

## THE ECONOMICS OF CRIME

### CHAPTER OBJECTIVES

In this chapter you will come to understand how it is that economics can contribute to the debate over crime and crime control. You will understand who it is that generally commits crime and why. You will understand that when they study crime, economists often assume that criminals are rational. You will have an understanding of how much crime costs society and how much we spend to control it. Lastly, you will understand how an economist looks at issues of crime control and will be able to decide whether we are currently spending the right amount, focusing on the right criminals, emphasizing the right crimes, and enforcing the right sentences.

### INTRODUCTION

Crime is a problem that does not naturally spring to mind as one for which economists would have much of value to contribute. Other than early work on crime by Nobel Prize winning economist Gary Becker, we have not used much of our research time and money on this subject. Still there are areas where economic analysis is uniquely suited to deal with the problems of crime. For instance, the

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### CHAPTER OUTLINE

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#### INTRODUCTION

#### WHO COMMITS CRIME AND WHY THE RATIONAL CRIMINAL MODEL

**Crime Falls When Legal Income Rises**

**Crime Falls When the Likelihood and Consequences of Getting Caught Rises**

**Problems with the Rationality Assumption**

#### THE COSTS OF CRIME

**How Much an Average Crime Costs  
How Much Crime an Average Criminal Commits**

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**What is the Optimal Amount to Spend**

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**What is the Optimal Sentence**

#### CHAPTER SUMMARY

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decision to commit a crime is one in which a potential criminal makes a decision based on the income potential of legal work, the booty to be gained from the crime, and the chance and consequence of getting caught. Couched in different words, this is not all that different from an investment decision in which small gains in safe assets are compared to large gains in risky assets. When looked at this way, economics and criminology have some important links.

The first thing we will do in exploring the economics of crime is to look at who commits crime. We will then see what a theoretical “investment-like” decision would tell us about who we should expect will commit crimes. Next, we will use cost-benefit analysis to discuss how the noncriminal public should devote resources in the areas of crime prevention, detection, apprehension, and punishment. Lastly, we will use economics to study whether the goals of life-imprisonment and the death penalty have the desired effects of deterring, or preventing future crime.

## **WHO COMMITS CRIMES AND WHY**

Most crime is committed by young men who are socially and economically disadvantaged. The victims of their crimes are also disproportionately from the same group. Young black men, for example, overwhelmingly commit crimes against other young black men. Moreover, when we examine the disadvantages attributed to racism and compound them with the economic disadvantage of poor job opportunities the problem seems to magnify. For instance, while white people are killed by other whites in exactly the number that would be predicted by the overall population (76 of 100), 94 of every 100 murdered blacks are killed by other blacks. In this case the number predicted by the distribution of the population as a whole would be 12 out of 100, rather than 94 out of 100.

Crime statistics generally come to us from two sources: police reports and surveys of crime

victims. While those who view the police to be racially biased may argue that statistics that come from police reports are racially biased, it is hard to believe that crime victims would have an interest in biasing their reports. Falsely reporting their attacker to the police would diminish the likelihood that the perpetrator would be caught and doing so in a survey would not serve any useful purpose. No matter whether you measure crime by looking at arrest reports sent to the FBI or by looking at victimization surveys, then, the data indicate conclusively that minorities commit far more crimes than their 24% proportion of the populace. The question is not whether the poor blacks, Hispanics, and other needy members of the minority communities commit more crimes, but why.

### **THE RATIONAL CRIMINAL MODEL**

In the late 1960's Gary Becker came up with a model of criminal behavior that explained crime in terms of a simple investment decision. According to Becker, the decision to commit a crime is one of risk and return. The low-return investment, work at a legal job, has a low return but the worker carries no risk of being arrested. On the other hand, the high-return investment, stealing or selling illegal goods, has a high return but puts the thief or drug dealer at risk of getting caught and punished. In this context, a criminal is no different from an investment banker who is deciding whether to invest in tried-and-true U.S. Treasury bonds or a risky initial public offering of an internet stock. Just as investors have a portfolio that contains a mix of risky and safe assets, you would expect to see that most criminals would have legitimate jobs as well. This is, in fact, the case.

We should take some time to explain what economists mean when they use the word “rational.” To an economist if people know what it is they want, know the constraints they face, know the costs of getting what they want, and choose to proceed with getting it, then they are rational. This does not mean

that these “rational” people will do what society thinks is best for them. It only means that their actions are consistent with their goals, constraints, and costs. By this standard all but the insane are “rational.”

### **Crime Falls When Legal Income Rises**

If a person has the potential for a higher income through legal means than illegal ones, then the person would be just plain stupid to pick the risky and lower-earning alternative of a life of crime. If you have the skills to be a doctor or lawyer and have a six-figure salary, the alternative of clearing \$50,000 while selling cocaine is not all that attractive. Thus, the rational criminal theory correctly predicts that people with high legal incomes are not likely to be prevalent in the criminal and prison population.

While that may seem like a trivially easy conclusion to come to, what is not trivial is how a person with a set of intermediate skills that makes \$10 an hour, or about \$20,000 a year, would treat the issue. To be at that level of income in today’s society, most people have completed high school. It is therefore significant that less than half of those in the prison population graduated from high school, and 33% were not working at a legal job just prior to being arrested. Weighing a \$20,000 a year job against a high-risk, high-income criminal life is hard ,and the decision could go either way.

A full-time minimum wage worker, earning approximately \$10,500 a year, would see the opportunity of earning a high-criminal income as a significantly greater temptation than would a person making much more. We would expect that greater economic alternatives in the legal realm would translate into less crime, and fewer opportunities would lead to more crime. Why, then, did crime escalate during the sustained economic growth in the middle to late 1980's and fall during the sustained growth of the middle to late 1990's? The answer lies in the placing of economic opportunities.

If our rational criminal theory is accurate, raising a middle, upper-middle, or high income

person's economic prospects should have little to no effect on crime. Even without a growth in income, such a person would have virtually no incentive to turn to crime. An increase in income would simply lessen a trivially small temptation and would not have any appreciable impact on crime. On the other hand, if the economic prospects changed at the low end of the economic scale, the effect on crime would likely be substantial.

In the decade and a half from the mid-1970's to the early 1990's, income inequality rose. While average income rose, it did so because the upper half of the income scale did very well, while people with little education and few job skills saw their real spending power remain stagnant or fall.<sup>28</sup> What you would expect to see from our rational criminal model did, in fact, happen. Crime increased substantially through the period, and it did so more in the lower-income groups than in the higher-income groups.

After the recession of 1990-1991, however, when crime was at a near-term high, the economic prospects of low-skill workers began to increase. The minimum wage was raised from \$3.35 to \$5.15 during the period, and both the overall unemployment rate and the unemployment rate for minorities and for low skill workers fell. At the same time, either because of coincidence or because the model is right; crime fell, and it fell quickly.

The rational criminal model has a more difficult time explaining the general increase in crime during the 1960's when incomes rose both in general and within the poor communities. This highlights an important thing to keep in mind when it comes to using economics to explain complex social phenomena. Sometimes a change in social norms, an area better left to sociologists, or a change in moral values, an

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<sup>28</sup>Of course, the material in the Chapter entitled "Overstatement of the Cost of Living by the Consumer Price Index" lays out the case that because the CPI overstates the effects of inflation, real incomes for the poor did not fall but rose slightly.

area better left to the clergy, are at the heart of these social phenomena. Economics is then less capable of explaining them.

### **Crime Falls When the Likelihood and Consequences of Getting Caught Rises**

The other variable that can change things in this rational criminal model is the probability and consequences of getting caught. We know that crime pays when you do not get caught. We also know that choosing to become a criminal becomes less attractive when the chances of getting away with crime diminish and when the potential punishment becomes more severe. While it is usually true that, if you knew you would get caught you would choose a legal occupation. Sometimes, however, this is not true. For women who possess low levels of education and limited marketable skills, for example, prostitution is an occupation where getting caught is a regular event and going to jail for a few days is accepted as a part of the cost of doing business. The important thing here is that even given the lost time in jail, for such women, prostitution pays better than legal work.

To deter potential criminals from committing crimes, there are two things that we can do. We can make the chances of meeting punishment greater, and we can make the punishment more severe. In its simplest terms, the first implies that we can have more police, judges, and jails; thereby increasing the likelihood that criminals will get caught, get convicted quickly, and go to jail. The second suggests that we make the sentences longer or the fines greater.

Though these two angles may seem only as one, in part because we are talking about increasing spending on the same kinds of people, they are really distinct in their intent. The first is intended to make criminals less confident that they will get away with their activities. Depending on where in the judicial system the money is spent, this can provide additional funding for cops on the street, making detection

and apprehension more likely, or it can provide funds for greater numbers of effective prosecutors who may garner greater numbers of post-arrest guilty verdicts. This differs from spending more money on prisons and allowing judges to sentence convicted criminals to longer terms.

### **Problems With the Rationality Assumption**

Criminologists and sociologists have a hard time granting the assumption that the decision to become a criminal is a rational economic decision made by people capable of evaluating complex choices. In support of their view, you only have to look at that percentage of crime that is seemingly senseless. School shootings are not explainable using economic methods. One of the main criticisms of economic models is that they assume too much intellectual capacity on the parts of humans. For instance, it might be argued that if criminals could evaluate the options as rationally as economists claim they can, they probably would be smart enough not to have to turn to crime. In any event, economists use the idea of the “rational criminal” when looking at criminality; and, as was seen above, the rational criminal model is often consistent with what we know about crime.

### **COSTS OF CRIME**

We spend a total of \$93 billion a year on the police, the judiciary, and prisons. Every year 11 million persons are arrested and some 360,000 of that number get jail time. Currently there are more than 1 million Americans in state or federal jails and prisons. This is all done in response to the 1.8 million violent and 12 million non-violent crimes that are reported each year. When we see these numbers, we wonder whether the money we spend is worth it and whether the distribution of spending on police, justice, and prisons is a good one.

If we put any faith in the model we have been discussing, we are convinced that by spending

money in this arena, we can change the probability of getting punished and the extent of the punishment. Of course, we could also talk about spending the money to raise the legal income potential of people. Some people argue, for example, that we should take money that is earmarked for building new prisons and put it into education and social programs like Head Start, and employment training programs that might help people to get out of poverty legally. Others point to data that suggest that these programs do not work and suggest that building prisons is the best of a set of bad alternatives.

On the central questions of whether we are spending the “right” amount of money on crime control and whether we are spending on the “right” mix of control mechanisms, we need to examine how much crime there is and how much it costs us. Using a variety of criminological surveys, we know that, of the 14 million crimes reported annually, more than twice that number are actually committed. Though most murders get reported, robberies, rapes and other crimes tend not to be universally reported. Some of this may be attributed to the rationality of crime victims. If the chances of catching the perpetrator of a crime are low and the psychological and monetary costs of testifying are high, then it is quite likely that some victims will not report the crimes committed against them.

### **How Much Does an Average Crime Cost**

When a crime is committed there are several different kinds of costs to consider. If we could put a dollar value on the average crime, we could, at least theoretically, come to an estimate of the cost of crime in general. The first and most obvious cost of crime is the value of what is taken or stolen. This is fairly easily measured but it is not always very important, especially if the crime is a form of assault rather than a form of theft. The victim’s loss of actual or potential income is harder to estimate since

there is little data on the number of work days lost owing to crime and no way of knowing whether a crime causes people to be less ambitious or productive than they would have been. The monetary value of psychological trauma that comes with victimization is also difficult to estimate. Though some try to assess psychological costs by looking at settlements in civil suits, economists are not usually comfortable extrapolating this far. By far the most controversial aspect of this accounting for the costs of crime are attempts to put dollar values on the human lives lost to murder and manslaughter. If we simply ignore all of the estimated costs of pain and suffering and lives lost, then the cost of the average crime has been estimated at a little more than \$500. Adding at least the “pain and suffering” costs, some economists have estimated the costs at between \$2,000 and \$3,000 per average crime.

### **How Much Crime Does an Average Criminal Commit?**

We can use these figures to estimate the cost of letting criminals go free and compare that to the cost of keeping them in jail. If we know how many crimes the average criminal commits, we can multiply the average cost per crime by the average number of crimes committed in a year to come up with the costs imposed on society by the early release of a still violent criminal. Looked at another way, we can compute the average cost of not catching and imprisoning a criminal.

Even when we interpret sophisticated criminological surveys, we find that the average number of crimes committed by the average criminal ranges all the way from 180 down to 12. Most economists are comfortable with estimates in the range of 15 to 20 crimes. If we assume for a moment that crime would stay the same if we eliminated all expenditures on law enforcement, the average savings from keeping average criminals off the street would range from 15 crimes per criminal \* \$500 per crime, or \$7,500, to 20 crimes per criminal \* \$3,000 per crime, or \$60,000.

## OPTIMAL SPENDING ON CRIME CONTROL

### What is the Optimal Amount to Spend?

Given that, the average cost of holding a criminal in jail is \$22,000 per year. If we assume that crime rates would rise if we eliminated all expenditures on law enforcement, either by the average criminal's committing more crimes or because otherwise law-abiding citizens turned to crime, it is quite clear that the money we spend on prisons is worth it. Even though more than a million people are in jail and prison at a cost of \$31 billion a year, this may be a good expenditure.

The question remains, however, as to whether we spend the optimal amount on keeping people in prisons. At this time, there are far more than double the number of felons on the street than in prison. These are people who have either served their sentences, been released on parole, or who were never imprisoned in the first place. If they are committing crimes at a rate similar to the 15 to 20 crimes a year that incarcerated criminals were committing, then we have too few people in prison.

Of key concern to economists is not necessarily whether the total amount spent on crime control exceeds the total amount saved from preventing crime, but whether we are spending the correct amount. At its heart, the problem is exactly the same as the profit maximizing problem for a business firm. Just because a firm's revenues exceed its costs, does not mean that profit is as high as it could be. That means we are less interested in the costs and benefits of capturing, trying, and incarcerating the "average" criminal than we are in incarcerating the "marginal" criminal.

Think of it this way. Suppose you catch a prolific thief who costs society \$100,000 a year and its costs \$20,000 a year to lock him up. Now suppose you catch a part-time thief who costs society only \$10,000 a year and it still costs \$20,000 a year to lock him up. The "average" thief is costing

society \$55,000 each year and we spend only \$20,000 per year keeping him locked up. That does not mean we should have locked up the part-time thief. The marginal benefit to society of locking him up was less than the marginal cost.

Applying this information to the problem of optimal crime control means that we would need to look at who the people are who get arrested and put away when we increase spending on criminal justice. The practical problem is much harder to figure out than it is for a firm. In business we can see how much extra material and labor costs go into producing another unit of output and judge whether that is greater than the price, but we can not easily determine which extra criminals are caught as a result of our spending more on police. Are these criminals more or less prolific than the average criminal caught before the spending increase? For this reason, much of the research on crime assumes that the marginal criminal is just like the average criminal.

### **Are the Right People in Jail?**

Of course there is the related issue of whether the right people are in jail. Of the more than 700,000 people who are in state prisons, just under half are there for violent crimes. The remainder are there for nonviolent crimes such as burglary, drug possession, and drug distribution. If these prison spaces are being used for drug offenders rather than other violent criminals or thieves, perhaps the wrong people are in jail. If we release violent criminals in order to make room in prisons for drug users, we will have to do one of the following: 1) build more prisons or 2) let the drug users go.

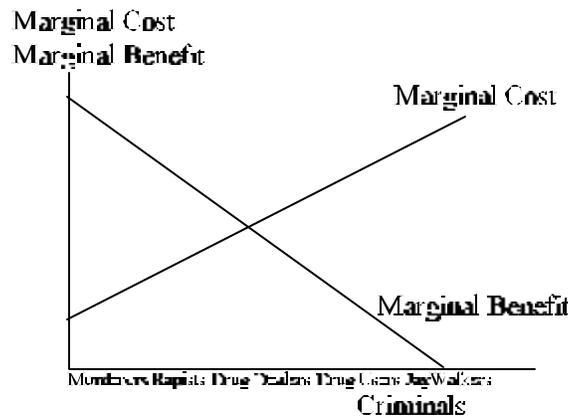
In recognition of this choice, states and local governments have decided to go on a prison-building spree. In Texas, for example, prison capacity has been nearly doubling every 4 years. This phenomenon is certainly not confined to any one state, as state after state has gone to “truth in

sentencing” laws that require criminals to serve at least 85% of their sentence. In Florida and Texas felons had been serving less than a third of their sentences, a disparity these states and others found unacceptable.

**What Laws Should We Rigorously Enforce?**

In a formal way, economists look at crime control measures from a cost-benefit point of view. In Figure 1 let the vertical axis be the amount of marginal benefit and marginal cost associated with catching, adjudicating, and imprisoning an additional criminal. We will make three assumptions: 1) that the marginal benefits are decreasing for each additional criminal, 2) that we will deal with serious crimes first and petty crimes last, and 3) the dollar benefits of preventing these crimes will fall. Furthermore, we will assume that the marginal costs of dealing with criminals increases because the petty criminals

violating trivial laws are expensive to catch and whose crimes are more predicated on the idea that very many and most police<sup>29</sup> to catch such



assumed to be more convict than are criminals serious. This assumption is we would have to have importantly, less competent violators.

**Figure 1 Marginal Cost and Marginal Benefit Analysis and Crime**

Marginal Cost intersects Marginal Benefit at the point where we are arresting most drug dealers. This means that it is worth the cost to arrest, prosecute and imprison all murderers, rapists and most drug dealers but not drug users and jaywalkers.

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<sup>29</sup>We assume they are likely to be less competent because cities hire the more competent of their applicant pool first and these are all gone when it comes time to hire more.

Figure 1 indicates that it makes sense to spend the money to catch, prosecute, and imprison all murders, rapists, and high-end drug dealers. It also indicates that it makes no sense to do the same for jay walkers, drug users, and low-end drug dealers. Though this picture is simplistic in its assumptions, you can see, roughly, how an economist reasons on the issue of crime control. Spend the money on the really bad guys and do not spend it on the not-so-bad guys.

That leaves one last issue to deal with in determining how we spend our law enforcement dollars and that is how we divide the money among the various sectors. States, for example, have spent a growing part of their budgets to deal with crime and in doing so they have changed the percentage that they allocate to the different sectors. The increase in resources has gone mainly to prisons and police and a smaller percentage of money has been allocated to adjudication. Competent police are more effective in deterring criminals and apprehending criminals who have not yet been deterred. It also means that people sentenced stay in jail longer. The downside of this is that more cases are plea-bargained than ever before.

Since the increases in spending have not funded all sectors of the system evenly, criminals are

more likely to be caught, plea to a crime that is lower than the one they actually committed, and go to jail. The length of term they face has probably increased because 85% of a short sentence is often longer than 33% of a long one. Part of the reduction in crime since the early 1990's is also attributable to this policy of sending greater numbers of criminals to prison. A small minority of criminals (6%) commits a majority (50%) of the crime and they now must stay in prison longer. Though estimates vary, an increase of 10% in the prison population has been shown to result in a 4 to 6 percent decrease in crime. While some of this may be deterrence, it is likely that simply keeping and holding criminals prevents them from committing the crimes they would have committed had they been left on the streets.

### **What is the Optimal Sentence?**

One of the major debates of our time is whether criminals convicted of murder and other of the most heinous crimes should be put to death or be locked up and have the key tossed away. While many religious leaders and lay persons alike approach this as a moral issue, economists again tend to look at it from the standpoint of the costs and benefits. If you sentence men and women to death, carrying out the sentences comes only after a long and drawn-out appeal process. Even then, most death row inmates die in their prison beds quietly rather than facing injection, asphyxiation, or electrocution. In economic terms we have to decide whether spending a lot of money over a ten year period is worth the savings in imprisonment expenses. Life sentences, which are routinely given in murder cases, also have cost issues to face. If a 75 year old is released from prison, is (s)he likely to again become a menace to society?

To examine whether the death penalty saves money or costs money we need to recall the Chapter 4 concept of present value. Suppose it would take \$1 million invested now to make the payments to house, adjudicate appeals, and put to death a condemned inmate. Suppose it would cost

less than \$1 million invested now to simply house the inmate from the time (s)he is sentenced to the time (s)he would have died if given a life sentence. In such a circumstance the death penalty costs money. Otherwise it saves money. This of course assumes that the death penalty is not a deterrent. It may also be that it costs \$1 million in present value to execute a person and \$900,000 to imprison the same person for life but that we get \$100,000 or more worth of satisfaction knowing that the worst of the bad guys got his or her due.

The cost-benefit trade-off is important also in establishing sentence length. Since nearly no crime is committed by 80 year-olds, does it make sense to sentence people to life in prison? Why not let them out when the chances of their committing a crime have gone away? It is not hard to figure that, as time goes on, a person violent enough to kill at age 18 is not as likely to commit murder at 50 and is even less likely to at 70. This point may not be worth considering since the life expectancy in a prison is such that few inmates sentenced to life live long enough to outlive their own violent tendencies. Prison life is hard and the food and medical care are not geared to keeping people healthy in their “golden years”. Ironically, this makes the death penalty even less economically sensible since the “lifer’s” life is not going to be that long.

## **CHAPTER SUMMARY**

You should now understand how economics, and in particular the use of marginal benefit-marginal cost analysis can contribute to the debate over crime and crime control. Besides knowing who it is that generally commits crime and why, you have seen that economists often model criminals as rational human actors who are influenced by the risks and rewards of their decisions. You have seen how much crime costs society and how much we spend to control it. You have seen how an economist

looks at issues of crime control so as to answer questions concerning whether we are spending the right amount on the right criminals and the right crimes and enforcing the right sentences.

### **Quiz Yourself**

A rational criminal model assumes

- a) criminals commit crimes because they have few legal opportunities.
- b) will commit fewer crimes if the likelihood of getting caught rises.
- c) will commit fewer crimes if the severity of punishment rises.
- d) all of the above

The optimal level of crime control is arrived at where

- a) the marginal reduction in the costs of crime are reduced by the marginal amount spent on crime control.
- b) the average reduction in the costs of crime are reduced by the average amount spent on crime control
- c) the total reduction in the costs of crime are reduced by the total amount spent on crime control.

To compare the total cost of the death penalty against lifetime incarceration, we need to compare

- a) the total costs of both punishments.
- b) the present value of both costs.
- c) the cost to victims of the crime.

Using marginal benefit-marginal cost analysis it is likely that we spend too much money incarcerating

- a) young criminals
- b) male criminals
- c) female criminals
- d) elderly criminals

If all criminals are alike in that they commit the same type of crime with the same cost per crime then we should

- a) lock them all up spending what ever it takes to accomplish that.
- b) hire sufficient police, judges and jailers so that the marginal cost putting another criminal away equals the marginal benefit of the having the criminal not committing crime.
- c) hire sufficient police, judges and jailers so that the total cost putting another criminal away equals the total benefit of the having the criminal not committing crime.
- d) hire sufficient police, judges and jailers so that the average cost putting another criminal away equals the average benefit of the having the criminal not committing crime.

### **Think About This**

When deterring crime, should policy makers attempt to make punishment more severe or capture more certain?

### **Talk About This**

If you were convinced that the death penalty wasn't a deterrent and cost more money than life in prison

without the possibility of parole, would you favor it or oppose it? Why?

The death penalty kills some innocent people. We know that a disproportionate number of these incorrect convictions and executions happen to minorities. Is this sufficient reason to eliminate the death penalty or is this simply a cost that must be borne for this form of punishment?

**For Further Insight See**

*Journal of Economic Perspectives* Winter 1996 V10 No 1 various articles by John J. DiIulio; Richard B. Freeman and Isaac Ehrlich