldridge 2003).

## Results <A>

Three versions of equation (1) are estimated for each crime – one using the unemployment rate, one using the economic index and one using both. The equations are estimated using OLS, where observations are weighted using state population values (the *aweight* command in Stata 10 is used.)<sup>ix,x</sup>

### *Violent Crime Equation Estimates <B>*

The estimated coefficients for the three violent crime equations are shown in Table 2 along with the associated robust standard errors. Model 1 uses the unemployment rate to measure economic strength. Among the control variables, percent living in a metro area, and the two age variables all have positive and significant effects.

The coefficient for the societal reentry rate is positive and significant ( $p < 0.001$ ). The estimated coefficient value of 0.453 indicates that each additional two reentrants causes approximately one additional violent crime that otherwise would not have occurred. Most importantly for this study, the interaction of the societal reentry rate and the unemployment rate is positive and highly significant ( $p < 0.001$ ). Thus, not only are prison releases estimated to have a criminogenic effect as indicated by the significance of the societal reentry rate, that effect is heightened as the unemployment rate increases.<sup>xi</sup>

<Table 2 about here>

The unemployment rate itself is positive and significant ( $p < 0.001$ ) and suggests that each additional percentage point of unemployment leads to an additional 12 violent crimes per hundred thousand in the population. Previous literature has found that unemployment generally has an insignificant effect on violent crime. We suspected that our finding of a significant effect reflects the inclusion of the interaction term in the estimating equations. That interaction term effectively permits a more complex relationship between violent crime and the unemployment rate that can account for more of the data variation. Trying to fit a simpler relationship can still produce a positive slope, but the standard error will be larger because the resulting fit can leave large dispersion around the relationship. To test this hypothesis, we removed the interaction term from the model and re-estimated the violent crime equation. As hypothesized, the unemployment coefficient remained positive, but became statistically insignificant as other studies have found.

Model 2 substitutes the state economic index for the unemployment rate as a measure of economic strength. Concerning the control variables, only the percent living in metro areas and in the lowest age groups are significant. The coefficient for societal reentry is positive and significant ( $p < 0.001$ ) as in Model 1 with roughly the same size. The interaction between societal reentry and the index of economic strength is negative and highly significant ( $p < 0.001$ ). Thus, the alternative measure of the economy's health is found to moderate the effect of societal reentry in a way consistent with that found for the unemployment rate. The economic index is not itself statistically significant.

Model 3 includes both measures of economic strength simultaneously. The coefficient for societal reentry is once again positive and significant ( $p < 0.001$ ). Notably,

the interactions of societal reentry with each of the measures of economic strength are significant with the expected signs (unemployment interaction  $p < 0.05$ ; indicator interaction  $p < 0.001$ ). The unemployment rate is individually positive and significant ( $p < 0.001$ ) with a slightly smaller coefficient value than in Model 1. The state economic indicator is insignificant as in Model 2. And, as in Model 2, the percent living in metro areas and in the lowest age group are the only control variables that are significant.

We illustrate the sensitivity of reentry's impact on violent crime to changes in the unemployment rate in Figure 1, Panel A. Panel A shows the number of additional violent crimes associated with 1,000 new reentrants at selected levels of the unemployment rate. At the mean level of unemployment, 1,000 new reentrants are associated with 453 additional violent crimes (this equals the estimated coefficient on the reentry variable in Table 2, Model 1 times 1,000). At one standard deviation above the mean unemployment rate, the same 1,000 new reentrants are now associated with 814 new violent crimes.<sup>xii</sup> Thus, the impact of reentry on violent crime is quite sensitive to changes in the unemployment rate. The effect of reentry on violent crime is similarly responsive to changes in the economic index (Figure 1, Panel B). The impact rises from 405 new violent crimes when the index is at its mean to 958 new violent crimes when the index is one standard deviation below its mean (a fall in the index corresponds to a rise in the unemployment rate.) Indeed, the impact of reentry is sensitive enough to the economic index that a one standard deviation rise in the index is actually sufficient to cause the number of violent crimes to fall by 148. Thus, it appears that prisoner reentry can actually decrease violent crime in the context of a strong economy.

<Figure 1 about here>

### *Property Crime Equation Estimates <B>*

The property crime regression estimates are displayed in Table 3 and follow the same specification progression used for violent crime. In Model 1, societal reentry has a positive and significant impact on property crime ( $p < 0.001$ ). The estimated coefficient implies that each reentrant leads to an additional two property crimes that otherwise would not have occurred. The coefficient on the unemployment rate interaction is also positive and significant ( $p < 0.001$ ). Like violent crime, the state of the economy appears to moderate the effect of reentry on property crime. Unemployment is found to have its own positive independent impact on property crime ( $p < 0.001$ ).

<Table 3 about here>

More of the control variables are significant than in the violent crime equations. In particular, the incarceration rate is negative and significant ( $p < 0.001$ ). However, it is important to keep in mind that this apparent incapacitation effect for property crime is arguably counterbalanced by the criminogenic consequences of prisoner reentry. Three other control variables are also significantly related to property crime. The percent of the population that is white has a negative effect, while the percents living in a metro area and in the two age groups have positive effects.

In estimates of Model 2, the societal reentry rate is positive and significant ( $p < 0.001$ ) and about the same magnitude as in Model 1. The economic indicator

interaction is negative and significant ( $p < 0.001$ ), consistent with the results for the unemployment rate.

In Model 3, the reentry rate is again positive and highly significant ( $p < 0.001$ ), with a coefficient about the same size as in the preceding two models. Contrary to the results for violent crime, only the interaction with the economic indicator is statistically significant ( $p < 0.05$ ), although the unemployment rate itself is positive and significant. To the extent that there is some collinearity between the variables, it is reasonable that the economic index interaction remains significant in that it is a broader, more encompassing measure with additional variation.<sup>xiii</sup>

We illustrate the sensitivity of reentry's impact on property crime to changes in the unemployment rate in Figure 2, Panel A. Panel A shows the number of additional property crimes associated with 1,000 new reentrants at the mean level of the unemployment rate, as well as one standard deviation above and below the mean. At the mean level of unemployment, 1,000 new reentrants are associated with 2,258 additional property crimes. At one standard deviation above the mean unemployment rate, the same 1,000 new reentrants would now be associated with 3,032 new property crimes. As with violent crime, the impact of reentry on property crime is quite responsive to changes in the unemployment rate. The effect of reentry on property crime is similarly sensitive to changes in the economic index (Figure 2, Panel B). The impact rises from 2,304 new property crimes when the index is at its mean to 3,935 new property crimes when the index is one standard deviation below its mean.

<Figure 2 about here>

## **Conclusion <A>**

Consistent with earlier research (Raphael and Stoll 2004; Rosenfeld et al. 2005; Vieraitis et al. 2007), we find that reentry rates are positively associated with crime rates. Furthermore, because we hold the incapacitation effect of prison constant by including the incarceration rate as a control, we believe, like Vieraitis et al. (2007), that the positive reentry rate coefficient should not be interpreted as indicating a reverse incapacitation effect.<sup>xiv</sup> The state does not lose any of its incapacitation power when it simply replaces a released offender with a demographically similar new admit so that the incarceration rate remains unchanged. This substitution is implied in a regression model that includes both the incarceration rate and the release rate in the same equation. Thus, our results can be interpreted as offering further support for the notion that prisons can both initially reduce crime via incapacitation and later increase crime via other mechanisms, such as labeling and social disorganization effects (Clear 1996; Fagan et al. 2003; Nieuwbeerta, Nagin, and Blokland 2009; Spohn and Holleran 2002).

Furthermore, using two distinct measures of the relative health of the economy, and a variety of control variables and robustness checks, the results support the general hypothesis that a state's economy matters in determining the extent to which increased prisoner reentry leads to higher crime rates. Prisoner reentry is more likely to be associated with additional crime in weak regional economies where low-skilled individuals have difficulty acquiring quality jobs with decent pay, spending on support services and other public goods is depressed, and communities are less capable of absorbing released inmates. Conversely, under very robust economic conditions, an

increase in the size of the population with a recent incarceration record has little effect on regional crime rates.

It is important to note that these results do not mean that inmates cannot be safely paroled or released in the current time of economic recession. Indeed, the tripling of the incarceration rate over the last few decades has left many state budgets in desperate need of relief from the soaring costs of imprisonment, and releasing low-risk inmates may greatly facilitate economic recovery (which could reduce crime). For example, state funds that have been tied up simply warehousing prisoners could be freed for more productive uses, such as job training, small business loans, and infrastructure modernization. Each of these can help to generate more income and jobs and, ultimately, more tax revenue, thus promoting a virtuous cycle. Moreover, that the relationship between the size of the former inmate population and crime rates varies so markedly by socioeconomic context suggests that there is nothing inevitable about the so-called “revolving door of justice” (consider also, Raphael and Stoll’s (2004) finding that the relationship between prison releases and crime varies by the strength of state parole boards).

While policy attention to socioeconomic factors that inhibit reintegration has not been high on the list of popular crime control strategies, there is some evidence that the political winds are shifting. One historic piece of bi-partisan legislation, the Second Chance Act of 2008, suggests that there is both heightened recognition of the problems of prisoner reentry and increasing political will to do something about them. Signed by President Bush and supported by President Obama, the law authorizes federal grants to

nonprofits and government agencies to provide employment and housing assistance, drug and alcohol abuse treatment, and other services to reentering offenders.

In general, the results of the current analysis underscore the importance of socioeconomic context in determining the effectiveness of criminal justice interventions. It is common for researchers to compare and debate results regarding the significance of economic factors versus criminal justice factors. Rarely do such comparisons go beyond a simple assessment of additive effects. That is, researchers frequently ignore interaction effects. For example, the question of whether the strong economy of the 1990s played a larger role in reducing crime than the increase in imprisonment ignores the possibility that the two interact in their effect on crime. The current analyses demonstrate how isolating the effects of socioeconomic and criminal justice policy variables in standard regression models can be misleading, since each effect may be dependent on the other.

The findings presented here are consistent with results from several recent studies focused on the question of how local context matters for offender recidivism (e.g., Mears et al. 2008). The results also are in line with a wider literature that has documented the socially disruptive impact of the mass removal and return of offenders in disadvantaged areas (e.g., Clear 2007). Furthermore, the findings are reasonable in light of a variety of theoretical concepts. In terms of offender recidivism, these include perspectives on labeling and cumulative disadvantage (Sampson and Laub 1997) and social learning and social embeddedness (Hagan 1993). Since previous individual-level research suggests only a modest effect of employment on recidivism (e.g., Raphael and Weiman 2007), and given the magnitude of the effects observed in the current analysis at the state level, we suspect that the economy's broader impact on the ability of residents to maintain order in

the face of mass prisoner reentry is of primary importance (Clear 2007; Rose and Clear 1998). A worthwhile goal for future research would be to identify the main mechanisms through which the deterioration of economic conditions exacerbates the criminogenic consequences of ex-offender reentry.

In their classic comparison of prisons in the United States to those in France, Gustave de Beaumont and Alexis de Tocqueville (1833) argued that much of the relative rehabilitative success of U.S. penitentiaries in the early 1800s could be credited to broader economic conditions, rather than the specific policies of the prisons themselves. They noted,

In America, where wages are extremely high, the convicts easily find labour when they leave the prison; and this circumstance favours their good conduct when they have reentered society; in France, the situation of delivered convicts is infinitely less favourable; and even if they are resolved to lead an honest life, they are not unfrequently brought back to crime by a fatal necessity (p. 103).

Unfortunately, the current state of the U.S. economy and correctional system is not nearly as exemplary as it was in Beaumont and Tocqueville's day. Thus, especially in this time of economic recession, and in this era of mass incarceration and mass release, greater emphasis should be placed on the careful design and implementation of programs that promote the successful reintegration of ex-inmates. Potential reforms include: front-loading release services, reconsidering indeterminate sentencing and strengthening parole boards, increasing cooperation between relevant agencies, and eliminating barriers to ex-inmates obtaining various professional licenses (Petersilia 2003). While it is possible that the current economic recession might hinder the prioritization of meaningful criminal

justice reforms, it could also enhance their visibility and elevate their status, as states must now come to grips with the high costs of both mass incarceration and mass release.

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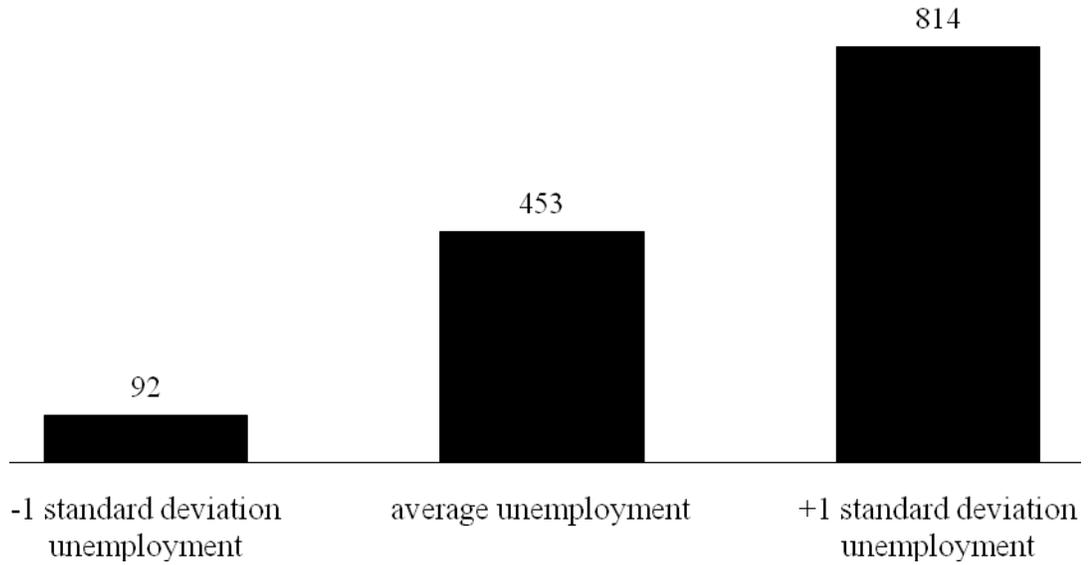
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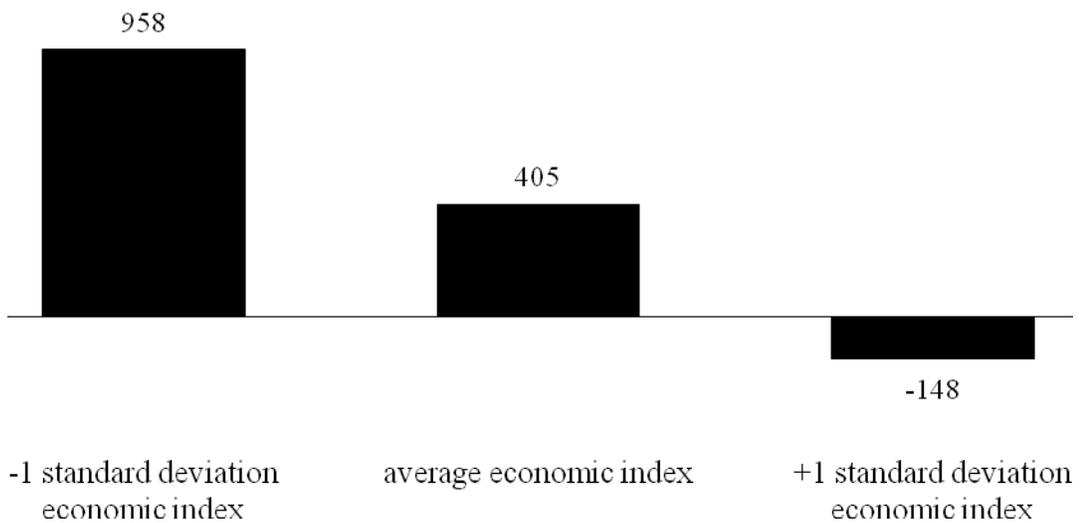
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**Figure 1: How the Economy Moderates the Impact of Reentry on Violent Crime**

**Panel A: The Number of Additional Violent Crimes Associated with 1,000 New Reentrants at Selected Unemployment Rates**  
(based on estimates in Table 2, Model 1)

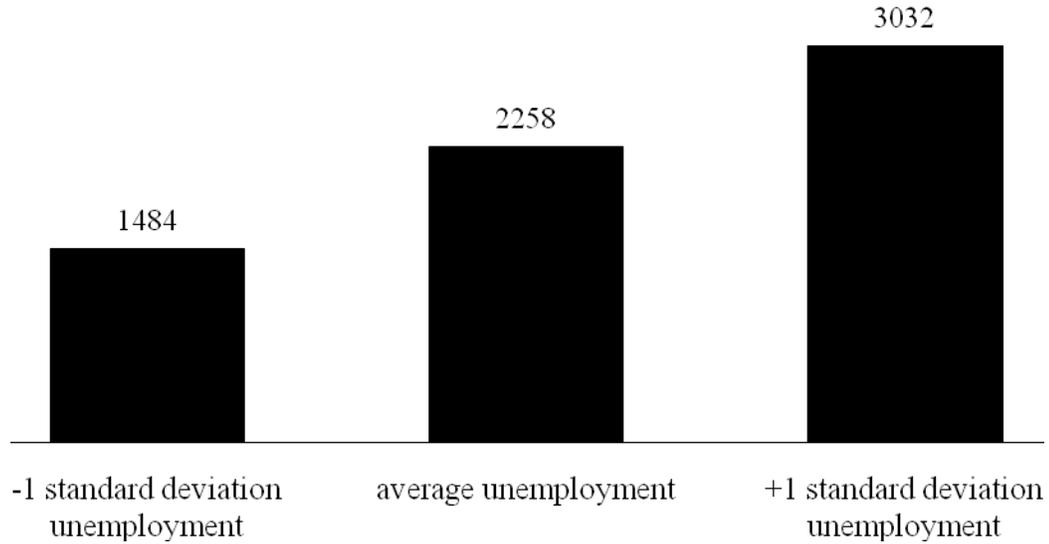


**Panel B: The Number of Additional Violent Crimes Associated with 1,000 New Reentrants at Selected Levels of the Economic Index**  
(based on estimates in Table 2, Model 2)

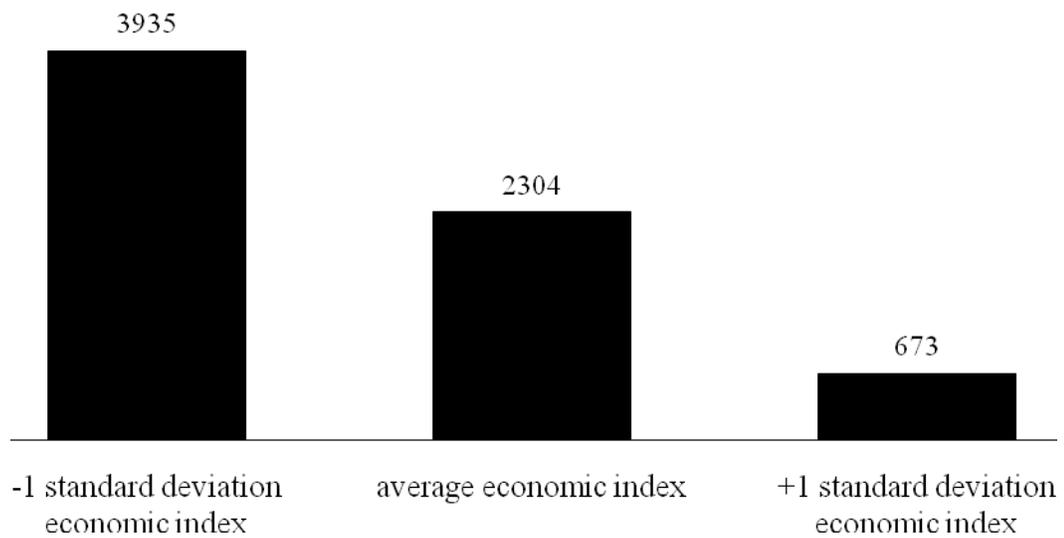


**Figure 2: How the Economy Moderates the Impact of Reentry on Property Crime**

**Panel A: The Number of Additional Property Crimes Associated with 1,000 New Reentrants at Selected Unemployment Rates**  
(based on estimates in Table 3, Model 1)



**Panel B: The Number of Additional Property Crimes Associated with 1,000 New Reentrants at Selected Levels of the Economic Index**  
(based on estimates in Table 3, Model 2)



**Table 1: Summary Statistics<sup>a</sup>**

<u>Variable</u>	<u>Mean</u>	<u>Standard Deviation</u>	<u>Min</u>	<u>Max</u>
Property crime	4496.42	1182.07	1916.60	7996.00
Violent crime	593.12	247.06	47.00	1244.30
Prisoner reentry rate	147.33	87.33	11.07	515.54
Unemployment rate	6.18	1.91	2.20	18.00
State economic index	107.76	27.64	53.82	220.59
Incarceration rate	300.87	157.91	30.31	926.13
Prop. College degree	0.22	0.05	0.06	0.38
Prop. Female headed family	0.22	0.03	0.10	0.34
Prop. 18 to 24 years old	0.11	0.02	0.08	0.16
Prop. 25 to 44 years old	0.30	0.02	0.24	0.39
Prop. Divorced	0.10	0.02	0.03	0.20
Prop. White	0.84	0.09	0.18	1.00
Prop. Metro area	0.78	0.17	0.15	1.00

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<sup>a</sup>Numbers weighted by state-year populations.

**Table 2: Violent Crime OLS Regressions<sup>a</sup>**

Variable	Model 1		Model 2		Model 3	
	Estimated coefficient	Standard error <sup>b</sup>	Estimated coefficient	Standard error <sup>b</sup>	Estimated coefficient	Standard error <sup>b</sup>
Reentry rate	0.453**	0.092	0.405**	0.0803	0.417**	0.083
Unemployment rate	12.490**	3.120	--	--	12.108**	3.962
Reentry*unemployment	0.189**	0.033	--	--	0.081*	0.035
State economic indicator	--	--	0.008	0.747	1.122	0.934
Reentry*indicator	--	--	-0.020**	0.003	-0.015**	0.003
Incarceration rate	0.091	0.099	0.098	0.102	0.114	0.101
Prop. Female headed family	-186.301	162.524	53.429	147.030	-4.835	145.754
Prop. Divorced	315.451	363.544	-246.265	322.350	-21.848	314.301
Prop. College	201.111	187.471	129.887	188.689	187.666	169.783
Prop. White	-113.424	147.113	-115.002	157.049	-118.615	147.978
Prop. Metro area	1128.632**	260.119	999.379**	233.007	1020.998**	238.011
Prop. 18 to 24 years old	4757.755**	1042.69	2936.406**	1002.588	3391.265**	1017.787
Prop. 25 to 44 years old	2219.987**	759.451	1059.954	753.430	1144.783	725.611
Adjusted R <sup>2</sup>	0.954		0.957		0.959	
Number of observations	1299		1249		1249	

<sup>a</sup>All models include state fixed effects, time fixed effects and state-specific time trends. Observations are weighted using population values and the Stata 10 *aweight* command. \* and \*\* indicate p<.05 and p<.01, respectively.

<sup>b</sup>Standard errors are robust to heteroskedasticity and autocorrelation.

**Table 3: Property Crime OLS Regressions<sup>a</sup>**

Variable	Model 1		Model 2		Model 3	
	Estimated coefficient	Standard error <sup>b</sup>	Estimated coefficient	Standard error <sup>b</sup>	Estimated coefficient	Standard error <sup>b</sup>
Reentry rate	2.258**	0.588	2.304**	0.638	2.030**	0.598
Unemployment rate	107.089**	17.654	--	--	115.848**	18.957
Reentry*unemployment	0.405**	0.122	--	--	0.061	0.157
State economic indicator	--	--	-11.350*	5.096	4.676	5.401
Reentry*indicator	--	--	-0.059**	0.014	-0.039*	0.016
Incarceration rate	-3.261**	0.600	-3.372**	0.623	-3.112**	0.592
Prop. Female headed family	-272.951	707.603	472.643	772.827	-227.308	721.037
Prop. Divorced	-411.549	1251.177	-2643.799*	1306.694	-1290.266	1157.048
Prop. College	1882.764	1031.210	1442.511	1035.692	1932.976*	978.823
Prop. White	-1470.160*	747.794	-1522.149	875.647	-1463.635	791.540
Prop. Metro area	4113.818**	1211.684	3718.945**	1192.111	3790.372**	1201.230
Prop. 18 to 24 years old	12851.970**	4163.231	8549.593	1035.692	7720.997	4699.006
Prop. 25 to 44 years old	15904.260*	5020.164	13490.600*	5764.801	12077.660	5336.116
Adjusted R <sup>2</sup>	0.951		0.950		0.954	
Number of observations	1299		1249		1249	

<sup>a</sup>All models include state fixed effects, time fixed effects and state-specific time trends. Observations are weighted using population values and the Stata 10 *aweight* command. \* and \*\* indicate p<.05 and p<.01, respectively.

<sup>b</sup>Standard errors are robust to heteroskedasticity and autocorrelation.

## ENDNOTES

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<sup>i</sup> Concerning this potential explanation, it is possible that the crime-promoting reentry effect indicates that the people being brought into the prison system in a given year are somehow inherently less dangerous than those being released in that same year. In this case, those currently being released are not necessarily hardened by the prison

<sup>ii</sup> While a lower level of aggregation (e.g., census tracts) might be a better fit for assessing certain community-focused theories (e.g., social disorganization), full time-series data that include incarceration rates and alternative economic indicators are not readily available. Furthermore, while neighborhoods are undoubtedly more important for setting levels of informal social support and social control, formal social support/control through law is more likely to be established at the state level. In this sense, states are political communities where both crime and the economy are formally regulated to varying degrees.

<sup>iii</sup> As Raphael and Stoll (2004) have pointed out, just assessing the impact of the most recent prisoner reentry rates on crime presents a lower bound estimate of the contribution of former inmates, since “the population of ex-offenders is many times larger than the increase in this population in a given year” (p. 30). They suggest that the full effect of the reintegration of ex-inmates into society will be at least double the magnitude of that obtained using only the most recent releases. Thus, it is important to note that the criminogenic effects of reentry reported in our analysis (as well as in Vieratis et al. 2007) are only for the most recent releases, and so the total effect of reentry is likely to be much

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greater if one allows for the possibility that last year's prisoner release rate can also affect the current year's crime rate. In contrast to the incapacitation effect of prison, which is adequately measured by the prevalence of individuals currently constrained behind bars, reentry effects are not fully captured in analyses that just look at contemporaneous impacts. Future research might consider examining the total cumulative effect of reentry by including lags.

<sup>iv</sup> The data are available at <http://bjs.ojp.usdoj.gov/>. We thank Stephen Raphael for kindly providing the state-level incarceration rate and release rate data.

<sup>v</sup> Because the state economic index is available beginning in 1979, specifications including the index have 50 fewer observations than those without (1 year x 50 states).

<sup>vi</sup> The index can be found at: <http://www.phil.frb.org/research-and-data/regional-economy/indexes/coincident/>. See Crone and Clayton-Matthews (2005) for a discussion of how the index is constructed.

<sup>vii</sup> The test results for the crime rates hold whether we restrict the sample to the years studied here (1978 to 2004) or if we use a longer sample covering the years 1960 to 2004. We do not have data on the three explanatory variables of interest outside our sample and so could not test them for the longer period. We recognize that all existing panel unit root tests have drawbacks and cannot determine if the data series in question is stationary for each and every individual unit in the panel. Nonetheless, these are the best available and

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most widely used tests. In light of such uncertainty about how to interpret the tests, some researchers suggest always differencing the data to insure stationarity. However, doing so entails potentially serious costs. If the level data are stationary to begin with, differencing can lead to mis-specified regressions that can obscure true relationships that exist between variables in level form (see, e.g., Hamilton 1994:562). Because there are costs to incorrectly specifying the model in levels or in differences that can be equally damaging, relying on the best available tests for non-stationarity, however imperfect, remains the most prudent course.

<sup>viii</sup> Breusch-Pagan Lagrange Multiplier tests indicated the presence of heteroskedasticity in both the violent and property crime equations, while regression-based tests found serially correlated errors.

<sup>ix</sup> As a robustness check, we re-estimated each model without weighting the observations. All of the main conclusions are unchanged in terms of signs and significance.

<sup>x</sup> A final estimation issue concerns the potential two-way contemporaneous relationship between crime and incarceration. Although that particular relationship is not the focus of our analysis, it nonetheless could be an issue since, at least theoretically, a simultaneous relationship between those two variables can bias all of the estimated coefficients.

Consequently, as a robustness check on our basic OLS results, we re-estimate all of our models using two-stage least squares (TSLS) and instruments for the incarceration rate.

The instruments are the percent of the incarcerated population that is female lagged one

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year and an index of the conservativeness of state government, two variables that arguably reflect policy decisions associated with the “get-tough-on-crime” approach. Standard tests suggest that the instruments are both effective and valid and, hence, produce consistent estimates of the coefficients. The effectiveness of the instrument is gauged using the value of the F statistic for the two instruments in the first-stage equation. A general rule is that the F statistic should have a value of at least 10 (Stock and Yogo 2002). The relevant F statistics were about 20 or twice the threshold value. We offer some evidence on the validity of the instruments by following standard procedures and using Hansen’s J test for over identifying restrictions (see, e.g., Wooldridge 2003:507-8). Because we use two instruments for one variable (the incarceration rate), the test is feasible, with the statistic distributed as a  $\chi^2(1)$  under the null hypothesis of no correlation. The J-statistics were not close to significance in either equation. While there is some change in the magnitude of the effect of incarceration on crime, the TSLS estimates for the coefficients on release rates, economic conditions and their interaction mirror those based on OLS in sign, size and significance, and the central conclusions do not change. These supplemental results are available upon request.

<sup>xi</sup> Raphael and Stoll (2004) reported that the criminogenic effect associated with prison releases was generally lower in states with stronger parole boards as identified by Petersilia (2003): Alabama, Alaska, Colorado, Idaho, Kentucky, Montana, Nevada, New Jersey, North Dakota, Oklahoma, Pennsylvania, Rhode Island, South Carolina, Utah, Vermont, and Wyoming. They (2004) noted that these states “correspond most closely with traditional indeterminate sentencing systems” (p. 30). In order to ensure that our

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reported interaction between economic conditions and releases reflects something other than the sentencing system-release interaction, we repeated our analyses with additional controls for whether or not a state had indeterminate sentencing and a product term for the interaction between indeterminate sentencing and releases. Our central result regarding the varying impact of releases by economic context was re-affirmed in this alternative specification, both for violent crime and property crime. That is, our central result is not proxying for an interaction between sentencing policy and releases. These analyses are available upon request.

<sup>xii</sup> In general, the full effect of one additional reentrant on the number of violent crimes equals the estimated coefficient on the reentry variable plus the estimated coefficient on the interaction between reentry and the measure of economic activity times the level of economic activity. Using the values for Model 1 in Table 2, for example, this equals  $.453 + (.189 \times \text{the unemployment rate})$ . For example, setting the unemployment rate at zero (its average value because it was centered for the analysis) reveals that an additional reentrant is associated with .453 new violent crimes. Multiplying .453 times 1,000 yields the estimate of 453 new violent crimes per 1,000 new reentrants shown in Panel A of Figure 1. Similarly, setting the value for the unemployment rate at plus one standard deviation (1.91 percentage points) indicates that the impact of an additional reentrant is .814 new violent crimes [equal to  $.453 + (.189 \times 1.91)$ ]; multiplying by 1,000 gives the value of 814 displayed in Panel A.

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<sup>xiii</sup> Our primary interest is in documenting how the same level of reentry, regardless of how it got to that level, can be associated with more or less crime contingent on economic circumstances. A related but distinct issue is whether economic conditions directly determined how prisoner reentry rates got to their observed levels. For example, in strained economic times, states might look to strategies to relieve their budgets by considering early release for inmates. A supplemental analysis supported this notion, in that weaker economic activity is associated with higher reentry rates in the following year. These supplemental results are available upon request.

<sup>xiv</sup> As an alternative analysis, we re-estimated each of the models excluding the incarceration rate. Conclusions concerning the reentry rate and the interactions between the reentry rate and the state of the economy variables were reaffirmed in these more parsimonious models. These results are available upon request.