

# Should Arrest and Incarceration Costs be Included as Part of a CBA?

Monica Deza<sup>1</sup>

While it is well known that crime imposes a large cost on society particularly through arrest and incarceration, it remains an enduring question whether arrest and incarceration should be accounted as part of a CBA. Because the country's state prison population grew by more than 500% since the 1970s, the costs of state correctional facilities have grown explosively in the last four decades.<sup>2</sup>

As local economies allocate expenditures to control crime, they must take into account the cost-effectiveness of services that directly control crime such as police and incarceration versus the alternative use of those funds or the opportunity cost. For instance, increasing education lowers criminal participation in the long run and therefore allocating some of prison funds towards education may ultimately decrease criminal participation (Lochner and Moretti, 2004; Meghir, Palme and Schnabel, 2012).

When estimating the costs and benefits of crime, we must consider how arrests and incarceration enters the CBA from the criminal and the victim's perspective. First, we must estimate the CBA faced by a rational individual who weights the costs associated with committing a crime against the benefits. Second, we must estimate the cost of crime to society beyond the costs to the victim. In the remainder of this paper, I will discuss how arrest and incarceration enter the CBA decisions of a potential criminal as well as society's.

## *Potential Criminal's Perspective*

As previous economic models point out (Sickles and Williams, 2002; Becker, 1968; Ehrlich, 1973), criminals are rational agents endowed with scarce time which must be used to produce income, and such income can be produced either by working in the legal sector or by engaging in criminal activity. This model is particularly relevant to property crimes. The individual weights the expected value of working in the legal sector with the expected value of engaging in criminal activity. The expected value of engaging in criminal activity is the monetary value that he or she obtains from engaging in the property crime, which the criminal only enjoys conditional on not being arrested. If the individual is arrested with a given probability  $p$ , then the individual does not enjoy the monetary value of the crime, but instead experiences a disutility associated with the punishment which is usually incarceration (Sickles and Williams, 2002).

Policy can potentially increase the cost of crime, which would deter potential criminals, either by increasing the probability of facing punishment (arrest) or by increasing the severity of punishment (incarceration). Therefore, both arrest and incarceration are crucial costs that rational individuals consider when deciding whether to engage in criminal activity. In a model where the payoff of committing a crime is calculated with uncertainty over whether the

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<sup>1</sup> Assistant Professor, Department of Economics, Hunter College, City University of New York (CUNY).

<sup>2</sup> <https://www.brennancenter.org/sites/default/files/analysis/UpdateChangesinStateImprisonment.pdf>

individual will ultimately enjoy the utility of committing a crime (i.e. for instance the individual could sell the items stolen and enjoy the monetary value of those) or will ultimately experience the disutility of getting caught without enjoying the utility of committing a crime (i.e. for instance the stolen items are confiscated and now the individual must be imprisoned), the probability of arrest explicitly accounts for the uncertainty (Grogger, 1998).

Because arrest and incarceration play such a large role at the decision of a rational individual to engage in criminal activity, both arrest and incarceration are crucial costs.

Incarceration is the cost that criminals would face if they get caught. The probability of arrest is what indicates whether criminals will have to pay the cost of incarceration. A separate question is what components of arrest and incarceration should be included when measuring CBA.

One component that should be taken into account when measuring the costs and benefits of incarceration is the extent to which an individual's criminal career is enhanced or not in prison. On one hand, an individual's criminal capital may depreciate in jail, the same way that human capital may depreciate when an individual is out of work. For instance, incarcerating a drug dealer will make him or her lose contact with clients, which will in turn make it more difficult for such individual to return to being a drug dealer upon being released from prison. On the other hand, one's criminal capital may be appreciating if there are peer effects that will enhance criminal skills of inmates. Bayer, Hjalmarsson and Pozen (2009) analyze whether juvenile offenders serving time in the same correctional facility affect each other's subsequent outcomes and find that there are strong reinforcing peer effects in juvenile correctional facilities. That is, individuals who have committed a particular crime are more likely to recidivate for that particular crime after being exposed to peers with a history of committing a particular crime. If these peer effects improve the criminal capital of inmates, incarceration may not be as costly as previously thought to the individual who wants to return to a criminal career upon release.

Another component that should be taken into account when measuring the costs and benefits of both arrests and incarceration is the role they play at interfering with habit formation. Research on addictive goods has largely focused on the role of shocks that affect substance use even if for a brief period with the ultimate goal of interfering with habit formation and habit persistence (Arcidiacono, Khwaja and Ouyang, 2005; Arcidiacono, Sieg, Sloan, 2001; Deza, 2015). Because there is a cost to committing crime for the first time, a barrier is crossed the first time one engages in criminal activity. Once an individual incurs that fixed cost, the marginal cost of engaging in additional crime is lower which results in criminal participation exhibiting habit persistence. Research that focuses on addictive goods and risky health behaviors take into account the fixed costs of using an illegal substance for the first time as well as the transition costs from being a user to not being a user (Arcidiacono, Kwaja, and Ouyang, 2005). Analyzing the costs and benefits of crime should take into account that incarceration, even if brief, may provide a shock that breaks persistence. To the extent that we believe that there is state dependence in criminal participation, such interruption would lead to a long term decrease in crime.<sup>3</sup> Additionally, incarceration may provide also an interruption to

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<sup>3</sup> Studies that evaluate the habit formation of risky health behaviors have relied on the National Longitudinal Study of Youth 19997, which also includes some measures of self-reported delinquent

substance consumption for enough periods to break addiction, and such unintended consequence of incarceration should be taken into account.

The cost-effectiveness of incarceration and arrest vary with age. Because adolescents are more malleable than adults, arresting a young individual may be more effective at deterring such individual from committing future crimes; however, these larger benefits must be weighted with the large costs that come from introducing a young individual to the criminal justice system (Aizer and Doyle, 2013). Adolescents may also have more imprecise estimates about their own ability to commit a crime without getting caught and hence getting arrested would make them update their priors. Adults have higher levels of criminal capital and hence arrests or incarceration may not stop them as easily from committing future crimes. In that sense, it should be taken into account that arresting an individual with high levels of criminal capital has a different benefit than arresting an individual in the early stage of his or her criminal career at updating their priors about the propensity they will get caught. In addition, an individual who is in early stages of his or her criminal career may have criminal capital depreciate at a faster rate than an individual who has accumulated a lot of criminal capital and may have more established criminal networks. Therefore, incarcerating an individual who is at the end of his or her criminal career may be less cost-efficient than incarcerating an individual who is at the peak.

Finally, it is worth to take into account that violent crimes have a defensive motivation (Massey, 1995; Anderson, 1999; Bjerk, 2010; Silverman, 2004; O’Flaherty and Sethi, 2010). In the presence of violence, it may be optimal for individuals to be a violent offender as a way to prevent attacks from occurring in the first place, especially in violent neighborhoods. For instance, arrests and incarceration may be preventing some individuals from joining a gang. In gang-ridden neighborhoods, members of a gang receive protection by joining and therefore individuals face the decision of either facing the cost of potential arrest and incarceration in exchange for being able to join a gang, receive protection and be less likely to be victimized (Bjerk, 2010).

### *Society’s Perspective*

It is important to differentiate the external costs from arrests and incarceration from the social costs. When we talk about differentiating the external costs from the social costs of crime, the external costs are those imposed on the victim by the offender. For instance, burglary imposes costs on the victim such as the value of goods stolen in addition to emotional damage, value of time spent undoing the damages caused by the robbery (i.e. repairing broken windows, replacing items lost during the incident). On the other hand, social costs are not imposed on individuals but on society as a whole (Chalfin, 2013).

One can make the argument that a variety of property crimes do not impose social costs but external costs. For instance, the value of a stolen good can be thought of as a transfer from one

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behavior or Health and Retirement Survey since both include longitudinal measures (Arcidiacono, Khwaja and Ouyang, 2005; Arcidiacono, Sieg, Sloan, 2001; Deza, 2015). Future research should analyze the state dependence of self-reported delinquent behavior in order to estimate policy counterfactuals.

individual to another and hence a good would be considered an external cost and not a social cost (Tullock, 1967; Cook, 1983; Chalfin, 2013).

Crime is costly but so is crime prevention. The costs of crime prevention are paid either by the public sector (i.e. police expenditures, arrests, incarceration) or by the private agents (i.e. purchasing lojacks, taking taxis instead of walking, purchasing alarm systems). To some extent, public sector expenditures substitute private expenditures on crime prevention in the sense that the more police officers we have available, the less one feels the need to invest in private means to prevent victimization. Removing criminals from a neighborhood makes the neighborhood safer, which in turn decreases the probability of individuals relying on private outlets for prevention. Those individuals who benefitted from a safer neighborhood will now feel safer walking at night and hence will be less likely to take taxis, which would affect taxi drivers. If that is the case, we should consider the welfare loss to taxi drivers (among other industries that thrive when crime is high) that occurs when a neighborhood becomes safer after the removal of criminals through arrests and incarceration. Similarly, individuals who feel safer will be less likely to purchase surveillance systems, home alarms and lojacks among other methods to prevent being a victim of crime. On the other hand, individuals may be outside more often when they feel safer in their neighborhood, which may benefit local businesses.

Hence, it is important to take into account that some of the cost of arrests and incarceration is indeed a transfer. Even though these could potentially be seen as transfers from society's perspectives, crime imposes a social cost to the individual since the individual rather spend money elsewhere instead of crime prevention means. To the extent that arrests and incarceration remove criminals from the streets and hence decrease crime in certain neighborhoods, one must take into account that high crime rates affect local businesses (Schwartz, Susin and Coicu, 2003), causes individuals who can move out to move out and hence contributes to segregation (Cullen and Levitt, 1999) and lowers labor market attachment (Taylor, 1995) which is consistent with also lower labor market opportunities that arise from smaller investments in these communities as a result of high crime.

Finally, it is also important to take into account the role of arrest and incarceration on the probability that an individual will transition from the criminal sector to the formal labor market. Arrests and incarceration affect employment and marriage prospects, which are key institutions for investing in social capital in the non-criminal sector (Akerlof, 1998; Laub and Sampson 1993, 1994). To the extent that arrests and incarceration affect the social capital that could potentially make it easier for a former inmate to transition from the criminal sector to the non-criminal sector, arrest and incarceration impose costs on rehabilitation. Because social capital is crucial to re-enter the non-criminal sector and social capital is associated with reputation, social sanctions can be treated as a reduction in special capital, which is reduced as a result of arrest and incarceration (William and Sickles, 2000). Incarceration affects future probability of employment and decreases expected lifetime earnings. Consequently, gross earnings affects tax revenues.

In addition to taking into account that arrests and incarceration has heterogeneous effects on the offender, one must also take into account that arrests and incarceration affects victims

heterogeneously. For instance, the benefits of removing criminals off the streets are not evenly distributed as certain neighborhoods are disproportionately more affected by crime than others. Similarly, when individuals are released from prison they are disproportionately more likely to move into more urban and low-income neighborhoods. This indicates that the costs and benefits of arrest and incarceration are heterogeneously distributed. Some individuals are disproportionately more exposed to crime and hence the decrease in crime that results from additional arrests and incarceration have disproportionate effects on them.

In my view, arrests and incarceration should be included as part of CBA. The extent to which arrests and incarceration impose a cost (i.e. earning losses) or even a benefit (i.e. break path dependence from addictive substances) on an individual vary from person to person and varies depending on the individual's stage of criminal career.

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