The excellent and broad-ranging article by Durlauf and Nagin (2011, this issue) represents a wise policy document that builds on their excellent previous article (Durlauf and Nagin, in press), which provided a strong analysis of the issue of factors contributing to deterrence of offending. In this review, I build on what I see as the strongest points of their article, particularly their contrast of the relative importance of certainty and severity and their highlighting of certainty over severity. That observation, which many would have difficulty challenging today as the United States has the highest incarceration rate in the world, strongly argues for reduction of severity as reflected in the sentences imposed on convicted offenders. In exchange, it argues for using the resources thereby made available for increasing the certainty of punishment to strengthen the deterrent effect. Their primary emphasis is on providing resources to policing as a means of increasing certainty of arrest. This is certainly one important approach to using the deterrent sanction more effectively. But it also opens the door to using those resources in other ways that could contribute to less crime, thereby achieving their fundamental goal of less imprisonment (shorter sentences) and less crime: increasing certainty or pursuing other actions enabled by those resources to reduce crime.

In this essay, I would like to pick up on Durlauf and Nagin’s (2011) basic objectives and discuss other approaches that should be considered as part of the policy agenda. It may well be that more and stronger policing is the best way to use those resources, but that case is far less clear than the desirability of reducing severity. Then, there should be examination in a broader systems context of the costs and benefits of a variety of other means of generating less crime.
Deterrence
Daniel S. Nagin has been an outstanding and admirably balanced scholar of the issue of deterrence. His initial work in the field as the lead contributor on deterrence to a National Academy of Sciences volume on deterrence and incapacitation (Blumstein, Cohen and Nagin, 1978) provided a strong challenge to work by Isaac Ehrlich (1973, 1975) that claimed to provide evidence of the deterrent effect of incarceration and especially of capital punishment, with a claim that each execution would save eight lives. The basic thrust of the challenges were associated with simultaneity of incarceration affecting crime, but also crime affecting incarceration, an issue of endogeneity not adequately addressed in Ehrlich’s work.

Nagin has since published a variety of papers on deterrence, including attention to the role of perception of sanction risk that goes beyond the normal statistical analysis that characterizes most economic analyses of deterrence. He has been called on by Crime and Justice (Nagin, 1998) to provide central essays on the status of deterrence research. In this work, he has been particularly balanced in his treatment of the issue, in contrast to much of the economic analyses that argue strongly for their estimates of a deterrent effect, and to recognize the challenges of those estimates (see, e.g., Donohue and Wolters, 2005), which point out their weaknesses.

In this article by Durlauf and Nagin (2011), Nagin’s strengths have been augmented by an excellent econometrician, Steven N. Durlauf, who has done his own work assessing regression analyses used to estimate deterrent effects and has teamed with Nagin to assess the severity–certainty trade-off in their forthcoming chapter and in the development of this article to develop the policy implications of that work.

The Third Component of Deterrence
Even though most discussions of deterrence focus on certainty and severity, it has been recognized that there is a third component in “celerity,” the speediness of the imposition of the punishment, with recognition that a speedy imposition strengthens the deterrent effect. This is particularly applicable in the context of specific deterrence, the deterrence of the individual being punished, in contrast to general deterrence that reflects a concern for the broader symbolic message associated with deterrence.

The issue of celerity has been brought to attention in recent years by a program targeted at individuals with substance-abuse problems. Project HOPE in Hawaii was directed at offenders whose drug dependency was the major cause of their criminal activity. They were put on probation with a requirement to call a central office daily; then, on a randomly chosen day each week, they would be required to come in for a drug test. If they failed that test, they would be sent to jail immediately but for a very short sentence of one or a few days; that sentence would increase slowly for each successive failure. That program saw major reductions of more than 50% in subsequent arrests and detected drug use compared with a control group that was given normal probation (Hawken and Kleiman, 2009).
A similar program was introduced in South Dakota by the Attorney General targeted at driving-under-the-influence (DUI) offenders with multiple convictions. These offenders were required to undergo an alcohol test every morning and every evening, and a failure of that test would lead to immediate consequences.

Opportunities for exploiting the celerity aspects of deterrence do seem to exist, particularly for those individuals who remain under the control of the criminal justice system and commit relatively minor crimes, especially those who do so because of an addiction problem that could be tested frequently and addressed quickly with an immediate response. Durlauf and Nagin (2011) call for replication of the HOPE experiment to provide a test of its feasibility in other settings.

**Growth of Incarceration**

It would be hard for anyone who has observed the impressive growth in U.S. prison populations during the last 30 years to argue for more severity of punishment. Certainly, some researchers argue that the crime drop from 1993 to 2000 was a consequence of the increase in imprisonment during that period, but that argument is challenged by the crime rise from 1985 to 1993, when the imprisonment was growing at least as fast. Indeed, that decline in the late 1990s was estimated in two different ways (Rosenfeld, 2000 [2006], in an incapacitation analysis, and Spellman, 2000 [2006], in a regression analysis) to have contributed approximately 25% to the dramatic drop of 45% in robbery and homicide. But certainly other processes were at work (including the waning of the crack epidemic and police aggressiveness in taking handguns from the young people who were major contributors to the previous crime rise) to which the growth in incarceration was an augmentation.

A variety of earlier analyses compared certainty with severity, and they generally agreed that the effect of certainty dominated that of severity, but the Durlauf and Nagin (2011) work provides a stronger econometrics test of that conclusion. Despite the widespread and strengthening evidence in support of that position, we have observed since the early 1980s a 6% to 8% annual increase in the U.S. incarceration rate. This followed a period of at least 50 years of impressive stability in the incarceration rate at a level of 110 per 100,000 population (Blumstein and Cohen, 1973) reflecting a homeostatic process (Blumstein et al., 1976) largely controlled by the criminal justice system. It became clear that a major regime change occurred that transferred that control to the political system. That shift was engendered largely by a growing public concern about crime that placed demands on the political process to “do something” about that problem. The repertoire available to politicians and especially legislators is particularly limited, particularly if they are want to show that they are “doing something” quickly, thereby precluding investment in long-term prevention efforts like the demonstrably effective use of home visitation by nurses (e.g., Olds et al., 1998) to enhance the maternal skills of high-risk mothers.

The obvious political solution was to increase punishment, first by introducing mandatory-minimum sentences for those offenders who might otherwise have been put
on probation (thereby increasing certainty) and then increasing the magnitude of those sentences. Thus, at the beginning of the movement, we saw minimums of 2 years that were then escalated to 5 years and later 10 years, particularly for drug offenses in response to public concern about violence in the drug markets and anxiety that their children might be caught up in drug use.

An analysis of the factors contributing to the growth of incarceration between 1980 and 2000 (Blumstein and Beck, 1999, 2005) found initially a small contribution attributable to a growth in crime. It was somewhat surprising in light of the growing sophistication of policing over that period that no contribution was attributable to a growth in arrests per crime. The dominant contribution was attributable to an increase in prison commitments per arrest (a consequence of tougher prosecutors and judges, both affected by statutory pressure from legislatures as well as a political environment that rewarded those who were “tough on crime” and punished those who were charged with being “soft on crime”) and time served, including time served as a result of parole violation. The Blumstein–Beck analyses also pointed to the dramatic growth by a factor of 10 in the incarceration of drug offenders.

Furthermore, the analyses showed that in the early part of the period until 1994, commitments and time served were approximately equally influential, whereas in the later period, time served was roughly twice as influential. As the pressure for longer sentences and violating more parolees became dominant, especially for violent crimes, and as pressure for more community-based programs gave rise to “intermediate punishment” (Morris and Tonry, 1991), especially for nonviolent offenders, led to the development of more such programs.

Many observers looked aghast at the steady growth of incarceration, recognized that it was not very functional but also recognized that punitiveness had become ingrained in the political culture of the time, and observed that seemingly little could be done to reverse that growth. One consequence of the Great Recession has been the budget crisis it created in virtually all the states as their revenues declined, and they began searching for means of cutting expenditures to meet their requirements for a balanced budget. To a large degree, the most rapid growth in expenditures during the past several decades had been for costs associated with incarceration and so that opened the door to rethinking those policies. That slowed the incarceration growth to less than 1% in 2008 and 2009. In 2008, approximately half the states increased their prison populations and the other half reduced them. The largest increase was in Pennsylvania, where the murder of a Philadelphia police officer by a parolee led the governor to close the backdoor by halting all parole releases until the issue could be studied further. This situation highlights the political sensitivity of decisions regarding incarceration—a single heinous event can cause a reaction by key political decision makers that can lead to a dramatic change in incarceration policy. And this came at a time when crime rates were lower than they had been since the 1960s.
**Sentencing Guidelines**

One means by which the criminal justice system metes out punishment is through sentencing guidelines, which have been adopted in approximately half the states and in the federal system. The guidelines were introduced in the late 1970s and early 1980s with a principal objective of reducing disparity, especially racial disparity, in the imposition of sentences on convicted offenders. Those guidelines vary from narrowly prescriptive to broadly advisory and are typically based on a matrix structure that reflects the seriousness of the conviction offense on one dimension and the seriousness of the prior record on the other. In at least some cases, guidelines were introduced as a means of counteracting the politicization of sentencing policy in state legislatures and moving the policy into a less political guidelines commission. In some cases, the commissions were even told to make their sentencing policy compatible with the available prison capacity. To some degree, the commissions could resist the toughening trends, but they also were influenced by those same forces and ultimately could not represent major resistance to the growth of incarceration.

In the current political environment, with a desire to reduce the cost of incarceration, many states could be looking to their sentencing commissions to help in that regard. If they were to continue to use their current guidelines and adjust them all downward, thereby reducing the severity of punishment, that would likely reduce the costs of incarceration but not necessarily reduce crime. However, the commission could introduce actuarial risk assessment of the individual convicted offenders using other characteristic information about the offender such as employment status, family status, and other indicators of recidivism risk. That could be done within each cell of the guidelines matrix by using the risk-assessment score to indicate departures above or below—preferably below—the specified guidelines sentence.

Of course, introducing risk assessment will inevitably introduce disparity because two individuals convicted of the same crime with the same prior record would now be getting different sentences. Certainly, race or other characteristics of protected classes should not be used in generating a risk assessment score. If that is the case, then the disparity introduced could be reasonable. Thus, such revisions of the sentencing guidelines incorporating risk assessment could be another useful approach to reducing imprisonment at least without increasing crime.

**Drug Offenses**

Perhaps the greatest factor contributing to the incarceration growth has been the obsession by the political system to deal with the nation’s drug problem through incarceration. Drug offenders now represent the single largest offense category in prison, accounting for more than 20% of state prisoners and more than 50% of federal prisoners, with their incarceration rate having grown by a factor of 10 since 1980. Prior to the politicization of drug offending, probation would not have been an unusual sentence. But given the public’s concern about children becoming addicted, the natural political response was the introduction of escalating mandatory-minimum sentences.
Undoubtedly, drug abuse has been a serious social problem and has contributed to other crimes of theft by users to obtain the money to buy the drugs and crimes of violence by sellers as a form of competition. But there are profound limits on the degree to which incarceration of drug sellers can disrupt the traffic in illicit drugs. As long as the demand persists, any seller deterred by the increasing threats of punishment or any seller convicted and incarcerated could be replaced. As long as replacements are available, they would serve to nullify any anticipated deterrent or incapacitative effect. This was the thrust of my presidential address (Blumstein, 1993) to the American Society of Criminology in November 1992, shortly after Bill Clinton was elected President, who I hoped would reverse the increasingly futile growth of drug offenders in prisons.

What I did not appreciate at the time was the problems that would derive from the replacements. Marketing of crack cocaine began in the early 1980s as a technological innovation that permitted people with small amounts of money to indulge in the pleasures of crack for only $5 or $10, much less than the cost of a minimum quantity of powder cocaine. Crack was marketed primarily by African Americans in their segregated communities. As the market grew and as the market displayed competitive violence, aggressive efforts were pursued to disrupt that market with incarceration. As one could anticipate, replacements were readily available, and so the incarceration had little effect on transactions. The replacements were predominantly young people, as demonstrated by a dramatic growth in the arrest rate of non-White juveniles after 1985. Not surprisingly, these young people were far less restrained in their use of the guns that they had to carry to protect themselves against robbers. Also, their peers in the neighborhood began to carry and use guns, thereby leading to an arms race in those neighborhoods (Blumstein, 1995). That gave rise to a 25% increase in homicides and robberies between 1985 and 1993, virtually all attributable to young African American males with handguns.

Thus, an important counterproductive effect of the incarceration of the drug sellers was an increase in violent crime, primarily attributable to their replacements. Fortunately, the demand for crack declined in the early 1990s as its serious consequences became clear. The young sellers were no longer needed in the market, and they could move into the robust economy that prevailed at the time. All of that, along with aggressive policing taking the guns from the young people, contributed to the decline of more than 40% in murder and robbery between 1993 and 2000.

There remains an important lesson about replacements that still does not seem to have been reflected in current policy discussions regarding the role of incarceration of drug offenders. When the Congress revised the notorious 100:1 crack-powder mandatory minimums (the same 5-year sentence for 500 grams of powder and for 5 grams of crack) to be 18:1, they had the opportunity to make that change retroactive to apply to the many prisoners incarcerated under the old rules but chose not to do so. It is clear that as the states are scrambling to revise their incarceration policies because of their requirements for balanced budgets, but the corrections costs are a small part of the federal
budget, and so the pressure on the Congress to reduce prison populations is appreciably less.

But the door is certainly open to both the states and the federal government to rethink their incarceration policies, especially regarding drug offenders. California initiated that rethinking as a result of Proposition 36, which led to The Substance Abuse and Crime Prevention Act of 2000. That Act mandated that first-time drug offenders should be offered treatment as an alternative to incarceration and, thus, has saved many millions of dollars of incarceration costs. This would seem to be an ideal time for many other states and the federal government to consider similar possibilities.

An impressive study involving systems theory by Tragler, Caulkins, and Feichtinger (2001) highlighted the need for using different treatments for the drug problem at the early stages of an epidemic before the practice is widespread compared with the late stages when abuse and addiction involve large numbers of people. At the early stages, vigorous enforcement may be sufficient to quench the growing epidemic. At the late stages, enforcement is inherently too limited to become an important factor to contribute very much to reduction of the epidemic, and so an investment in treatment becomes the most appropriate approach. For most drugs in the United States, we are at that latter stage, and so significant increases in investment in treatment is much more warranted and a much better use of the $25,000–$30,000 annual cost of incarceration.

**Investment in Research**

One of the important contributions of the Durlauf and Nagin (2011) article is the research agenda to which they devote approximately 20% of their article. In general, their suggestions are strong and do a good job of covering the range from some necessary basic research, which should be an important part of any programmatic research endeavor, as well as policy research intended to test a variety of approaches or to develop better estimates of parameters that should be influential in shaping policy. One would think that those research suggestions would be particularly valuable in shaping the agenda of the National Institute of Justice during the coming decade.

**References**


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