

September 2000

**The Deinstitutionalization of the Mentally Ill and Growth in the
U.S. Prison Populations: 1971 to 1996**

Steven Raphael, Ph. D.
Goldman School of Public Policy
University of California, Berkeley
2607 Hearst Avenue
Berkeley, CA 94720-7320
tel: (510) 643-0536
fax: (510) 643-9657
E-mail: raphael@socrates.berkeley.edu

Manuscript Word Count: 3750

Abstract

This paper tests for a relationship between the size of the population institutionalized in state and county mental hospitals and the size of state prison populations. The analysis exploits inter-state differences in the pace of deinstitutionalization to identify this relationship. While mental hospital populations declined nation-wide, decreases in hospitalization rates vary considerably from state to state. To the extent that the deinstitutionalized mentally ill transfer from mental hospitals to prisons, there should be a negative within-state correlations between these populations. Using standard panel data techniques, I probe the robustness of this relationship. I find strong negative effects of hospitalization rates on prison incarceration rates. The estimation results imply that deinstitutionalization between 1971 and 1996 is directly responsible for 48,000 to 148,000 of the inmates in state prison systems in 1996. This accounts for 4.5 to 14 percent of the total prison population for this year and for roughly 28 to 86 percent of prison inmates suffering from mental illness.

1. Introduction

According to the U.S. Department of Justice (DOJ), there are currently 288,000 mentally ill offenders in prisons and jails (Ditton 1999). These inmates account for 16 percent of state prisoners, 7 percent of inmates in federal penitentiaries, and 16 percent of local jail inmates. Considering that roughly 2.8 percent of the adult population suffers from severe mental illness over the course of a year (Torrey 1997), these figures indicate an incarceration rate for the mentally ill considerably greater than that of the general population.¹ In contrast, the 1996 census of inpatients in state and county mental hospitals yields a count of approximately 62,000. Assuming that the mental hospital population has not increased since 1996, the incarcerated mentally ill population is nearly five times greater than the inpatient population of state and county mental hospitals.

This comparison of the number of incarcerated mentally ill with the size of the mental hospital population suggests a possible relationship between these two institutionalized groups. To the extent that the untreated mentally ill commit crimes and receive prison sentences at a relatively high rate, “deinstitutionalization” of the mentally ill from state and county hospitals may increase prison populations. Indeed, the pronounced increase in the U.S. prison population over the past three decades occurred concurrently with unprecedented declines in the numbers of committed mentally ill. Between 1955 and 1996, the mental hospital population declined from over half a million to fewer than 100,000. Accounting for population growth over this period yields even greater declines.² Hence, these trends appear to support the contention that deinstitutionalization has shifted the burden

¹Over five percent of the mentally ill adult population is incarcerated, a figure roughly six times the incarceration rate of the general adult population. This is based on a 1998 combined prison and jail population of 1.9 million (Bureau of Justice Statistics 1999) and an adult population of 200 million.

²If hospitalization rates were held constant, the institutionalized population would have increased from 550,000 in 1955 to nearly 900,000 in the mid 1990s (Torrey 1997).

of providing services for the mentally ill onto the criminal justice system -- i.e., jails and prisons have become de facto mental institutions (Torrey 1995).

Despite these aggregate patterns, several factors suggest that declining inpatient counts may be unrelated to the large numbers of mentally ill currently behind bars. First, the aggregate patterns discussed above are also consistent with tougher sentencing laws and improvements in policing that just happen to coincide with reductions in the mental hospital census. Changes in sentencing would increase incarceration rates for both the mentally ill and the healthy, independently of changes in mental health policy. Furthermore, the closing of mental hospitals coincides with shifts in mental health policy designed to facilitate outpatient care, as well as the introduction of psychotropic medications that aid in managing mental illness (Mechanic & Rochefort 1990). While the effectiveness of these innovations are a matter of debate (Johnson 1990), they do suggest that the closing of mental hospitals need not reflect a reduction in the availability of mental health services. Finally, beyond noting the aggregate trends, there is little direct research on the relationship between hospitalization and incarceration rates.³

This paper tests for a relationship between the size of the population institutionalized in state and county mental hospitals and the size of state prison populations using state-level data. The analysis exploits inter-state differences in the pace of deinstitutionalization to identify this relationship. While mental hospital populations declined nation-wide, decreases in hospitalization

³There are two studies that directly correlate prison populations with mental hospital populations. Penrose (1939) is probably the first to raise the issue. Data on 18 European countries revealed a negative correlation between the size of the prison and mental hospital populations (a pattern which, as is noted below, is evident for the overwhelming majority of U.S. states). A more recent study provides a time series analysis of aggregate national data for the U.S. between 1926 and 1987 (Palermo, Smith, & Liska 1991), revealing significant negative correlations between the size of mental hospital population and prison and jail populations.

rates vary considerably from state to state. To the extent that the deinstitutionalized mentally ill transfer from mental hospitals to prisons, there should be a negative within-state correlations between these populations. Using standard panel data techniques, I probe the robustness of this relationship. I find strong negative effects of the rate of hospitalization in mental hospitals on prison incarceration rates. Moreover, this relationship remains significant after controlling for state and time fixed effects, state-specific linear and quadratic time trends, and for several demographic and criminological variables.

2. Estimation Methods

All states have experienced declines in mental hospital populations. The size of these declines, however, varies from state to state. Figure 1 plots the annual mental hospital populations per 100,000 state residents for the periods from 1971 to 1996 for a sample of states. The figure depicts the time series for one state from each of the nine state geographic divisions used by the Census Bureau. As is evident, the decline in hospitalization rates varies considerably across states. At the extremes for this sub-sample are the two largest states in the nation. New York hospitalization rates per 100,000 state residents declined from 318 in 1971 to 49 in 1996. In contrast, the comparable figures for California are 55 in 1971 and a 14 for 1996. States such as Massachusetts, Alabama, and Illinois experienced declines in hospitalization rates that are roughly comparable in magnitude to the nationwide trends.

The empirical strategy employed here exploits this interstate variation in the pace of deinstitutionalization to estimates the effect of mental hospitalization rates on prison incarceration rates. Specifically, using state-level panel data for the period 1971 to 1996, I estimate the equation

$$Inmates_{it} = \alpha_i + \gamma_t + \beta * Inpatients_{it} + \theta'X_{it} + \varepsilon_{it}, \quad (1)$$

where $Inmates_{it}$ is the number of prisoners per 100,000 residents in state i in year t , $Inpatients_{it}$ is the number of mental hospital inpatients per 100,000 in state i during year t , X_{it} is a vector of control variables (to be discussed below), α_i represents time-invariant state effects, γ_t are time effects common to all states, β is the estimate of the effect of mental hospitalization rates on prison incarceration rates, θ is a vector of coefficients corresponding to the state-level control variables, and ε_{it} is a normally-distributed, mean-zero error term. To ensure that the estimates from equation (1) are representative, the regression is estimated using weighted-least-squares where the weights are annual state level populations.

In equation (1), the estimate of the parameter of interest, β , is based on variation in hospitalization and incarceration rates occurring within states and in excess of the year-to-year variation common to all states. Hence, this estimate accounts for all unobservable state differences that do not vary over time and for unobservable time effects that do not vary across states. To illustrate how controlling for state and year fixed effects transforms the data, Figure 2 plots the hospitalization rates for the nine states depicted in Figure 1 after purging the data of state and year effects.⁴ As can be seen, even after removing average inter-state and inter-year differences in hospitalization rates, there remains considerably variation within states around the national trend.

⁴These series are calculated in the following manner. Using the full panel of the 50 states and Washington, D.C. for the period 1971 to 1996, I regressed the mental hospitalization rates on a full set of state dummy variables and year dummy variables using weighted least squares. Next, I retrieved the estimated residuals from this regression for the nine states in Figures 1 and 2. The residuals can be interpreted as the variation in the mental hospitalization rates after purging the data of average inter-state differences and average year-to-year differences.

To clarify the benefits of this methodological approach, a brief discussion of the national and state-level trends in hospitalization and incarceration rates is needed. As noted in the introduction, at the national level the declines in the U.S. mental hospital population have occurred concurrently with sharp increases in the prison population. Moreover, with the exception of four states, there is a statistically significant (at the one percent level of confidence) inverse correlation between state hospitalization and prison incarceration rates over the period studied for every state and D.C.⁵ While this latter fact provides stronger support for the contention that the deinstitutionalized mentally ill have been “trans-institutionalized” into prisons than does an allusion to national trends, one might contend that state-level changes in prison populations simply reflect nation-wide changes in criminal justice policy. However, the estimate of the trans-institutionalization effect from equation (1) is based on variation in hospitalization and incarceration rates that remains *after purging the data of national trends and inter-state average differences*. Hence, finding an inverse relationship in equation (1) provides a much more rigorous estimate of the trans-institutional effect than do correlation calculations at the national and state levels.

In addition to this fixed-effects model, the panel data can be used to estimate an alternative specification that subjects the hypothesis of a trans-institutional shift of the mentally ill to an even more rigorous test. Specifically, by incorporating state-specific time trends, one can purge the data of unobservable factors affecting state prison and mental hospital populations that remain even after

⁵The four states where I do not find an inverse relationship that is significant at one percent are Hawaii, Kentucky, Nebraska and Nevada. The within state negative correlation between hospitalization rates and incarceration rates are statistically significant at the 3 percent level of confidence for Kentucky and Nebraska and at the 10 percent level of confidence for Nevada. The within-state correlation for Hawaii, while inverse, is not significant at the 10 percent level of confidence. These results are available upon request.

removing state-level changes associated with the national trend. To do so, I estimate the equation

$$Inmates_{it} = \alpha_i + \gamma_t + \psi_i time_t + \omega_i time_t^2 + \beta * Inpatients_{it} + \theta' X_{it} + \varepsilon_{it}, \quad (2)$$

where $time_t$ is a time trend variable that is set equal to one in the first year of the panel and that increases by one for each consecutive year, $time_t^2$ is the square of the time trend, ψ_i is a state-specific coefficient on the linear time trend, ω_i is a state-specific coefficient on the quadratic time trend, and all other variables are defined as above. Equation (2) is estimated by creating linear and quadratic time trend variables (for the linear trend, equal to one for each state in 1971, two for each state in 1972, and so on) and then fully interacting the state dummy variables with the two trend variables. The estimate of the effect of hospitalization on incarceration rates in equation (2) is identified by variation in mental hospitalization rates and prison incarceration rates that remains after removing average inter-state differences, inter-year variation common to all states, and state-specific linear and quadratic time trends. This estimator has been used in past state-level analyses to investigate the effect of divorce law on divorce rates (Friedberg 1998) and the effect of state unemployment rates on state crime rates (Raphael and Winter-Ebmer, *forthcoming*).

3. Model Specification and the Description of the Data

In addition to the state and year fixed effects and controls for state-specific time trends, I include controls for a host of state-level variables that are likely to effect prison populations. To account for variation in the state-economy the model specifications include controls for the state employment-to-population ratio and state per-capita income. In addition, I control for the proportion of state residents that reside in a metropolitan area, the proportion poor, and the proportion of state

residents that are black. I also include several variables measuring the age structure of the population. Specifically, controls are included for the proportion of the population that is under 15, 15 to 17, 18 to 24, 25 to 34, 35 to 44, 45 to 54, and 55 to 64 years of age. To account for changes in underlying criminogenic variables that are likely to affect prison populations, I also include controls for the total property crime and total violent crime rates. Below, I present estimates of the model with and without these additional control variables.

The panel of observations covers the fifty states and the District of Columbia from 1971 to 1996. Data on state and county mental hospital populations come from the Center for Mental Health Services. Annual data on state prison populations come from various Bureau of Justice Statistics reports and have been compiled by Carlisle Moody. These data are reported annually for the entire panel. Data on state personal income and employment come from the Bureau of Economic Analysis. Annual observations for state population and age structure are from the Census Bureau. State poverty rates, the percent black, and the percent residing in metropolitan areas are taken from the decennial census and interpolated for non-census years. Overall property and violent crime rates come from the Federal Bureau of Investigation's Uniform Crime Reports.

Table 1 presents descriptive statistics for all of the variables used in the analysis. The first column presents means for the entire panel while the second column presents the standard deviations. The third and fourth columns illustrate how much variation remains after controlling for fixed effects and time trends. The third column presents standard deviation calculations for each variable after purging the variable of state and year fixed effects while the final column presents standard deviations after purging each variable of state effects, year effects, and state-specific linear and quadratic time trends. These standard deviations are calculated from the retrieved residuals from

weighted-least-squares regressions of each variable on the state and year effects for the third column, and on state effects, year effects, and time trends in the fourth columns.

As would be expected, purging the data of fixed effects and time trends reduces the variation considerably. For example, nearly half of the variation in mental hospitalization rates (as measured by the standard deviation) is accounted for by the state and year fixed effects. In addition, adding state-specific time trends removes nearly 80 percent of the variation in this variable. Similar patterns are observed for the prison incarceration rates and for the control variables.

4. Empirical Results

Table 2 presents the results from weighted-least-squares regressions of state prison populations per 100,000 residents on state mental hospital populations per 100,000 state residents. The first two models present results that control for a full set of state and year fixed effects, the next two models present results that control for state and year effects and linear state-specific time trends, while the final two models control for state effects, year effects, and linear and quadratic state-specific trends. For the three sets of models, I first present estimation results omitting the other economic, demographic, and crime variables from the specification and then the estimation results including the full set of control variables. Standard errors for the coefficient estimates are presented in parentheses under the regression coefficients.

In all six regressions, the mental hospitalization rate exerts a statistically significant negative effect on the prison incarceration rate – i.e., lower mental hospitalization rates increase prison incarceration rates. In the models presented in columns (1) through (5) the effect of the hospitalization rate is statistically significant at the one percent level of confidence, while in column

(6) the hospitalization effect is significant at the 6 percent level of confidence. Interestingly, allowing for state-specific time trends does not appreciably affect the magnitude nor the significance of the results. This is a rather strong finding considering that Table 1 shows that allowing for state-specific time trends considerably reduces the remaining variation in mental hospitalization and incarceration rates. Hence, the negative effect of mental hospitalization rates on prison populations remains after controlling for inter-state differences, national trends, and state-specific trends.

Concerning the magnitude of the effect, the smallest point estimate of the mental hospital effect in column (6) of -0.146 suggests that for every 7 person decline in the mental hospital inpatient rate the prison incarceration rate increases by one. The largest point estimate in column (4) indicates that for every two person decline in the mental hospital inpatient rate the prison incarceration rate increases by one. This range of estimates can be used to answer the following hypothetical question: If mental hospitalization rates did not decline between 1971 and 1996, how much smaller would the 1996 prison population have been?

The mean hospitalization rate over this period declined by approximately 126 per 100,000 (from 149 in 1971 to 23 in 1996). The largest point estimate of the mental hospital effect in Table 2 (-0.444 in column (4)) suggests that this decline caused an increase of approximately 56 per 100,000 in the incarceration rate. Using the national population for 1996, this translates into 148,000 additional prisoners resulting directly from deinstitutionalization. If we use the smallest point estimate from regression (6) of -0.146, the decline of 126 per 100,000 in the hospitalization rate would cause an increase of approximately 18 in the prison incarceration rate. This latter increase translates into approximately 48,000 additional prisoners resulting from deinstitutionalization.

Assuming that 16 percent of state prison inmates in 1996 suffered from mental illness (the

percentage indicated in the 1999 DOJ study), then the number of mentally ill state prisoners in 1996 is 172,260. Hence, the estimation results imply that between 28 and 86 percent of mentally ill state prison inmates in 1996 would have been in mental hospitals had the hospitalization rate not declined. While the range is large, the fact that both projections lie below estimates of the actual size of the mentally ill prison population suggests that the estimation results are reasonable. Most importantly, these calculations indicate that a substantial portion of prisoners with mental illness are in prison as a result of changes in mental health policy.

5. Testing the Sensitivity of the Results

To assess the robustness of these findings, I also estimated a series of alternative models to determine whether the estimation results are sensitive to some of the design aspects of this study. First considering that the weighted-least-squares model places greater weight on larger states, I re-estimated all of the regressions in Table 2 omitting observations from each of the ten largest states. I estimated regression models omitting one state at a time, omitting observations for the five largest states, and then omitting observations for the ten largest states.⁶ The results from these alternative models are qualitatively similar to the results presented in Table 2. The mental hospital variable exerts a significant negative effect in nearly all of the regressions, with magnitudes of the effect on prison incarceration rates comparable to those presented above.

I also re-estimated all models using ordinary least squares rather than weighted least squares. The ordinary least squares regression places equal weight on all observations regardless of state population. While such a specification will not yield estimates that are representative for the nation, estimating the models without the weights is a useful robustness check. Again, the mental hospital variable has a significant negative effect in all regression with magnitudes somewhat larger than

⁶In descending order, this set of states includes California, New York, Texas, Pennsylvania, Illinois, Ohio, Florida, Michigan, New Jersey, and North Carolina.

those presented above.

Finally, I split the sample into three time periods (1971 to 1979, 1981 to 1989, and 1990 to 1996) and estimated each model separately for each period. Given the short length of these sub-panels, however, I only estimated models with state and year fixed effects. For the first two time periods, I find statistically significant and negative effects of mental hospitalization rates on prison incarceration rates. The effects in the latter period are generally larger than the effect in the earlier period. For the final time period (1990 to 1996) I do not find statistically significant mental hospital effects. However, there is so little within-state variation in mental hospitalization rates over this period, that the estimates of the mental hospital coefficients are extremely imprecise.⁷

In summary, the results presented here are robust. Dropping large states from the analysis (either individually or collectively) and changing the weighting scheme does not alter the findings. In addition, the results here are not sensitive to the time period chosen, although estimation results are most precise in models that take advantage of the full length of the panel.

6. Conclusion

The findings of this study strongly suggest that the reduction in the service capacity of state and county mental hospitals over the past three decades is directly responsible for a large number of the mentally ill individuals incarcerated in state prisons. In panel regressions of state incarceration rates on state hospitalization rates, I find consistently strong negative effects of hospitalization rates on incarceration rates. The range of the magnitudes of these estimates imply that

⁷The standard errors on the mental hospital coefficient estimates for the period 1990 to 1996 are approximately 0.3. Hence, the range of possible effects included within the coefficient's confidence interval include both large negative and positive values.

deinstitutionalization is directly responsible for 48,000 to 148,000 of the inmates in state prison systems in 1996. This accounts for 4.5 to 14 percent of the total prison population for this year and for roughly 28 to 86 percent of prison inmates suffering from mental illness.

To be sure, there is little reason to believe that the intention of proponents of the various policy changes that fall under the title of deinstitutionalization was to turn prisons into one of the chief providers of services for the mentally ill. However, the evidence presented here suggests that this is the case. This raises the more general question of what is the most appropriate manner for society to deliver mental health services. In terms of explicit costs to taxpayers, journalistic accounts indicate that it is cheaper to incarcerate someone for a year than to provide the same person inpatient treatment in a state mental hospital. For example, Winerip (1999) notes that a year in a New York state mental hospital costs nearly \$135,000 compared to \$69,000 for a year at the Rikers Island jail.

These comparisons, however, fail to account for the costs to victims of crimes committed by the untreated mentally ill and for the hardships imposed on the families of the untreated. Moreover, the per-person cost of outpatient treatment programs (which Winerip notes cost between \$10,000 to \$43,000 per person per year) is far less than either the cost of hospitalization or incarceration. To the extent that these treatment alternatives are effective, addressing mental illness directly by allocating resources to mental health services (rather than indirectly via the criminal justice system) may generate substantial social savings.

References

- Bureau of Justice Statistics (1999), *Prison and Jail Inmates at Midyear 1998*, NCJ 173414.
- Ditton, Paula M. (1999), "Mental Health and Treatment of Inmates and Probationers," *Bureau of Justice Statistics Special Report*, Bureau of Justice Statistics, NCJ 174463.
- Friedberg, Leora (1998), "Did Unilateral Divorce Raise Divorce Rates? Evidence from Panel Data," *American Economic Review*, 88(3): 608-627.
- Johnson, Braden Ann (1990), *Out of Bedlam: The Truth About Deinstitutionalization*, New York: Basic Books.
- Mechanic, David and David A. Rochefort (1990), "Deinstitutionalization: An Appraisal of Reform," *Annual Review of Sociology*, 16: 301-327.
- Palermo, George B; Smith, Maurice B. and Frank J. Liska (1991), "Jails Versus Mental Hospitals: A Social Dilemma," *International Journal of Offender Therapy and Comparative Criminology*, 35(2): 97-106.
- Penrose, Lionel (1939), "Mental Disease and Crime: Outline of a Comparative Study of European Statistics," *British Journal of Medical Psychology*, 18: 1-15.
- Raphael, Steven and Rudolf Winter-Ebmer, "Identifying the Effect of Unemployment on Crime," forthcoming, *Journal of Law and Economics*.
- Torrey, E. Fuller (1995), "Jails and Prisons: America's New Mental Hospitals," *American Journal of Public Health*, 85(12): 1611-1613.
- Torrey, E. Fuller (1997), *Out of the Shadows: Confronting America's Mental Illness Crisis*, New York: John Wiley & Sons Inc.
- Winerip, Michael (1999), "Bedlam on the Streets," *New York Times Magazine*, May 23, 1999, pg 42.

Figure 1

Mental Hospital Inpatient Rates (per 100,000 state residents) for One State from Each of the Nine Census Divisions, 1971-1996

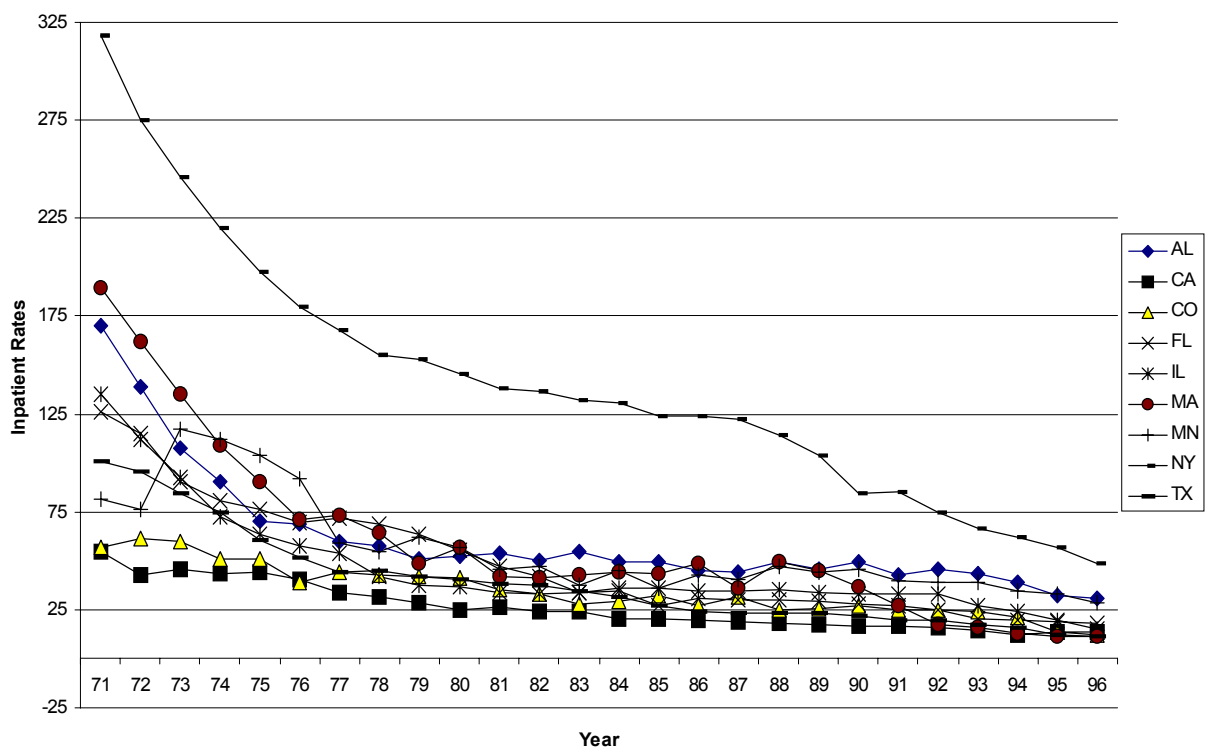


Figure 2

Mental Hospital Inpatient Rates for One State from Each of the Nine Census Division net of Year-To-Year Changes in National Inpatient Rates and Average Inter-State Variation, 1971-1996

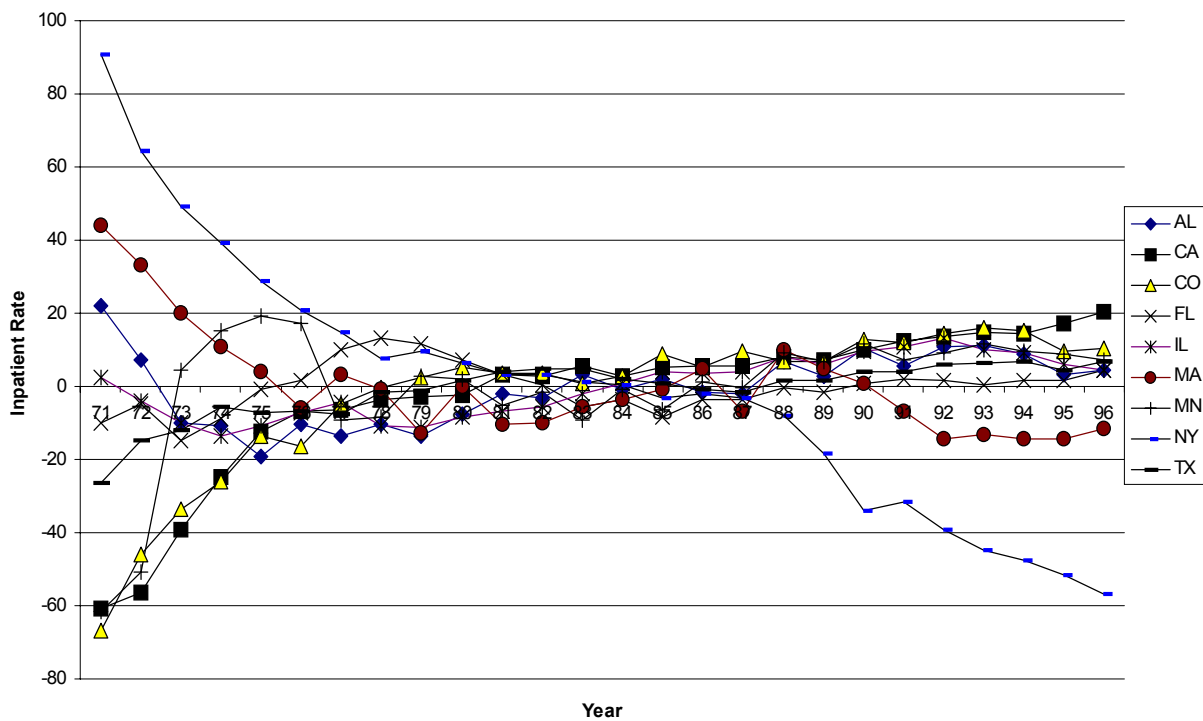


Table 1
Summary Statistics for the Dependent and Explanatory Variables

Variables	Means	Standard Deviation	Standard Deviation net of State and Time Fixed Effects ^a	Standard Deviation Net of State and Time Effects and State Time Trends ^b
Prison Incarceration Rate	208.549	133.158	68.330	39.595
Mental Hospitalization Rate	58.133	48.896	22.479	8.992
Employment rate	0.407	0.052	0.050	0.027
Income per capita	13.647	6.431	1.756	0.773
Black	0.119	0.080	0.034	0.011
Metropolitan	0.771	0.173	0.053	0.024
Poor	0.133	0.037	0.018	0.011
Population <15	0.228	0.027	0.010	0.004
Population 15-17	0.049	0.008	0.002	0.001
Population 18-24	0.118	0.015	0.007	0.003
Population 25-34	0.161	0.018	0.010	0.004
Population 35-44	0.132	0.021	0.009	0.004
Population 45-54	0.105	0.010	0.007	0.003
Population 55-64	0.090	0.010	0.005	0.002
Property crime rate	4,716.880	1,210.240	585.024	310.398
Violent crime rate	588.697	274.507	124.524	68.512

The prison incarceration rate, the mental hospitalization rate, and the two crime rates are measured per 100,000 state residents. Income per capita is expressed in thousands of dollars. The panel covers the period from 1971 to 1996. There are 1,326 observations.

a. The standard deviations in this column are computed from the residuals of a weighted-least-squares regression of each variable listed on the table's stub on full sets of state and year fixed effects.

b. The standard deviations in this column are computed from the residuals of a weighted-least-squares regression of each variable listed on the table's stub on full sets of state and year fixed effects, state-specific linear time trends, and state-specific quadratic time trends.

Table 2
Weighted-Least-Squared Regressions of State Prison Incarceration Rates on Mental Hospitalization Rates, 1971-1996

	Models Including Year and State Fixed Effects		Models Including Year and State Effects and Linear State Time Trends		Models Including Year Effects, Linear Time Trends, and Quadratic Time Trends	
	(1)	(2)	(3)	(4)	(5)	(6)
Mental Hospitalization Rate	-0.179 (0.074)	-0.350 (0.079)	-0.414 (0.086)	-0.444 (0.077)	-0.350 (0.086)	-0.146 (0.076)
Employment Rate	-	-5.501 (1.168)	-	-3.158 (1.056)	-	-0.033 (1.155)
Income per capita	-	-5.864 (2.013)	-	-6.739 (3.012)	-	7.857 (3.497)
Black	-	-8.496 (2.784)	-	-15.698 (4.058)	-	-48.713 (6.033)
Metropolitan	-	1.985 (0.965)	-	-1.488 (0.932)	-	-0.817 (1.008)
Poor	-	0.223 (0.961)	-	2.863 (0.662)	-	-0.045 (0.574)
Population < 15	-	9.725 (2.918)	-	1.267 (2.378)	-	16.602 (2.874)
Population 15 to 17	-	-35.485 (10.659)	-	-40.540 (8.925)	-	-36.947 (8.391)
Population 18 to 24	-	27.757 (4.291)	-	24.119 (3.241)	-	5.045 (3.161)
Population 25 to 34	-	3.834 (3.918)	-	6.079 (3.201)	-	-11.435 (3.501)
Population 35 to 44	-	-12.138 (5.027)	-	20.513 (4.754)	-	4.739 (5.717)
Population 45 to 54	-	-1.695 (5.904)	-	-12.868 (5.868)	-	14.105 (6.829)
Population 55 to 64	-	48.047 (6.113)	-	6.212 (4.744)	-	-12.723 (7.080)
Property crime rate	-	-0.027 (0.004)	-	-0.056 (0.003)	-	-0.035 (0.003)
Violent crime rate	-	0.177 (0.020)	-	0.181 (0.018)	-	0.104 (0.016)

Standard errors are in parentheses. The dependent variable in prison incarceration rate per 100,000 state residents. There are 1,326 observations.