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Projecting Florida Crime Rates and the Impact of Prison Population Reductions

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Abstract

Though Florida's crime rate has exceeded the national average for most of the past sixty years, the state has benefited from the national drop in crime that began in the early 1990s. Florida also participated in the prodigious national growth in imprisonment of the last forty-five years. Imprisonment in Florida peaked around 2010, declining slightly through 2019 and then more rapidly as a result of reduced admissions due to COVID-19 precautions.

Policy makers would benefit from defensible projections of future trends in crime, and especially from estimates of the effect that further reductions in the number of people in jail and prison will have on those trends. Using data from the period 1980–2018, we developed quantitative models of the effects of various demographic and economic factors, as well as the imprisonment rate, on Florida's violent, property, and total (combined) crime rates in that period. We then used these models to project crime trends into the 2020s, both with and without the assumption of a substantial reduction in imprisonment. Our projection is that crime rates in Florida will continue their decades-long decline, even under a markedly reduced imprisonment rate.

Key Findings

Past and Projected Florida Crime Trends

— Since the mid-1990s, both violent and property crime rates in Florida have steadily declined. The current rates are about the same as those of the mid-1960s.

— As with the national drop in crime, the Florida drop is primarily related to economic factors (e.g., inflation) and demographic factors (e.g., fertility, teen births).

— These economic and demographic factors are likely to continue to suppress crime rates further over the next five years.

— However, as in the majority of states, rates of homicide increased in Florida in 2020 and did again in 2021, though not as steeply. This unexpected spike (which was not seen in the other categories of violent crime) may be related to reduced police legitimacy in the wake of the 2020 police killing of George Floyd, COVID-related reductions in policing activity, and an array of other economic, social, and psychological disruptions resulting from the pandemic lockdown.

— As well, the pandemic has led to a downsizing of the state prison and local jail populations. These reductions are not believed to have contributed to the increase in homicide, and neither are they expected to impede the ongoing downtrend in Florida's homicide rate, which is projected to resume once the current uptrend ends.

Impact of Florida Imprisonment on Past and Projected Florida Crime Rates

— The Florida prison population steadily increased from 1980, when it was twenty thousand, until 2010, when it reached a peak of 104,000. Between 2010 and 2019, the prison population declined a modest 8% (to 96,000).

— Under restricted prison admissions due to COVID-19, the prison population has dropped by more than 12% since 2019, reaching eighty-four thousand as of June 2020.

— Proposals to modify the state's 85% "truth-in-sentencing" law in a way that would allow nonviolent offenders to be released after serving 65% of their sentence would reduce the prison population by another ten thousand to about seventy-four thousand, which would be a nearly 25% decline from 2019 levels.

— The Florida prison population could be reduced without raising Florida's crime rate.

Conclusion: Under current demographic and economic trends, crime rates will continue to decline in a fluctuating pattern, with moderate year-to-year changes. This will be true even if Florida continues to downsize its prison population.

Introduction

Major changes in America's crime rates have occurred since the 1960s. After several decades of relative stability, a significant, unanticipated uptick in crime began in the mid-1960s, reaching historic peaks in the early 1980s and then again in the early 1990s. Between 1960 and 1991, crime rates more than tripled. Then suddenly—and just as unexpectedly—crime started what became a long and steady decline, eventually returning to mid-1960s levels.

This historical volatility of crime leads policy makers to wonder whether rates will continue their current decline, stabilize, or begin once again to increase. The ability to forecast near-term changes would be immensely useful to those responsible for choosing among crime policy options. While a substantial body of research has identified factors associated with past crime rates,[1] little attention has been paid to projecting future crime rates.

With support from The Harry Frank Guggenheim Foundation (HFG), we developed statistical models for predicting crime rates based on factors that were associated with the rapid increase and subsequent decline in the national crime rate.[2]

To arrive at these models, we assessed the relative impact on crime in Florida of factors in four sectors:

Demographic Sector

— Percent of population age fifteen to twenty-four

— Fertility rate

— Teen birth rate

— Divorce rate

Economic Sector

— Inflation rate

— Unemployment rate

1 RICHARD ROSENFELD. 2011. "CHANGING CRIME RATES." IN *CRIME AND PUBLIC POLICY*, EDITED BY JAMES Q. WILSON AND JOAN PETERSILIA. NEW YORK: OXFORD UNIVERSITY PRESS.

2 JAMES AUSTIN, TODD CLEAR, AND RICHARD ROSENFELD. 2020. *EXPLAINING PAST AND PROJECTING FUTURE CRIME RATES*. NEW YORK, NY: THE HARRY FRANK GUGGENHEIM FOUNDATION. HTTPS://WWW.HFG.ORG/HFG_REPORTS/EXPLAINING-THE-PAST-AND-PROJECTING-FUTURE-CRIME-RATES

Social Sector

— Residential vacancy rate

— Higher education rate

Criminal Justice Sector

— Imprisonment rate

— Jail incarceration rate

— Probation rate

— Parole rate

— Juvenile arrests

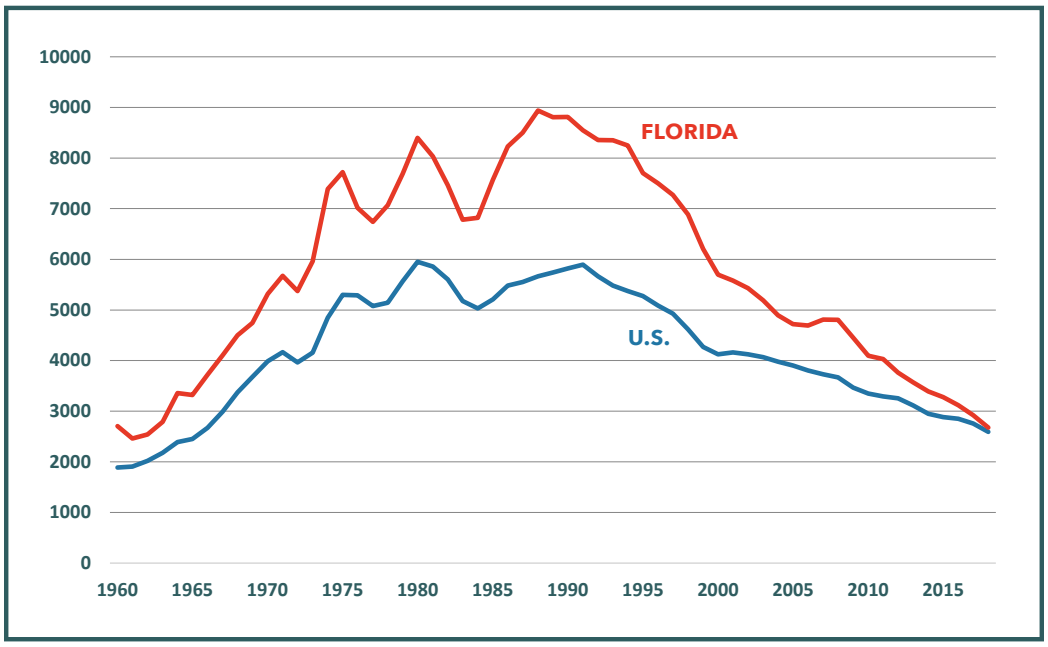
We estimated the effects of a varying mix of these factors on the year-to-year change in crime rates between 1980 and 2018. We included in our final models—one each for violent, property, and total crime—the subset of factors with the strongest impact on the crime rates. We found that models that included demographic, social, and economic factors had the greatest power to explain past variation in national crime rates. Those models also indicated that changes in correctional populations were not consistently related to changes in crime rates over time. Because the data in these models are readily available at the state level, we can now estimate with reasonable confidence how policies designed to increase or reduce incarceration are likely to affect future crime rates within specific states.

This report presents the future crime projections for the state of Florida, including the effects of lowering the current prison population.

Florida Crime and Imprisonment Trends

Like most states, Florida has undergone a rapid initial rise and then subsequent fall in crime rates since 1960 (Figure 1). UCR crime rates both for the nation as a whole and for Florida have fallen to levels last seen in the early 1960s.[3] (See Appendix A for a description of the crime data used in this study.) For nearly all of the last sixty years, however, Florida's crime rate was higher, often substantially so, than the U.S. rate. Today the Florida rate has converged with the U.S. rate.

FIGURE 1. U.S. AND FLORIDA CRIMES PER 100,000 POPULATION, 1960-2018



SOURCE: UNIFORM CRIME REPORTS

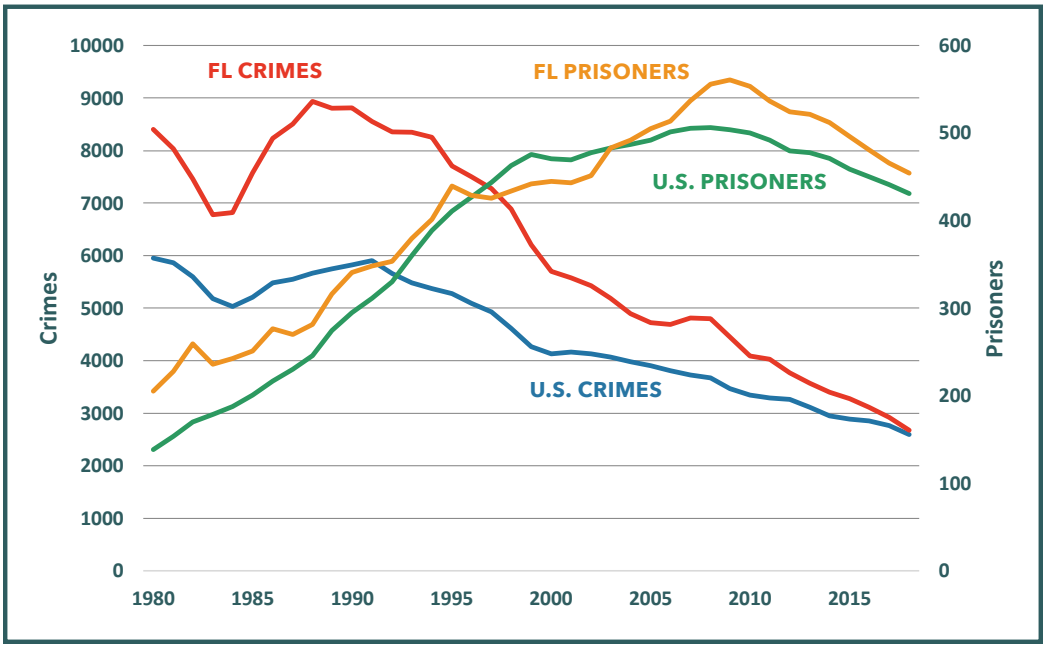
What was the role of incarceration in this pattern? If increased reliance on incarceration tends to reduce crime rates, then—all else equal—we should observe that crime rates drop when incarceration rates grow.

3 UNLESS OTHERWISE INDICATED, "CRIME RATE" AND "CRIME RATES" REFER TO THE TOTAL CRIME RATE, THAT IS, THE SUM OF VIOLENT AND PROPERTY CRIMES DIVIDED BY 100,000 POPULATION.

As shown in Figure 2, however, that is not what has occurred over the last forty years. U.S. imprisonment rates rose rapidly from the late 1970s through the end of the twentieth century. Yet as incarceration rates grew, crime fluctuated in an essentially flat pattern until the early 1990s, when it started to decline. The national imprisonment rate began to plateau in the mid-2000s and has steadily decreased since 2007.[4]

Florida's imprisonment followed the national pattern. It rose until 2009 and then began gradually to decline. As imprisonment has dropped over the past decade, so too has Florida crime continued its thirty-year decline. In other words, when it comes to incarceration and crime in Florida over the last forty years, sometimes both went up, sometimes both went down, and sometimes one went up while the other went down. It is not apparent that more incarceration produces less crime, or the reverse.

FIGURE 2. U.S. AND FLORIDA PRISONERS AND CRIMES PER 100,000 POPULATION, 1978-2018



SOURCES: UNIFORM CRIME REPORTS; BUREAU OF JUSTICE STATISTICS

Other states have also significantly lowered their prison populations while simultaneously experiencing significant declines in their crime rates (see Table 1). New York and New Jersey, for example, lowered their prison populations by a third or more while their crime rates dropped by about half.

4 THE NATIONAL DECLINE IN INCARCERATION HAS BEEN DRIVEN BY LARGE REDUCTIONS IN A HANDFUL OF STATES, INCLUDING CALIFORNIA, NEW JERSEY, NEW YORK, ILLINOIS, MICHIGAN, AND MARYLAND.

TABLE 1. PRISON POPULATION AND CRIME RATE REDUCTIONS IN NEW YORK, NEW JERSEY, CALIFORNIA, AND MARYLAND

	NY	NJ	CA	MD
Year Reforms Initiated	1999	1999	2006	2008
Prison Population Before Reform	72,899	31,493	175,512	23,239
2018 Prison Population	46,636	19,362	128,625	18,856
Prison Reduction	–26,263	–12,131	–46,887	–4,383
% Reduction	–36%	–39%	–27%	–19%
UCR Crime Rate Before Reform	3,279	3,400	3,743	4,126
2018 Crime Rate	1,791	1,613	2,828	2,502
Crime Rate Reduction	–1,488	–1,787	–915	–1,624
% Reduction	–45%	–53%	–24%	–39%

SOURCES: BUREAU OF JUSTICE STATISTICS, PRISONERS SERIES AND UCR CRIME IN THE UNITED STATES SERIES

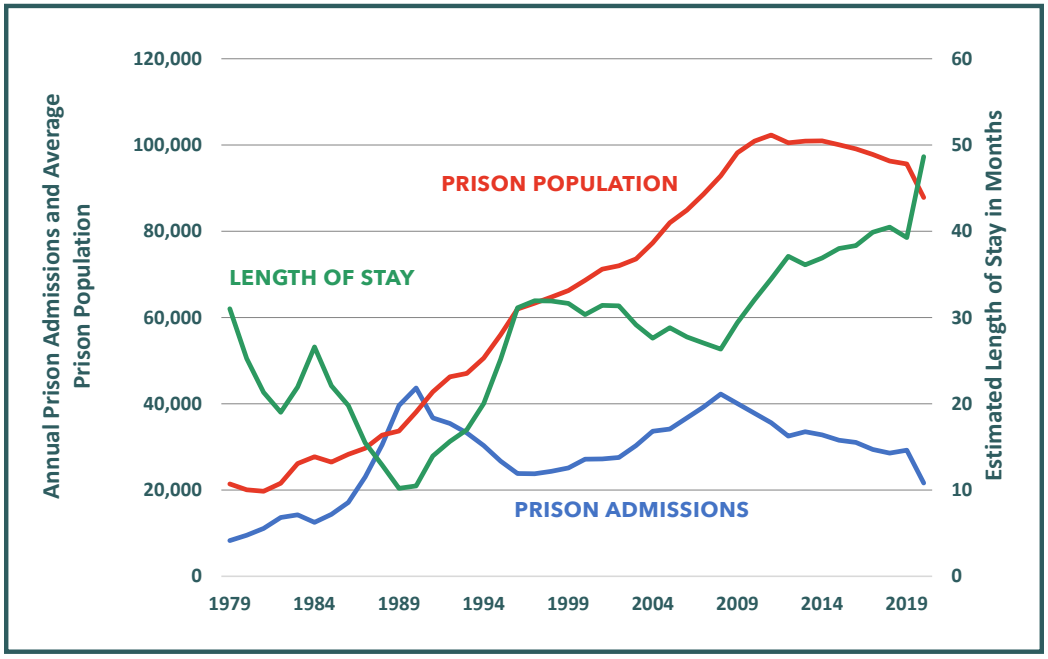
Florida has not experienced these same large reductions in its prison population, due largely to the passage of an 85% "truth-in-sentencing" (TIS) statute in 1995. This law required that everyone receiving a prison sentence serve 85% of that sentence in prison, regardless of the crime of conviction.[5]

The effects of this law on the prison population are shown in Figure 3, which displays the two determinants of a prison's population: admissions and length of stay.[6] Between 1979 and 2020, prison admissions fluctuated between twenty thousand and forty thousand per year, ending at nearly the lowest number of annual admissions of the forty-year period. The prison population increased steadily for the first thirty years of that period, however, with a moderate decline in the final decade. The sustained growth in the number of people in prison, even when admissions were stable or falling, was made possible by two periods of dramatic growth in length of stay (1989 to 1995 and 2009 to 2019). Today's moderate decline in prison population does not match the larger drop in prison admissions—again because of increases in length-of-stay during the period of declining admissions. Indeed, Florida's length of stay is two-thirds higher than the national average.

5 ARIZONA AND THE FEDERAL GOVERNMENT ARE THE ONLY OTHER JURISDICTIONS TO HAVE SUCH A STRICT 85% IN-PRISON REQUIREMENT.
6 WHILE HISTORIC LENGTH OF STAY (LOS) DATA ARE NOT AVAILABLE, WE CAN ESTIMATE THE LOS BY DIVIDING DAILY PRISON POPULATION BY THE ANNUAL ADMISSIONS (OR RELEASES), MULTIPLYING THE RESULT BY TWELVE TO GET LOS IN MONTHS.

If Florida's length of stay were reduced to the national average (twenty-nine months), its prison population would decline to approximately seventy-one thousand.

FIGURE 3. FLORIDA PRISON ADMISSIONS, POPULATION, AND LENGTH OF STAY, 1975-2020



SOURCE: FLORIDA DEPARTMENT OF CORRECTIONS

There is considerable evidence that moderate reductions in length of stay have no impact on recidivism rates.[7] Further, because arrests of people released from prison constitute only a small percentage of the total number of arrests occurring in a year, these moderate changes in the length of stay would have an imperceptible impact on overall crime rates.[8]

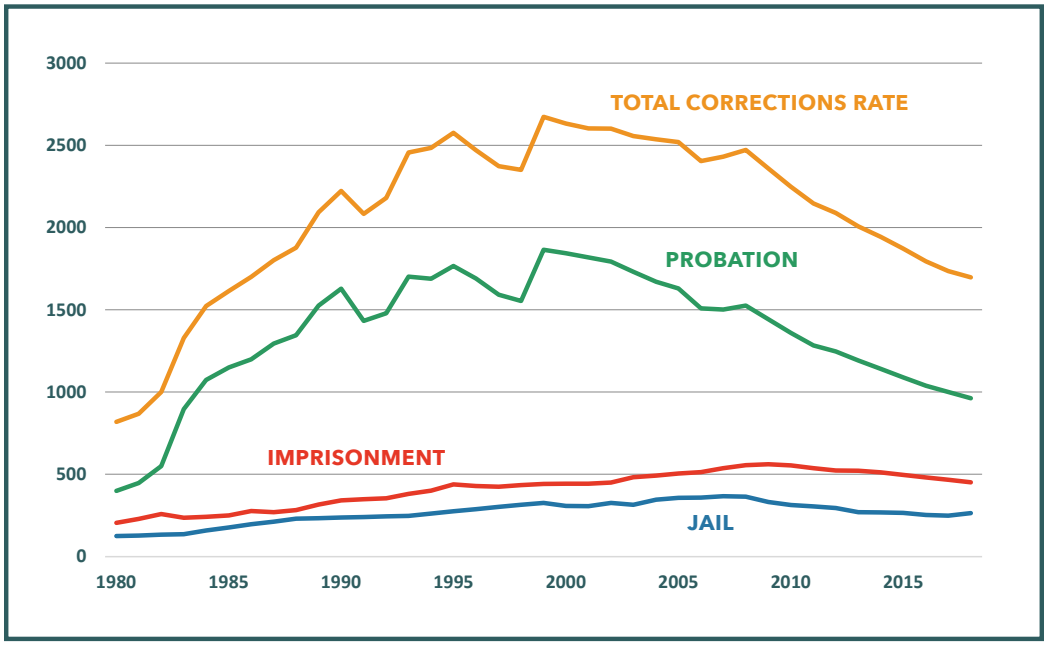
The relationship between prison incarceration rates and crime rates is complicated by two additional factors: other forms of correctional control and juvenile crime. Figures 4 and 5 show these statistics.

7 WILLIAM RHODES, GERALD G. GAES, RYAN KLING, AND CHRISTOPHER CUTLER. 2012. RELATIONSHIP BETWEEN PRISON LENGTH OF STAY AND RECIDIVISM: A STUDY USING REGRESSION DISCONTINUITY AND INSTRUMENTAL VARIABLES WITH MULTIPLE BREAK POINTS. *CRIMINOLOGY & PUBLIC POLICY* 17:731-769. JAMES AUSTIN. 1986. "USING EARLY RELEASE TO RELIEVE PRISON CROWDING: A DILEMMA IN PUBLIC POLICY." *CRIME AND DELINQUENCY* 32:404-501.

8 JAMES AUSTIN, TODD CLEAR, ALISA MATLIN, JOHNETTE PEYTON, WENDY NARO-WARE, AND RICHARD ROSENFELD. 2018. *SAFELY REDUCING THE ILLINOIS PRISON POPULATION BY 25%*. DENVER, CO: JFA INSTITUTE.

Figure 4 displays changes in Florida's probation, jail, and incarceration rates between 1980 and 2018. It shows that probation rates far outstrip the other forms of correctional control. While the jail system has a lower incarceration rate than prisons, jails process a far greater number of people per year than do prisons.[9] As a result, many more of Florida's citizens are involved with jails and probation than prison, with the rate of total correctional control closely mirroring probation rates.

FIGURE 4. FLORIDA PRISON, PROBATION, JAIL, AND TOTAL CORRECTIONAL POPULATIONS, 1980-2018



SOURCES: UNIFORM CRIME REPORTS; BUREAU OF JUSTICE STATISTICS

Figure 5 shows the number of arrests of Florida juveniles and the overall (property plus violent) crime rate.[10] Juvenile arrests mirror the decline in crime. The drop in juvenile arrests is noteworthy. Age at first arrest is a strong predictor of adult criminality,[11] so these adolescent cohorts with lower arrest rates augur well for future crime rates.[12]

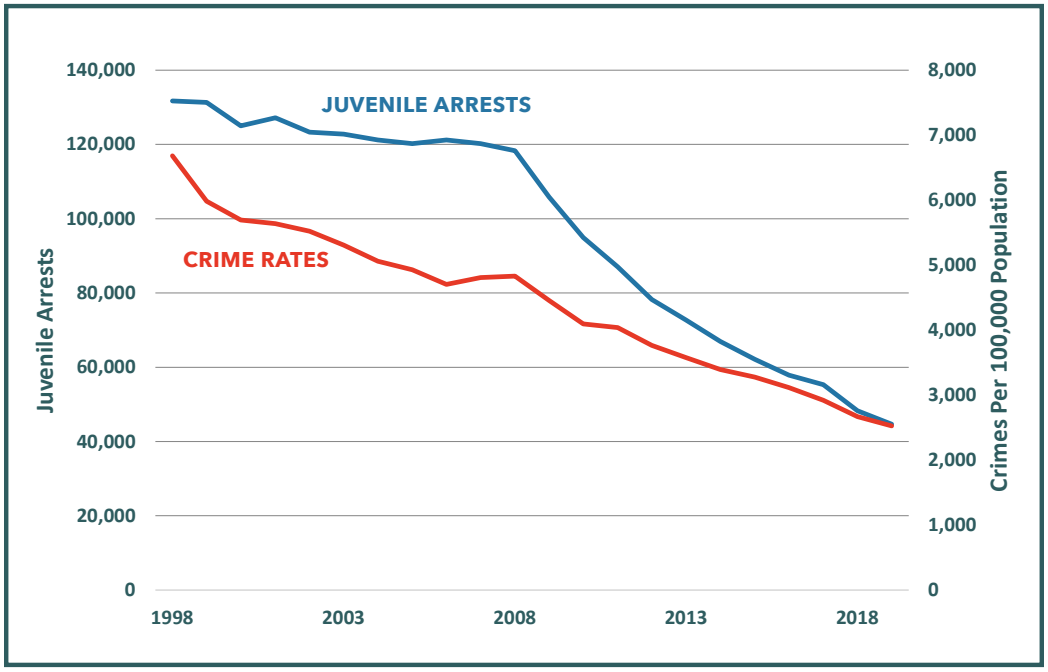
9 NATIONALLY, OVER TEN MILLION PEOPLE ARE ADMITTED AND RELEASED FROM JAILS EACH YEAR, AS OPPOSED TO ONLY ABOUT FIVE HUNDRED THOUSAND PRISON ADMISSIONS AND RELEASES: HTTPS://WWW.BJS.GOV/INDEX.CFM?TY=PBDETAIL&IID=7026

10 WE USE JUVENILE ARRESTS AS A PROXY FOR JUVENILE CRIME BUT ALSO AS A MEASURE OF THE LIKELY MAGNITUDE OF NEW ADULT PRISON ADMISSIONS IN LATER YEARS.

11 M.W. LIPSEY & J.H. DERZON. 1998. PREDICTORS OF VIOLENT OR SERIOUS DELINQUENCY IN ADOLESCENCE AND EARLY ADULTHOOD: A SYNTHESIS OF LONGITUDINAL RESEARCH. IN R. LOEBER & D.P. FARRINGTON (EDS.), *SERIOUS AND VIOLENT JUVENILE OFFENDERS*. THOUSAND OAKS, CA: SAGE. P.H. TOLAN, D. GORMAN-SMITH, & R. LOEBER. 2000. DEVELOPMENTAL TIMING OF ONSETS OF DISRUPTIVE BEHAVIORS AND LATER DELINQUENCY OF INNER-CITY YOUTH. *JOURNAL OF CHILD AND FAMILY STUDIES* 9: 203-220.

12 Y. SHEN, S.D. BUSHWAY, L.C. SORENSEN, H.L. SMITH. 2020. LOCKING UP MY GENERATION: COHORT DIFFERENCES IN PRISON SPELLS OVER THE LIFE COURSE. *CRIMINOLOGY* 58: 645-677. HTTPS://DOI.ORG/10.1111/1745-9125.12256

FIGURE 5. FLORIDA JUVENILE ARRESTS AND CRIME RATES, 1998-2019



SOURCE: UNIFORM CRIME REPORTS

The pattern of decline in both incarceration and crime raises the prospect of further reductions in both. In fact, there have been proposals to reduce the 85% TIS requirement to 65% for nonviolent crimes, which could result in an additional reduction in Florida's prison population of up to eleven thousand.

Florida's HB7125 took effect in October 2019 as a first step in institutionalizing alternatives to incarceration for technical violations of probation. In its first five months (before COVID-19 began to play a role), HB7125 resulted in a 17% drop in the number of people incarcerated as a result of technical violations of probation (rule breaking rather than a new offense) compared to the same period one year earlier.

Florida is also considering other reforms related to technical and misdemeanor violations of probation that would further reduce incarceration as well as pursuing the conversation already underway regarding truth-in-sentencing.

A central policy concern is whether reducing Florida's TIS requirement as well as these other possible reforms can be achieved without undermining Florida's gains in public safety. The remainder of this report addresses that question. We build a model of changes in crime rates in Florida, and then assess whether further reductions in incarceration would affect levels of crime.

Modeling Crime Rates

A statistical model that would guide policy making must meet two requirements: it must be comprehensive, and it must be accurate. A comprehensive model incorporates as many of the known influences on the outcome as possible, given the available data. An accurate model yields estimates that are very close to the observed values of the outcome. Our models of change in Florida crime rates stand up well against both criteria. They incorporate multiple demographic and economic variables that influence crime rates, including the age composition of the population, the teen birth and overall fertility rates, and rates of inflation (see Appendix B). They also incorporate, in addition to the imprisonment rate, other components of the correctional system (rates of jail, probation, and parole), which have rarely been included in research on the relationship between imprisonment and crime.

These models estimate year-to-year changes in violent, property, and total Florida crime rates between 1980 and 2018. One important finding of the modeling exercise is that changes in imprisonment (increases or reductions) did not predict changes in property crime (or in total crime, as that figure is overwhelmingly composed of property crimes)—a point we return to later in this report. Imprisonment does have a small effect on violent crime.

Our models for the Florida violent and property crime rates are shown in Appendix B. In preliminary models, we included the Florida parole, probation, and jail population rates and compared their effects with those of the imprisonment rate. In no case did we find that the other correctional variables had a significant effect on the crime rates, so we retained only the imprisonment rate in our final models.

It should not be surprising that recent changes in Florida's penal system have limited effects on crime, as this result is consistent with studies carried out elsewhere. An extensive body of research on the crime-reduction effects of imprisonment was recently summarized by the National Academy of Sciences: "Most studies estimate the crime-reducing effect of incarceration to be small and some report that the size of the effect diminishes with the scale of incarceration."[13] One explanation of the weak crime-prevention effects of the prison system is that most crime remains unpunished. Barely one in ten serious crimes and just over one-quarter of violent crimes result in an arrest.[14]

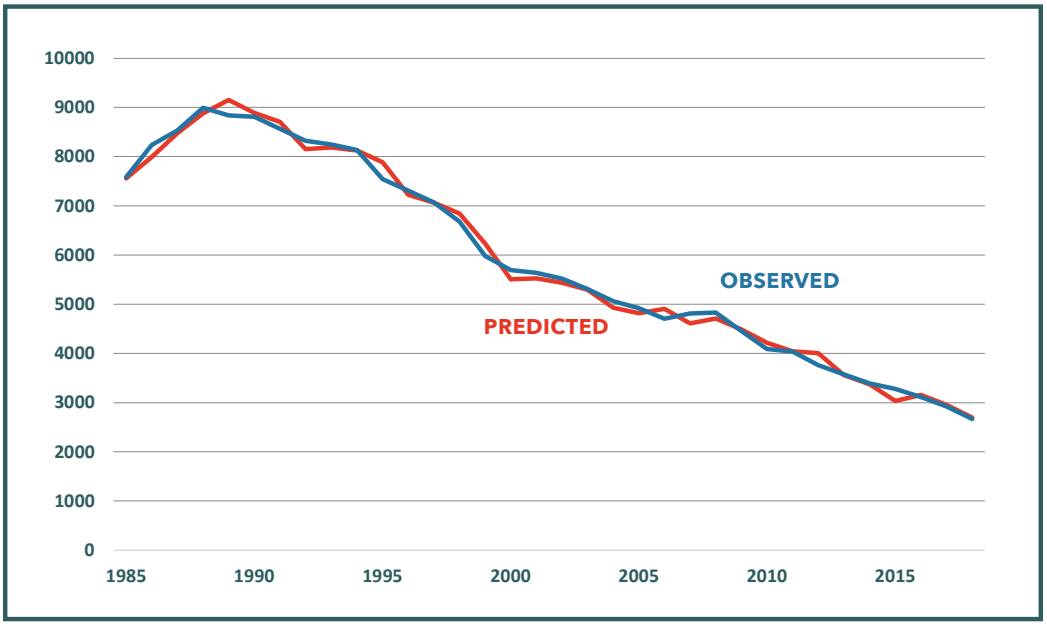
13 NATIONAL RESEARCH COUNCIL. 2014. *THE GROWTH OF INCARCERATION IN THE UNITED STATES: EXPLORING CAUSES AND CONSEQUENCES*. WASHINGTON, D.C.: THE NATIONAL ACADEMIES PRESS, P. 155.

14 SHIMA BAUGHMAN, "HOW EFFECTIVE ARE POLICE? THE PROBLEM OF CLEARANCE RATES AND CRIMINAL ACCOUNTABILITY" (2020). UTAH LAW FACULTY SCHOLARSHIP. 213. HTTPS://DC.LAW.UTAH.EDU/SCHOLARSHIP/213.

The diminishing impact of incarceration growth also makes sense. The most serious (highest-frequency) offenders tend to be incarcerated first, even when incarceration rates are low. As the rate of imprisonment goes up, people tend to be sent to prison for offenses of decreasing seriousness, and thus imprisonment provides diminishing returns in reduction of crime.

As Figure 6 shows, the model-based estimate of the crime rate fits closely to the actual crime rate trend from 1985 to 2018. Said another way, the statistical model of crime rates used to predict the annual change in crime rate produces a thirty-four-year predicted crime pattern that maps quite closely onto the observed pattern of the rate of crimes per 100,000 Florida population.

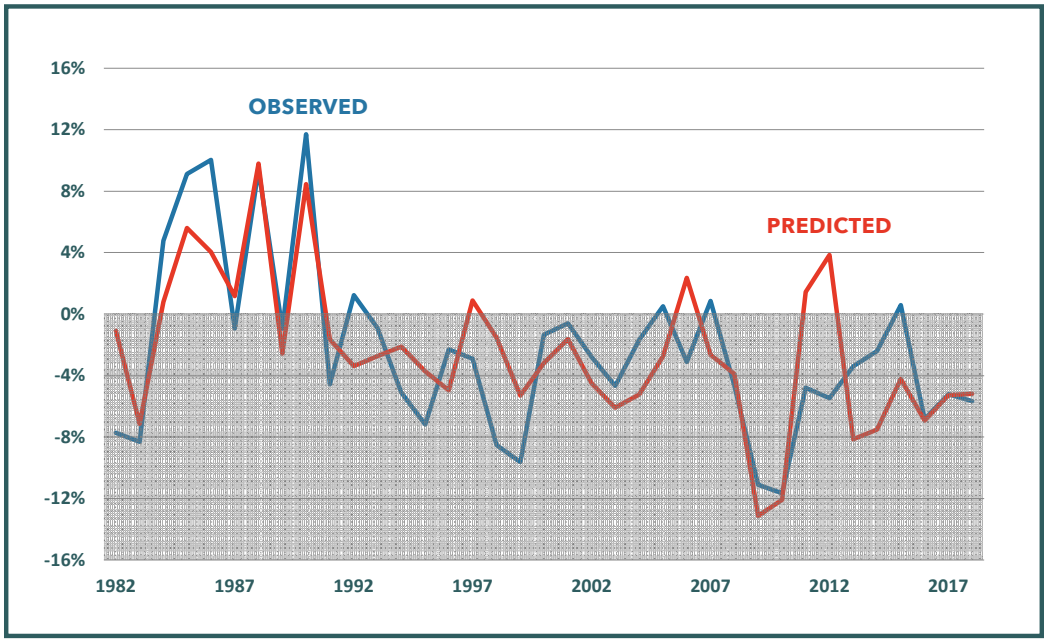
FIGURE 6. OBSERVED AND PREDICTED FLORIDA CRIME RATE, 1985-2018



SOURCES: UNIFORM CRIME REPORTS; U.S. CENSUS BUREAU; NATIONAL BUREAU OF ECONOMIC RESEARCH; BUREAU OF LABOR STATISTICS

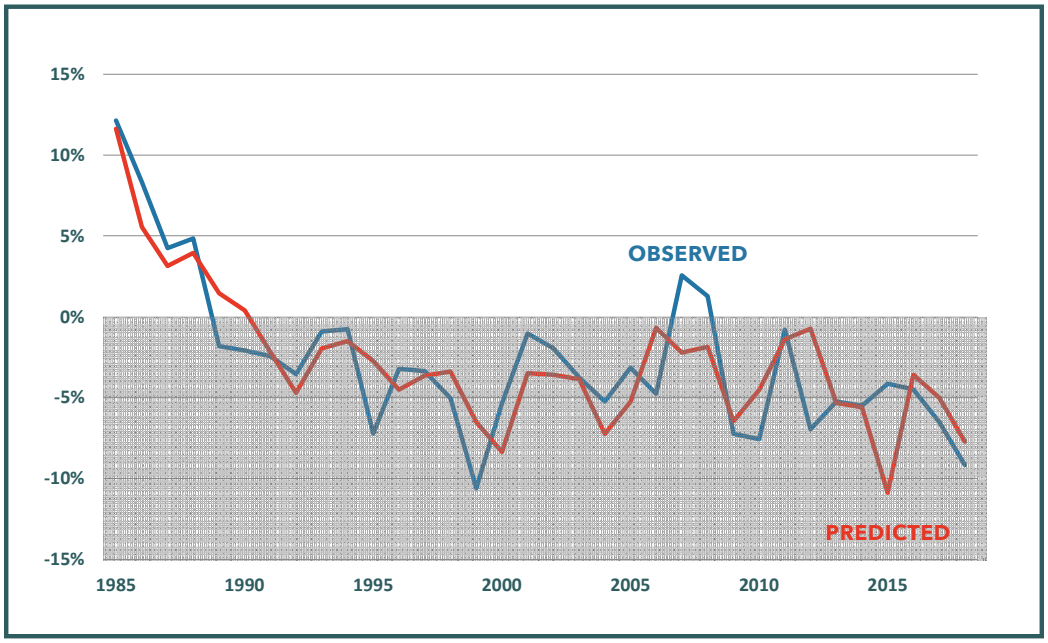
While the long-term crime trend matters, year-to-year changes are of significant interest to policy makers, because crime policy reforms tend to be driven by short-term changes in crime rather than the long-term trends. Yet in the short term, crime is relatively volatile. This can be seen in Figures 7 and 8, which show annual percentage changes in violent and property crime, respectively. Annual changes in violent crime fluctuate between -12% (2009–2010) and +12% (1989–1990). Property crime changes fluctuate between -11% (1998–1999) and +12% (1984–1985).

FIGURE 7. OBSERVED AND PREDICTED PERCENTAGE CHANGE IN FLORIDA VIOLENT CRIME RATE, 1982–2018



SOURCES: UNIFORM CRIME REPORTS; U.S. CENSUS BUREAU; NATIONAL BUREAU OF ECONOMIC RESEARCH; BUREAU OF LABOR STATISTICS

FIGURE 8. OBSERVED AND PREDICTED PERCENTAGE CHANGE IN FLORIDA PROPERTY CRIME RATE, 1985–2018



SOURCES: UNIFORM CRIME REPORTS; U.S. CENSUS BUREAU; NATIONAL BUREAU OF ECONOMIC RESEARCH; BUREAU OF LABOR STATISTICS

Two conclusions can be drawn from Figures 7 and 8. The first is that the year-to-year volatility can be deceiving. We have shaded the area of the graphs that corresponds to drops in crime. Most of the volatility is in the change in size of drops in crime. During the past several decades, crime has increased less frequently than it has decreased. Second, a policy alarm about a one-year rise in crime is often unwarranted. In this thirty-four-year period, one year's increase in crime was far more likely to be followed the next year by a drop in crime than by another increase.

The main point, that over time our model of changes in crime provides accurate predictions of the actual changes, is illustrated by Figures 6, 7, and 8. The model receives further confirmation in Table 2, which compares the actual 2019 crime rate to the rate predicted by the crime model (built on data from the entire series through 2018). Although the model tends to predict somewhat larger decreases in crime than were observed, especially for violent crime, it would have served as a reliable policy guide for Florida crime levels in 2019.

TABLE 2. OBSERVED AND PREDICTED PERCENTAGE CHANGE IN FLORIDA CRIME RATES, 2018-2019

	Violent Crime	Property Crime	Total Crime
Observed Change	-1.9%	-6.2%	-6.0%
Predicted Change	-8.0%	-12.0%	-10.0%

This should not detract from the underlying pattern here. Even the few sizable percentage changes that appear year-to-year do not alter the overall decline in crime during the past forty years. The level of serious crime in Florida has dropped by 70% since its peak in the late 1980s.

The Future of Crime in Florida

The construction of a Florida crime model enables us to provide an estimate of the probable changes in Florida crime rates beyond the 1980–2018 period on which the model is built. Table 2 showed that our models produced reasonably accurate predictions of the crime changes that occurred in 2019. We now extend the predictions five years ahead to 2023.

Such predictions are always risky because they are based on crime-related factors whose future values are unknown. Predicting the future of crime, even in the near term, is especially difficult in the current period. The social response to the COVID-19 pandemic and the widespread unrest surrounding violent police actions influenced crime rates in 2020 and 2021 in ways that were difficult to foresee. Like many cities across the nation, cities in Florida experienced a sharp rise in homicide rates during 2020.[15] *Total* crime rates in large cities, however, dropped in 2020, driven by significant decreases in property crime during the coronavirus pandemic.[16] And current homicide rates remain far lower than during the early 1990s.

We take a conservative approach and base our projections of crime rates for the five years beyond 2018 on the average values of the crime covariates—the other predictive factors in the models—during the previous five years (2014–2018). The inflation rate, fertility rates, and age composition of the population do not change appreciably from one year to the next, so these recent five-year averages constitute a conservative basis for the projections.

We restrict our crime projections to violent crime, because that is the only type of offense for which we found a significant effect of imprisonment. Figure 9 presents those violent crime projections added on to the trend line since the early 1980s. It shows that we project no major departure from the thirty-year downward trend in Florida violent crime, indicated by the dotted blue line. To take into account the unprecedented nature of the current context, we offer high (red) and low (green) bounds around the predicted change. This "confidence interval" reflects the reality that events could move the crime rate either higher or lower than our baseline (mid) prediction.[17]

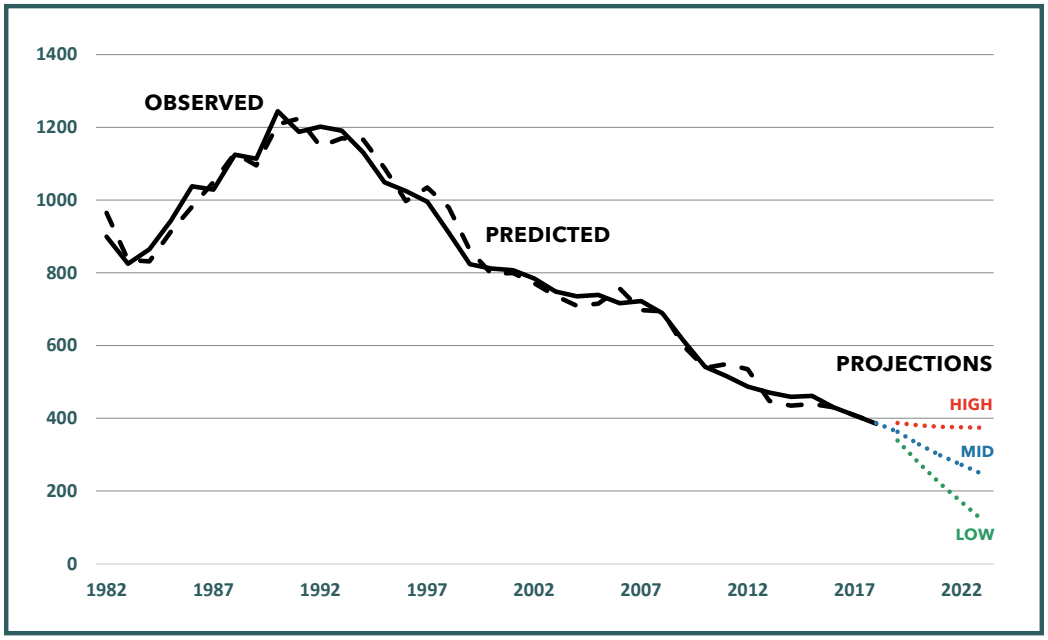
15 SEE, E.G., HTTPS://WWW.NEWS4JAX.COM/NEWS/LOCAL/2021/01/01/DEADLY-GUN-VIOLENCE-UP-22-AS-JACKSONVILLE-SETS-YET-ANOTHER-HOMICIDE-RECORD/; HTTPS://WWW.MIAMIHERALD.COM/NEWS/LOCAL/CRIME/ARTICLE247853095.HTML.

16 FOR AN ASSESSMENT OF CRIME-RATE CHANGES DURING 2020, SEE RICHARD ROSENFELD, THOMAS APT, AND ERNESTO LOPEZ. 2021. PANDEMIC, SOCIAL UNREST, AND CRIME IN U.S. CITIES: 2020 YEAR-END UPDATE. WASHINGTON, D.C.: COUNCIL ON CRIMINAL JUSTICE (JANUARY).

17 THIS 95% CONFIDENCE INTERVAL CAN BE INTERPRETED TO MEAN THAT, EVEN THOUGH THE PANDEMIC AND THE REACTION TO POLICE VIOLENCE MAY CONTINUE TO SHAPE CRIME IN WAYS THAT CANNOT BE KNOWN AT THE MOMENT, WE WOULD EXPECT THAT 95% OF THE CRIME RATE CHANGES WILL FALL BETWEEN THE HIGH AND LOW ESTIMATES.

Under the high projection, violent crime would remain at around its 2018 level. Under the low projection, it would decline by more than half over the next five years.

FIGURE 9. OBSERVED AND PREDICTED FLORIDA VIOLENT CRIME RATE, 1982-2018, WITH PROJECTIONS TO 2023



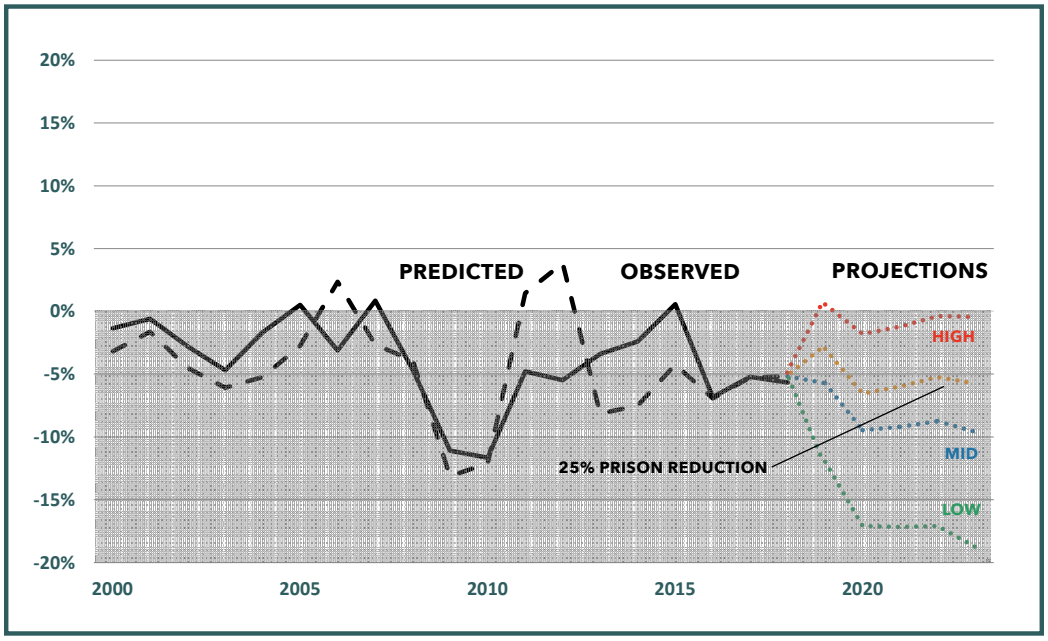
SOURCES: UNIFORM CRIME REPORTS; U.S. CENSUS BUREAU; NATIONAL BUREAU OF ECONOMIC RESEARCH; BUREAU OF LABOR STATISTICS

While Figure 9 shows that our model predicts a five-year continuation of the drop in violent crime that has lasted for a generation, the year-to-year changes in crime will be more salient than this longer-term trend, as mentioned earlier. Figure 10 puts our projections in that short-term context. We projected a 5% to 6% drop in Florida's violent crime rate in 2019,[18] followed by a decrease of about 10% through 2023. The volatility of the current moment is illustrated by the size of the confidence interval for crime in the immediate future. We projected, for example, that in 2020 the violent crime rate could fall by only 2% or by nearly 20%. This range seems daunting, but it needs to be interpreted appropriately. The most likely outcome for 2021 through 2023 will be the predicted one (the dotted blue line) or something very close to it. The farther away a prediction moves from that line, the less likely it is to occur. More importantly, all the projections

18 RECALL OUR PREDICTION OF AN 8% DECREASE IN THE VIOLENT CRIME RATE IN 2019 SHOWN IN TABLE 2. THAT ESTIMATE WAS BASED ON DATA FOR THE ENTIRE 1980-2018 PERIOD, WHEREAS THE PROJECTION SHOWN IN FIGURE 10 IS BASED ONLY ON THE AVERAGE VALUES OF THE MODEL COVARIATES FOR THE MOST RECENT FIVE YEARS OF THAT PERIOD, 2014-2018.

fall in the shaded area of the graph, indicating that violent crime is expected to drop through 2023, even if our high projection occurs.

FIGURE 10. OBSERVED AND PREDICTED PERCENTAGE CHANGE IN FLORIDA VIOLENT CRIME RATE, 2000-2018, WITH PROJECTIONS TO 2023



SOURCES: UNIFORM CRIME REPORTS; U.S. CENSUS BUREAU; THE NATIONAL BUREAU OF ECONOMIC RESEARCH; THE BUREAU OF LABOR STATISTICS

In light of the rise in violent crime in many cities during 2020[19] and the continuing uncertainties of the COVID-19 pandemic, we again urge that our projections be viewed with caution. There will most likely be a year or two of fluctuations, an occurrence that cannot be predicted with high confidence. In the face of such uncertainty, the best option is to rely on a model that has provided accurate predictions of violent crime levels in the recent past.

19 SEE RICHARD ROSENFELD AND ERNESTO LOPEZ. 2021. *PANDEMIC, SOCIAL UNREST, AND CRIME IN U.S. CITIES: 2020 YEAR-END UPDATE*. WASHINGTON, D.C.: COUNCIL ON CRIMINAL JUSTICE (JANUARY).

The Impact on Crime Rates of Further Reducing the Florida Prison Population

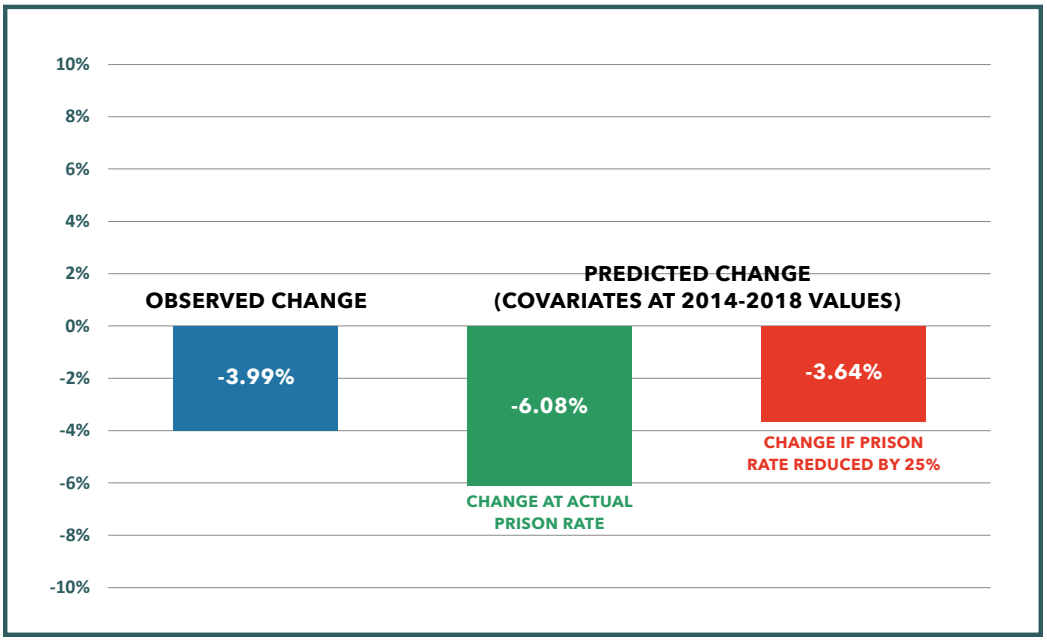
Given this projected pattern in crime, what would be the public safety impact of a 25% reduction in the prison population beyond today's levels? History provides a glimpse of the potential answer. As pointed out earlier, by 2018 the Florida prison population had dropped 18% from its peak rate of 554 per 100,000 population in 2010. During this period, crime dropped by about 35%. Our model enables us to derive a more precise estimate of the impact on crime of a further 25% prison population reduction. We assume that a reduction of this magnitude would not occur in a single year—for purposes of modeling, we project a five-year, planned decline. This time frame is realistic, and it has the added benefit of providing ample time for policy makers and criminal justice officials to make mid-course corrections, if needed.

To conduct this assessment, we use the factors in the crime model to estimate what the violent crime rate would be had Florida policy makers decided in 2019 to reduce the imprisonment rate by 25% over the next five years. The projected crime rate through 2023, under this assumption, is denoted by the dotted orange line in Figure 10. We estimate that violent crime would fall by about 5% each year through 2023 if the imprisonment rate were reduced by 25%.

This is an encouraging result, but of course its accuracy cannot be determined by comparing it against crime rates in a period that has not yet ended. We can increase confidence in the crime projection by carrying out the prison-reduction experiment during a recent period, when the crime rates are known. Assume, for example, that Florida policy makers had decided to reduce imprisonment by 25% over five years, beginning in 2014. As depicted in Figure 11 by the blue bar, the violent crime rate actually fell by about 4% per year between 2014 and 2018. Without a 25% reduction in imprisonment, our model estimated a drop of about 6% (green bar). With the 25% imprisonment reduction, we estimate that the violent crime rate would have decreased by 3.64% (red bar), nearly the same as the decrease that actually occurred. These results strengthen confidence in our projection of a continuing decrease in violent crime were Florida to steadily reduce its imprisonment rate over the next few years.[20]

20 AS WE POINTED OUT EARLIER, THE STATISTICAL MODEL PREDICTING CRIME SHOWS THAT CHANGES IN THE IMPRISONMENT RATE HAVE NO SIGNIFICANT EFFECT ON PROPERTY OR TOTAL CRIME. THUS, OUR ASSESSMENT OF THE EFFECTS OF PRISON REDUCTION ON PUBLIC SAFETY IS LIMITED TO VIOLENT CRIME.

FIGURE 11. OBSERVED AND PREDICTED AVERAGE YEARLY PERCENTAGE CHANGE IN FLORIDA VIOLENT CRIME RATE BETWEEN 2014 AND 2018



SOURCES: UNIFORM CRIME REPORTS; U.S. CENSUS BUREAU; THE NATIONAL BUREAU OF ECONOMIC RESEARCH; THE BUREAU OF LABOR STATISTICS

One notable implication of our analysis is how important it is to take account of the substantial effect of nonincarceration factors. Our analysis suggests that, after accounting for these other effects, a decrease in violent crime of 3% to 4% would occur despite a 25% reduction in incarceration.

We can also show the importance of the demographic and economic factors in explaining crime in Florida by removing the imprisonment rate from the statistical model used to predict change in crime rates. With imprisonment included in the model, we explain 60.3% of the year-over-year variation in violent crime. With imprisonment omitted from the model, 53.8% of the variation is accounted for—a reduction of only 11%. In other words, almost 90% of the year-to-year change in Florida's violent crime rate is based on factors other than incarceration. Moreover, about 74% of the changes in the Florida property crime rate are explained by the model, whether the imprisonment rate is included or not. Thus, a meaningful further reduction in imprisonment in Florida will likely have no impact on property crime, and its effect on violent crime will be dwarfed by other factors.

Key Takeaways

Our task in this report was threefold. First, we placed the recent changes in Florida's crime and imprisonment rates in historical and national context. Second, we constructed a model of crime in Florida that would enable us to predict changes in crime rates into the near future. Third, we estimated the impact of an additional 25% reduction in the imprisonment rate on crime over a five-year period.

Our statistical models of crime in Florida indicate that under current demographic and economic trends, crime will continue to decline, with moderate year-to-year changes. This will be true even if Florida continues to downsize its prison population.

Appendix A: Crime Data

There are two methods for measuring crime in the United States. The longest-standing method is through the FBI's Uniform Crime Reporting (UCR) Program, which has been collecting data since 1931. The UCR is based only on incidents of the following crimes reported to and recorded by the police:

- Murder
- Rape
- Robbery
- Aggravated Assault
- Burglary
- Larceny
- Auto Theft
- Arson

The UCR crime rate is expressed as crimes per 100,000 U.S. population as reported by the U.S. Census. The conventional use of a rate based on crimes per 100,000 tends to obscure the fact that the risk of being victimized by a serious crime is low. For example, the 2017 crime rate was 2,756 per 100,000, which means that only 2.7% of the U.S. population reported experiencing one of the eight UCR crimes recorded by the police that year (or less if some persons reported more than one crime).

The UCR data only reflect incidents reported to and recorded as crimes by the police; they do not include crimes unknown to the police. To correct for this limitation, the Bureau of Justice Statistics of the U.S. Department of Justice began a new crime reporting program in 1973 that is based on a national survey of U.S. households. Known now as the National Crime Victimization Survey (NCVS), this survey counts all crimes against members of the sampled household who are 12 years old or older. The rates for the NCVS are higher but show the same general pattern of a significantly declining trend since the early to middle 1990s. Because the NCVS is a national survey, it cannot be used to compute state crime rates.

Appendix B: Crime Data

Our statistical models for violent, property, and total crime rates in Florida include multiple independent variables shown in prior research to influence crime rates. A somewhat different mix of variables is included in each of the three models to achieve the best fit to the observed data. The variables were selected from a dataset we compiled containing more than twenty measures of demographic, social, and economic conditions in Florida over the period 1980-2018. We incorporated each of these measures in the models in varying combinations until final models were obtained that maximized model fit (based on the coefficient of determination). The final models, estimated by ordinary least squares regression, include the following measures:

- The prior year's crime rate
- Prisoners per 100,000 population
- U.S. inflation rate
- Percent of the population age fifty-five and older
- Births per one thousand females age fifteen to forty-four
- Linear time trend

The violent crime model also includes births per one thousand females age fifteen to twenty-four, and the property and total crime models include a measure of union coverage indicating the percentage of employed workers who are union members or nonmembers covered by a union contract. The sociodemographic variables are from the 1980, 1990, and 2000 decennial census (values are interpolated between census years); the 2006–2018 American Community Survey (2001–2005 values interpolated); the National Bureau of Economic Research; and the Bureau of Labor Statistics.

The regression results for the violent and property crime models are presented in Table B1. The results for the total crime rate, not shown, are nearly the same as those for property crime, as yearly figures for total crime are determined overwhelmingly by property crimes.

TABLE B1. REGRESSION RESULTS FOR YEAR-OVER-YEAR CHANGE IN FLORIDA[A]

	Violent Crime	Property Crime
Violent Crime Rate (Lagged One Year)	.059 (.138)	.510** (.121)
Imprisonment Rate (Lagged One Year)	-.931* (.427)	-.375 (2.139)
Inflation Rate (Lagged One Year)	13.655* (5.437)	63.046* (24.324)
Percent Age 55 and Older	108.490* (43.016)	501.679* (186.482)
Birthrate[B]	2.398** (.740)	15.762** (5.345)
Teen Birthrate	7.124* (3.400)	--- (---)
Percent Union Coverage	--- (---)	-93.362* (37.205)
Period	-4.350* (1.285)	-14.522* (6.184)
R^2	.603	.743
F	6.290**	10.760*
(N)	(37)	(34)[C]

A UNSTANDARDIZED OLS COEFFICIENTS; STANDARD ERRORS IN PARENTHESES; VARIABLES IN FIRST DIFFERENCES

B LAGGED 18 YEARS IN VIOLENT CRIME EQUATION AND 13 YEARS IN PROPERTY CRIME EQUATION

C REDUCED NUMBER OF CASES DUE TO MISSING VALUES ON UNION COVERAGE

****P < .01 *P< .05**

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