



Research Report

Cost-Benefit Analysis of Correctional Interventions

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HISTORICAL CONTEXT

The historical changes in sentencing and corrections policies and practices can be characterized by the emphasis on different goals. Four major goals are usually attributed to the sentencing process: 1) retribution or "just deserts" (van den Haag, 1975), 2) rehabilitation (Palmer, 1992), 3) deterrence (Von Hirsch, 1976), and 4) incapacitation (Wilson, 1975). Based on the "social contract" philosophy of Hobbs and Lock, retribution, or "just deserts," argues that criminals deserve punishment commensurate to the gravity and/or chronicity of their offenses. The other three goals emphasize the protection of the public. They differ, however, in the mechanism expected to provide public safety. Rehabilitation is designed to change thinking and behavior in bringing about cessation from crime. Deterrence emphasizes the mental calculus of criminals (specific deterrence), or the general public (general deterrence), that leads to the realization that the costs of crime outweigh the benefits. Incapacitation prevents crime in the community through incarceration of offenders.

The past 30 years have seen significant changes in the philosophy and practice of sentencing and corrections. The strong emphasis on rehabilitation that existed prior to the 70s began to be trumped by arguments that the purpose of justice was to punish criminals according to the gravity and/or chronicity of their offenses (just deserts) because rehabilitation had failed. Sentencing practices later moved toward a crime-control - or incapacitation - model that emphasized incarceration as a way to reduce crime in the community (Clear, 2007; MacKenzie, 2001).

Changes in the practice and philosophy of sentencing and corrections in the 70s and 80s resulted from the confluence of:

- philosophical debates concerning the goals or purpose of corrections,
- research on the failure of rehabilitation, and
- the escalation in crime related to increased drug abuse and distribution associated with the formation of drug cartels in South American countries (Harland, 1996; Seelke, Wyler, & Beittel, 2010).

Across all branches and levels of government, criminal processing and sentencing expanded the use of incarceration in a number of ways: prison time was increasingly required for lesser offenses; time served was significantly increased for violent crimes and for repeat offenders; and drug crimes, particularly street dealing in urban areas, became more severely policed and punished. These changes in punishment policy were the main and proximate drivers of the growth in incarceration (Travis & Western, 2014).

During the 1980s, the U.S. Congress and most state legislatures enacted laws mandating lengthy prison sentences—often of 5, 10, and 20 years or longer—for drug offenses, violent offenses, and “career criminals.” In the 1990s, Congress and more than one-half of the states enacted “three strikes and you’re out” laws that mandated minimum sentences of 25 years or longer for affected offenders. A majority of states enacted “truth-in-sentencing” laws requiring affected offenders to serve at least 85 percent of their nominal prison sentences. The Congress enacted such a law in 1984 (Travis & Western, 2014; Tonry & Petersilia, 1999; Wagner, 2014).

These changes in sentencing reflected a consensus that incarceration was the most effective instrument of crime control. Yet over the four decades when incarceration rates steadily rose, U.S. crime rates and recidivism have not shown corresponding changes in patterns that would indicate that incarceration impacts either outcome (Benda & Pallone, 2005; MacKenzie, 2001; Travis & Western, 2014). The best single proximate explanation of increases in incarceration rates is not the escalation in crime, but the policy choices that led to significant increases in the use of imprisonment as a response to crime (Travis & Western, 2014). It is in this context that the present presentation is made.

GROWTH OF CORRECTIONAL POPULATIONS

From 1973 to 2009, the state and federal prison populations rose steadily, from about 200,000 to 1.5 million, declining slightly in the following 4 years. In addition to the men and women serving prison time for felonies, another 700,000 are held daily in local jails. In recent years, the federal prison system has continued to expand, while the state incarceration rate has declined. Between 2006 and 2011 more than half the states reduced their prison populations, and in 10 states the number of people incarcerated fell by 10 percent or more (Travis & Western, 2014).

The U.S. penal population of 2.2 million adults is the largest in the world. In 2012, close to 25% of the world's prisoners were held in American prisons, although the United States accounts for about 5% of the world's population. The U.S. rate of incarceration, with nearly 1 of every 100 adults in prison or jail, is 5 to 10 times higher than rates in Western Europe and other democracies (The Sentencing Project, 2012). Basically, the conclusion is that the growth in incarceration rates in the United States over the past 40 years is historically unprecedented.

Those who are incarcerated in U.S. prisons come largely from the most disadvantaged segments of the population. They comprise mainly minority men under age 40, are poorly educated, and often have additional deficits of drug and alcohol addiction, mental and physical illness, and a lack of work preparation or experience. Their criminal responsibility is real, but it is embedded in a context of social and economic disadvantage (Brame et al., 2012; Center for Constitutional Rights, 2009; Fortner, 2013).

AN EMPIRICAL APPROACH TO ASSESSING DIFFERENT CORRECTIONAL POLICIES AND PRACTICES

An objective approach to assessing the effectiveness and efficiency of different policies and practices, such as building new prisons, is cost-benefit analysis (Aos, 2013). Especially during an economic downturn and recovery, cost-benefit analysis can give lawmakers a more targeted way to identify sentencing structures and alternative interventions that maximize the effectiveness and efficiency of the use of taxes. Around the country, research findings are being compiled and analyzed to identify policies that achieve desired outcomes and offer taxpayers high rates of return on their investments. In many cases, credible research shows that the administrative costs of implementing a new program can be dwarfed by future benefits. These benefits spring from not only reductions in crime and avoided sentencing costs, but also increased lifetime earnings and health outcomes (Matthies, 2014).

In these and other ways, cost-benefit analysis injects data-driven methods and evidence-based practices into criminal justice policymaking. The outcome: **comprehensive, line-item comparisons of criminal justice policy alternatives**. Once each policy or program option is subjected to cost-benefit analysis, the results are presented side-by-side allowing lawmakers to select the intervention which promises to generate the **greatest net benefits**. Cost-benefit analyses allow comparison of policies and interventions with differing strategies and goals. For example, building a new prison can be compared to changes in sentencing of certain offenders, such as drug offenders, or other interventions, such as expansion of drug courts.

A major contribution of cost-benefit analyses has been making it apparent that policymakers can affect the level of crime by making decisions that influence the rate of incarceration, as well as by making decisions on rehabilitation and prevention strategies (Aos, 2013; Matthies, 2014). For example, recent research finds that a 10% increase in the state incarceration rate leads to a 2% to 4% reduction in the crime rate (Oregon Criminal Justice Commission, 2007; Stemen, 2007;

Washington State Institute for Public Policy, 2003). This effect was larger for violent crime, with a 10% increase in the incarceration rate leading to a 3.4% decrease in the violent crime rate.

What does a 2.6% decrease in the crime rate from a 10% increase in the incarceration rate mean? If in 2005, Oregon were to have increased its incarceration rate by 10%, this would have required an additional 1,284 beds, at an estimated cost of \$73 million per biennium. This increase would have resulted in an estimated decrease of nearly 12,000 index crimes.

At the same time, according to the economic law of diminishing marginal returns, the more incarceration rates are increased, the less each additional prison cell will be able to reduce crime. For example, the Oregon Criminal Justice Commission (2007) estimated with cost-benefit analysis that in 1994 29 crimes were avoided by adding an additional inmate. As more offenders have been incarcerated, this number has steadily decreased. By 2005, fewer than 11 crimes were avoided by incarcerating one more offender for a year. As the most prolific offenders are incarcerated, the new admissions will have less commission of crimes, and therefore, less effect on crime rates.

COST EFFECTIVENESS OF INCARCERATION

If the cost of a crime and the cost of incarceration can be estimated, then a cost-benefit ratio can be easily calculated. The costs of crime have been broken into two components, victimization costs and taxpayer costs. Victimization costs include lost property, lost productivity, required counseling and mental health services, social services, medical care and quality of life.

For example, if an assault occurs there are a number of costs that the victim may incur. An ambulance may be called to respond to the incident. If injuries are involved, the victim will incur medical bills and lose time at work. The victim may need to seek counseling to deal with the assault. The victim may no longer feel safe in their neighborhood and move to a new area. Many costs accrue to the victim, some of which are easily measured and some that are nearly impossible to quantify. A prominent national study has conducted thorough research to estimate these costs (Miller, Cohen, & Wiersema, 1996), which have been updated (McCollister, French, Fang, 2010).

Taxpayer costs are more easily quantified. These include the cost of an arrest, conviction, incarceration, probation and post-prison supervision. The Washington State Institute of Public Policy has developed a model for estimating these costs (Aos et al., 2012). With an estimate for victimization costs and taxpayer costs, the benefit of avoiding a crime can be estimated. Using the cost of incarceration and the benefit of avoiding a crime, a cost-benefit ratio can be calculated. The Washington State Institute of Public Policy examined the benefits of incarcerating violent offenders, property offenders and drug offenders (Aos et al., 2012). They found that it is much more cost-effective to incarcerate violent offenders. They estimated that in 2005, for every dollar the state invested in incarceration for violent offenders the return in taxpayer and victimization benefits was \$4.35. They also estimated that it was not cost-effective to incarcerate drug offenders, with every dollar invested returning only \$0.35.

Aos et al. (2012) also show that some research-based and well-implemented rehabilitation and prevention programs can produce better returns for taxpayers' dollars than further prison expansion for certain types of offenders. For example, some but not all drug treatment programs for adult offenders and some but not all family-focused approaches for juvenile offenders have proven to be cost-effective crime reduction strategies.

CONCLUSIONS

In the last two decades, research has advanced on what works and what does not to reduce crime. Now that information can be used to help policymakers direct resources toward programs that are cost effective and away from those that are not. Cost-benefit analysis provides an empirical tool for making comparisons between interventions and policies that involve differing strategies and goals. However, cost-benefit analysis should be considered "a" tool for decision-making, rather than the "tool." There are moral and ethical issues that must be considered in addition to empirical results. Moreover, decision-making must be tempered with knowledge that cost-benefit analysis entails estimates based on portfolio scenarios. While national studies have been done to provide accurate estimates, they are estimates and not observed values.

National estimates may not provide the most accurate indicator for particular states.

Cost-Benefit analyses conducted lead to the following conclusions:

1. A 10% increase in the state incarceration rate leads to a 2% to 4% reduction in the crime rate.
2. Due to diminishing marginal returns, and as a result of significant increases in incarceration rates in recent years, an increase in the incarceration rate today avoids considerably fewer crimes than it did just a decade ago.
3. Incarcerating more violent and high-volume property offenders continues to generate more benefits than costs, although the net advantage of increasing incarceration rates for these offenders has diminished.
4. Since the early 1990s, however, incarcerating drug offenders has generated more costs than benefits. That is, today it costs taxpayers more to incarcerate additional drug-involved offenders than the average value of the crimes avoided.
5. Some research-based and well-implemented rehabilitation and prevention programs can produce better returns for the taxpayer's dollar than prison expansion for certain types of offenders. Several research-based interventions, particularly family-based approaches for juvenile offenders and drug treatment for drug-related adult offenders, have returns well in excess of their costs.

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