Chapter VII
The Economics of Crime and Punishment

Beginning with the work of economist and Nobel laureate Gary Becker in 1968, economists have invaded the field of criminology, using their all-embracing model of individual rational behavior. Assuming that individual preferences are constant, the model can be used to predict how changes in the probability and severity of sanctions and in various socio-economic factors may affect the amount of crime. Even if individuals who violate certain laws differ systematically from those who abide by the same laws, the former, like the latter, do respond to incentives (i.e., to sanctions and economic conditions). Indeed, numerous empirical studies confirm the predictions of the economic theory.

This Chapter summarizes the literature on the economic analysis of the criminal law. First, it discusses the positive theory of criminal behavior and reviews the empirical evidence in support of the theory. Then, it explains the normative theory of how public law enforcement should be designed to minimize the social costs of crime. Finally, it reviews recent trends in crime rates and the explanations for the dramatic decrease in crime over the last few decades.

1. The Rational Choice Model

Although the economic theory of criminal behavior had its modern genesis in the work of Gary Becker, several of Becker's ideas were foreshadowed by earlier writers — Cesare Beccaria in 1767 and Jeremy Bentham in 1789. These early scholars, though not economists, developed several concepts that would later be associated with the economic theory of criminal behavior: "the profit of the crime is the force which urges man to delinquency: the pain of the punishment is the force employed to restrain him from it. If the first of these forces be the greater, the crime will be committed; if the second, the crime will not be committed." Jeremy Bentham, An Introduction to the Principles of Morals and Legislation (1907 [1789], p. 399).

However, from the beginning of the 20th century interest in their point of view dwindled as a plethora of other theories were developed. Fortunately, the main idea of Bentham was revitalized and modernized in Becker's path-breaking article, "Crime and Punishment," where he suggests that "a useful theory of criminal behavior can dispense with special theories of anomie, psychological inadequacies, or inheritance of special traits and simply extend the economist's usual analysis of choice." Gary Becker, *Crime and Punishment: An Economic Approach*, 76 Journal of Political Economy 169, 170 (1968). In Becker's model, a criminal act is preferred and chosen if the expected benefits from committing a crime exceed the expected costs, including the costs of any foregone legal alternatives. The economic theory of crime is regarded as a special case of the general theory of rational behavior under uncertainty.

Crime and Punishment: An Economic Approach
Gary Becker
76 The Journal of Political Economy 169, 176-177 (1968)

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1. The Supply of Offenses

Theories about the determinants of the number of offenses differ greatly, from emphasis on skull types and biological inheritance to family up-bringing and disenchantment with society. Practically all the diverse theories agree, however, that when other variables are held constant, an

increase in a person's probability of conviction or punishment if convicted would generally decrease, perhaps substantially, perhaps negligibly, the number of offenses he commits. In addition, a common generalization by persons with judicial experience is that a change in the probability has a greater effect on the number of offenses than a change in the punishment, although, as far as I can tell, none of the prominent theories shed any light on this relation.

The approach taken here follows the economists' usual analysis of choice and assumes that a person commits an offense if the expected utility to him exceeds the utility he could get by using his time and other resources at other activities. Some persons become "criminals," therefore, not because their basic motivation differs from that of other persons, but because their benefits and costs differ. I cannot pause to discuss the many general implications of this approach, except to remark that criminal behavior becomes part of a much more general theory and does not require ad hoc concepts of differential association, anomie, and the like, nor does it assume perfect knowledge, lightening-fast calculation, or any of the other caricatures of economic theory.

This approach implies that there is a function relating the number of offenses by any person to his probability of conviction, to his punishment if convicted, and to other variables, such as the income available to him in legal and other illegal activities, the frequency of nuisance arrests, and his willingness to commit an illegal act.
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2. The Benefits and Costs from Crime

Thus, the economic model of criminal behavior assumes that the decision to commit a crime is the result of a cost-benefit analysis that individuals undertake either consciously or subconsciously. The gains and losses included in the economic model are usually meant to represent all kinds of benefits and costs that have an effect on the people's decisions. People are assumed to allocate time to criminal activity until marginal benefits equal marginal costs. For some people marginal benefits of crime are probably always lower than marginal costs of crime; the economic model would predict that these people will never commit crimes. For others, the marginal benefits often exceed the marginal costs; we would expect these people to specialize in crime. For most of us, the marginal costs usually exceed the marginal benefits. However, every once in a while the marginal costs seem particularly low or the marginal benefits seem particularly high, and we commit a crime. For example, we may be driving on a stretch of country road where police seem unlikely (low marginal cost of speeding) or we are driving a Ferrari (high marginal benefit of speeding) so we decide to speed.

The kinds of gains obtained from a criminal act vary, depending on the type of crime and the individual criminal. Some are monetary, such as the gains obtained from theft, robbery, insurance fraud, killing a rival drug dealer, etc. Others are psychic, such as the thrill of danger, peer approval, retribution, sense of accomplishment, or "pure" satisfaction of wants (rape). Obviously, the psychic benefits from crime will be different for different people: young men tend to enjoy the thrill of danger more than older women and gang members tend to get more peer approval than church-goers when they commit a crime. Incarcerated criminals may also gain human capital in committing future crimes if they learn techniques from other criminals or meet future potential crime partners while imprisoned.

The costs of crime also depend on the crime and individual. The costs can include direct material costs, psychic costs, opportunity costs, and expected punishment costs. The material costs include the cost of supplies purchased to commit crimes (equipment, guns, vehicles, face masks). Psychic costs include any guilt, anxiety, fear, dislike of risk, or other emotions

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associated with committing crime. The opportunity cost of crime consists of the net benefit of the legal activity forgone while planning, performing and concealing the criminal act. The lower an individual's level of income, the lower is his or her opportunity cost of engaging in illegal activity. The amount a person can earn in the legal sector may depend on factors such as age, sex, race, education, training, region, rate of unemployment, and IQ. People that are only able to earn a low wage will have a low opportunity cost of crime, as they are not giving up substantial legal income.

The expected punishment costs include the cost of all formal and informal sanctions, as well as the pecuniary costs arising from litigation (lost income and lawyers' fees). When the formal sanction is a fine, the punishment cost is the amount of the fine. When the formal sanction is a prison term, the punishment cost incorporates the cost to the criminal of going to prison: the lost income, the monetary equivalent of the loss of liberty, the monetary equivalent of whatever harms come to the individual while in prison, etc. The costs of the informal sanctions result from the social stigma that accompanies arrest, conviction, and imprisonment. These sanctions can include the reactions of employers, family, and friends and the reduced legitimate income a criminal will earn once he has a criminal record. These expected punishment costs must be weighted by the probability that the individual will be arrested, convicted, and imprisoned. An individual facing a 50 percent chance of receiving a 10-year prison sentence has higher expected punishment costs that an individual facing a 5 percent chance of the same prison sentence. The probability of punishment will be different for different people. Some are cleverer than others at concealing the offense and eluding the police. There are also differences in the abilities of defending oneself in court, or in engaging good lawyers. Morriss Hoffman, Paul H. Rubin, and Joanna Shepherd, *An Empirical Study of Public Defender Effectiveness: Self-Selection by the 'Marginally Indigent,'* Ohio State Journal of Criminal Law (2005). To estimate the expected penalty that a particular individual faces, we multiply all costs of punishment by the probability of receiving those punishments.

a. The Stigma of Criminal Activity
The stigma from criminal activity can be social (inability to find a spouse) or economic (inability to find a job with a criminal record). Several scholars have attempted to measure the economic stigma. Lott finds a short-run income reduction of 39 percent after a bank embezzlement conviction and a 41 percent reduction after a bank larceny conviction. John Lott, *Do We Punish High-Income Criminals Too Heavily?*, 30 Economic Inquiry 583 (1992). Grogger finds that an arrest record can explain about two-thirds of the black-white youth employment differential in his sample. Jeffrey Grogger, *Arrests, Persistent Youth Joblessness, and Black-White Employment Differentials*, 74 Review of Economics and Statistics 100 (1992). However, in another study, he finds only a short-lived effect of arrest records on youth earnings. Jeffrey Grogger, *The Effect of Arrest on the Employment and Earnings of Young Men*, 90 Quarterly Journal of Economics 51 (1995). Is it possible for the stigma from criminal activity to be negative? That is, in what circumstances might a criminal history improve earning potential?

b. The Criminal's Discount Rate
The rate at which individuals discount the future also affects the expected benefits and costs from criminal activity. The gains from crime often occur immediately, whereas punishment is something that might come in the future, and be stretched over a long period of time. An individual with a high discount rate will therefore tend to commit more crime because he weighs

the present (and the gains from criminal activity) much more heavily than the future (and the potential costs from criminal activity). How will an individual's risk preferences affect the expected benefits and costs of criminal activity?

c. The Economic Theory of Recidivism

Recidivism is sometimes explained by erratic behavior, a lack of self-control, or evidence that the deterrence model doesn't work. However, a high rate of recidivism is consistent with the model of rational choice. Serving time in jail may reduce legal opportunities so that the opportunity cost of future criminal activity is lower. Additionally, convicts may acquire human capital in illegal activities — prison is an excellent place to "network" with other criminals and learn the skills of the trade. Thus, if it was rational to commit a crime in the first place, for many criminals the incentives will only be stronger after having served a prison sentence.

In contrast, a prior conviction or imprisonment might increase some criminals' evaluations of how probable or severe sanctions might be. For these criminals, the expected costs of additional crime may be higher than the expected costs accompanying their initial crime and they will tend not to recidivate.

d. Economics versus Criminology

How does the economic approach to criminal activity differ from the criminology approach? The criminological literature is essentially composed of three branches. One branch focuses on the biological factors contributing to crime, such as brain abnormalities or hormonal imbalances. The economic approach doesn't deny that biological factors matter, it just assumes that these factors explain the baseline level of crime that exists regardless of the incentives created by other costs and benefits of criminal activity. The second branch of the criminological literature asserts that people turn to crime when they are prevented from reaching their goals through legal means. This assertion is consistent with the economic model that predicts that people with limited legal opportunities may turn to crime. However, the economic approach, in contrast to the criminological approach, predicts that individuals weigh the relative costs and benefits of crime and legal activities, and only engage in crime if it is relatively more attractive. The third branch of the criminological literature is concerned with the social interactions through which criminal behavior is learned or culturally transmitted. This approach is also consistent with the economic model that maintains that community influences and cultural factors can influence various costs and benefits of crime: an individual committing a crime may feel less of a stigma (a cost of crime) or even gain approval (a benefit) depending on how others in his social circle view criminal activity; an individual may feel more or less internal guilt (a cost) depending on their religion or community; individuals may learn smarter criminal tactics when they associate with other criminals. Thus, the economic model of crime, for the most part, encompasses many of the criminological explanations for crime. The difference between the two approaches is mainly one of emphasis. For further reading, see Steven D. Levitt & Thomas J. Miles, *Empirical Study of Criminal Punishment*, in Handbook of Law and Economics 455 (A. Mitchell Polinsky & Steven Shavell eds., 2007)

e. Are Criminals Really Rational?

The economic approach posits that everyone (except, perhaps, individuals with severe mental disabilities) responds, to some degree, to changes in the expected costs and benefits of criminal activity. Several authors have discussed whether people have sufficient information

about the environment and about outcomes of actions to make rational choices. Becker and others maintain that even if choices are based on subjective beliefs that are wrong, the choices are meaningful from a subjective point of view, and behavior can be explained and understood on this basis. Moreover, even if people are not exactly accurate in their estimation of the expected benefits or costs of criminal activity, an obvious increase in an expected cost of crime or decrease in an expected benefit of crime should still influence (albeit imperfectly) the incentives to commit crime.

As Economy Dips, Arrests for Shoplifting Soar
Ian Urbina and Sean D. Hammill
New York Times (December 23, 2008)

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As the economy has weakened, shoplifting has increased, and retail security experts say the problem has grown worse this holiday season. Shoplifters are taking everything from compact discs and baby formula to gift cards and designer clothing.

Police departments across the country say that shoplifting arrests are 10 percent to 20 percent higher this year than last. The problem is probably even greater than arrest records indicate since shoplifters are often banned from stores rather than arrested.

Much of the increase has come from first-time offenders . . . making rash decisions in a pinch, the authorities say. But the ease with which stolen goods can be sold on the Internet has meant a bigger role for organized crime rings, which also engage in receipt fraud, fake price tagging and gift card schemes, the police and security experts say.

And as temptation has grown for potential thieves, so too has stores' vulnerability.
"More people are desperate economically, retailers are operating with leaner staffs and police forces are cutting back or being told to deprioritize shoplifting calls," said Paul Jones, the vice president of asset protection for the Retail Industry Leaders Association.

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Compounding the problem, stores are more reluctant to stop suspicious customers because they fear scaring away much-needed business. And retailers are increasingly trying to save money by hiring seasonal workers who, security experts say, are themselves more likely to commit fraud or theft and are less practiced at catching shoplifters than full-time employees are.

More than $35 million in merchandise is stolen each day nationwide, and about one in 11 people in America have shoplifted, according to the nonprofit National Association for Shoplifting Prevention.

"We used to see more repeat offenders doing it because of drug addiction," said Samyah Jubran, an assistant district attorney in Knoxville who for 13 years has handled the bulk of the shoplifting cases there. "But many of these new offenders may be doing it because of the economic situation. Maybe they're hurting at home, and they're taking a risk they may not take otherwise."

Much of the stolen merchandise is sold online.

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Security experts say retail theft is also being facilitated by Web sites that sell fake receipts that thieves can use to obtain cash refunds for stolen merchandise.

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Local law enforcement and retailers have been trying new tactics to battle shoplifting and other forms of retail crime.

In Savannah, Ga., a local convenience store chain has linked its video surveillance to a police station so officers can help monitor the store for shoplifting and other crimes. In Louisiana, the police have been requiring shoplifters, even first-time offenders, to post $1,000 bail or stay in jail until their court date. On Staten Island, malls have started posting the mug shots of repeat shoplifters on video screens.

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Shoplifters also seem to be getting bolder, according to industry surveys.

Thieves often put stolen items in bags lined with aluminum foil to avoid detection by the storefront alarms. Others work in teams, with a decoy who tries to look suspicious to draw out undercover security agents and attract the attention of security cameras, the police said.

"We're definitely seeing more sprinters," said an undercover security guard at Macy's near Oakland, Calif., referring to shoplifters who make a run for the door.

The guard said that most large department stores instructed guards not to chase shoplifters more than 100 feet outside the store, because research showed that confrontations tended to become more serious beyond that point.

The holidays are a particularly popular time for pilfering.

About 20 percent of annual retail sales occur in November and December, and even with precautions, the increased customer traffic makes it tougher to track thieves. Moreover, cashiers are rushed by long lines, making them less vigilant about checking for stolen credit cards.

Mr. [Richard R.] Johnson, who was arrested last month, said that after being laid off from his $20-an-hour job at a trailer factory a year ago, he took a job for $6.55 an hour at McDonald's. Six months later, he was laid off and has not been able to find a job since.

He and his two small children rely on his wife's minimum-wage job at Wal-Mart, groceries from a food bank and help from his mother, he said.

"I just know things are going to get a lot rougher," said Mr. Johnson, who is awaiting trial. He added that no matter how tough it became, he had no intention of shoplifting again.

Mr. Johnson said he was shocked that the store had decided to prosecute him for stealing such a small amount [a $4.99 bottle of sleep medication]. A manager at Martin's Supermarket said the store had a policy of prosecuting all shoplifting.

Retail security experts, however, say that people like Mr. Johnson do not pose the biggest threat to stores. People like Tommy Joe Tidwell do.

Mr. Tidwell, 35, pleaded guilty last month to running a shoplifting ring out of Dayton, Ohio, that netted more than $1 million, according to court papers.

After Mr. Tidwell would print fraudulent UPC bar code labels on his home computer, he and several conspirators would place them on items at Wal-Mart and other stores, then buy the merchandise for a fraction of the real price. They would resell the goods on the Internet, according to court papers.

Joe LaRocca, vice president of loss prevention for the National Retail Federation, said that as the holidays approached, retail security workers were keeping a close eye on receipt fraud.

But to entice shoppers, three times as many stores as last year have loosened their return policies, extending the return period and being more lenient with shoppers who lack receipts, according to the federation.

"Retailers are trying to find a balance," Mr. LaRocca said. "They want to provide good customer service at a time when it's crucial for customers to be able to shop comfortably or to return unwanted or duplicate gifts.

"But they also want to prevent criminals from taking advantage of them."

Notes and Questions

1. Costs and Benefits: In the article, what are the various expected costs and benefits that are affecting incentives to commit crime?

2. A Numerical Example; Two robbers, Jeff and Steve, are contemplating committing separate armed robberies. Jeff and Steve both believe that there is a 75% chance that they will be able to steal $400,000 if they rob the stores. However, to commit the robbery, each will have to buy a $100 gun. Jeff believes that the probability he will be caught and convicted is 10%. If Jeff is caught and convicted, he will serve 4 years in prison. During that 4 years, he will miss out on earning $400,000 in legitimate income and he will miss being with his friends and family which is worth $1,600,000 to him. Moreover, a first-time criminal conviction will reduce Jeff's future earning potential after he gets out of prison. The present value of the decrease in his future earnings is $1,000,000. Because Steve has a known history of armed robbery, he believes that the probability that he will be caught and convicted is 25%. If Steve is caught and convicted, he will serve 10 years in prison (because he is a repeat offender). During that 10 years, he will miss out on earning $400,000 in legitimate income and he will miss being with his friends and family which is worth $1,000,000 to him. Since he is a repeat offender, the additional conviction will not worsen his future job prospects. In fact, prison may improve his future job prospects because he will be able to network with other criminals. Steve thinks that he will make more money with his new criminal friends after the 10 years in prison than he would have made if he hadn't gone to prison. The present value of the additional income is $300,000. Who will rob the store?

B. Empirical Studies of the Economic Model of Crime

Predictions from the economic model of crime have been tested in a great number of empirical studies. However, these empirical studies face several challenges. First, although the economic model of crime is based on individual rational choice, the data available to empirical researchers is based on levels of aggregation ranging from countries and states down to municipalities and campuses. Thus, the empirical results can tell us only about general deterrence—the effects on people in general—rather than the effects on an individual's decision making.

Second, it is extremely difficult to identify causal relationships in empirical studies of crime. For example, in testing the relationship between imprisonment and crime, one may find a positive relationship (imprisonment and crime increase together or decrease together). Based on these results, some scholars may conclude that prison increases crime, when in fact, the positive relationship may be attributable to higher crime rates producing more potential prisoners.

Controlling for the factors that lead to high crime could solve the problem, but it is impossible to quantify and control for every factor, so omitted variable bias can be a problem. More recent empirical studies have devised clever ways to tease out causal relationships, for example by taking advantage of exogenous changes in imprisonment levels, such as court-ordered prison releases, that could not be caused by crime. Steven D. Levitt, *The Effect of Prison Population Size on Crime Rates: Evidence from Prison Overcrowding Litigation*, 111 Quarterly Journal of Economics 319 (1996).

The third challenge is the difficulty in distinguishing incapacitation and deterrence. The economic model of crime assumes that increases in imprisonment increase the expected costs of crime and deter some individuals from committing crimes. However, an empirical finding that

increases in imprisonment are associated with decreases in crime might not be evidence of deterrence. Crime could also decrease because more criminals are behind bars due to the increased imprisonment. Although the end result is the same, the rational choice model assumes that individuals can be deterred from committing crime. Thus, if the entire decrease in crime was caused by incapacitating criminals, this would not confirm the predictions of the economic model of crime.

There are various other challenges that involve the correct variables to control for in empirical analyses, the particular methodology to employ, and other sophisticated empirical questions. Nevertheless, the awareness of the methodological problems and easier access to various statistical methods has gradually led to more sophisticated empirical studies that address several of these challenges.

Cognizant of these empirical challenges, law and economics scholars have studied the relationship between crime and various costs and benefits of criminal activity. Summarizing the entire empirical literature, which consists of thousands of articles, is beyond the scope of this chapter, but below we discuss the general consensus or important articles studying the effects of different variables.

1. Police

The majority of empirical studies find that policing levels have a large negative relationship with crime — i.e., more police mean less crime. *See, e.g.*, Rafael Di Tella & Ernesto Schargrodsky, *Do Police Reduce Crime? Estimates Using the Allocation of Police Forces After a Terrorist Attack*, 94 American Economic Review 115 (2004); Hope Corman & Naci Mocan, *A Time-Series Analysis of Crime and Drug Use in New York City*, 90 American Economic Review 584 (2000); Steven D Levitt, *Using Electoral Cycles in Police Hiring to Estimate the Effect of Police on Crime*, 87 American Economic Review 270 (1997).

2. Imprisonment

Most studies find that imprisonment also has a negative effect on crime rates. Some of this effect is due to deterrence and some is due to incapacitation. *See, e.g.*, Steven D. Levitt, *Why Do Increased Arrest Rates Appear to Reduce Crime: Deterrence, Incapacitation, or Measurement Error?*, 36 Economic Inquiry 353 (1998); Daniel Kessler & Steven D. Levitt, *Using Sentence Enhancements to Distinguish Between Deterrence and Incapacitation*, 42 Journal of Law and Economics 343 (1999). Severe prison conditions also have a deterrent effect. Lawrence Katz, et al., Prison Conditions, *Capital Punishment, and Deterrence*, 5 American Law and Economics Review 318 (2003).

3. Capital Punishment

The effect of capital punishment continues to be hotly debated. The majority of empirical papers find a deterrent effect of capital punishment. *See, e.g.*, Hashem Dezhbakhsh & Paul Rubin, *From the 'Econometrics of Capital Punishment' to the 'Capital Punishment' of Econometrics: On the Use and Abuse of Sensitivity Analysis*, 43 Applied Economics 3655 (2011); Hashem Dezhbakhsh, et al., *Does Capital Punishment Have a Deterrent Effect? New Evidence from Postmoratorium Panel Data*, 5 American Law and Economics Review 344 (2003); Naci H. Mocan & R. Kaj Gittings, *Getting Off Death Row: Commuted Sentences and the Deterrent Effect of Capital Punishment*, 46 Journal of Law and Economics 453 (2003). Some studies have found that the deterrent effect exists only in some states. Joanna Shepherd, *Deterrence versus Brutalization: Capital Punishment's Differing Impacts Among States*, 104

Michigan Law Review 203 (2005). Others argue that the deterrence finding is extremely sensitive to methodological choices in the empirical analysis. John J. Donohue III & Justin Wolfers, *Uses and Abuses of Empirical Evidence in the Death Penalty Debate*, 58 Stanford Law Review 791 (2006).

There is a tendency to conflate findings regarding capital punishment with general issues of deterrence. In the contemporary U.S. capital punishment is rare and unpredictable. It could be that the rarity of this punishment reduces or even eliminates any deterrent effect. It is also possible that its rarity means that statistical methods are unable to detect a deterrent effect even if one exists. Nonetheless, even if we cannot detect a deterrent effect of capital punishment, this does not mean that more normal punishments such as jail time do not deter.

4. Gun Laws

The effect of gun laws on crime is also hotly debated. Some studies have found evidence that laws allowing citizens to carry concealed handguns decrease crime; presumably the possibility of encountering a victim with a gun deters potential criminals from committing crime in the first place. John R. Lott Jr., More Guns, Less Crime (2010); John R. Lott Jr. & David B. Mustard, Crime, *Deterrence, and Right-to-Carry Concealed Handguns*, 26 Journal of Legal Studies 1 (1997). In contrast, other studies find that gun laws do not decrease crime. Ian Ayres,& John J. Donohue III, *Shooting Down the "More Guns, Less Crime" Hypothesis*, 55 Stanford Law Review 1193 (2003); Hashem Dezhbakhsh & Paul H. Rubin, *Lives Saved or Lives Lost: The Effect of Concealed Handgun Laws on Crime*, 88 American Economic Review 468 (1988).

5. Income

No systematic relationship appears between various measures of income and crime. Indeed, several studies find that high legitimate wages (an opportunity cost of crime) are associated with low crime rates. Stephen Machin & Costas Meghir, *Crime and Economic Incentives*, 39 Journal of Human Resources 958 (2004); C. Cornwell & W. N. Trumbull, *Estimating the Economic Model of Crime with Panel Data*, 76 Review of Economics and Statistics 360 (1994). On the other hand, some studies find that higher pecuniary benefits to crime (a benefit of crime) are associated with increases in crime. Edward L. Glaeser & Bruce Sacerdote, *Why is There More Crime in Cities?*, 107 Journal of Political Economy 225 (1999). This ambiguity in results is likely due to the fact that the income measures used represent benefits not only of legal activities, but also of illegal ones: higher legal incomes tend to make work more attractive than crime, but to the extent that higher legal income in a region produces a greater number of more profitable targets for crime, crime also becomes more attractive. If these mechanisms are at work simultaneously, and their relative strength is not universally constant, it is not surprising that the results of various studies differ.

6. Income Inequality

A large income differential may indicate that crime is a comparatively rewarding activity for the very-low-income group that may find a lot to steal from the very rich. Nevertheless, empirical studies also find no systematic relationship between income inequality and crime. Several studies find that greater income inequality does lead to increases in crime. P. Fajnzylber, D. Lederman, & N. Loayza, *Inequality and Violent Crime*, 45 Journal of Law and Economics 1 (2002). In contrast, others find no statistically significant relationship between income inequality

and crime. E. Neumayer, *Inequality and Violent Crime: Evidence from Data on Robbery and Violent Theft*, 42 Journal of Peace Research 101 (2005).

7. Unemployment:

Unemployment is a measure of the lack of legal income opportunities; the unemployed have lower opportunity costs of crime as they are not giving up legitimate employment.   The majority of studies find that higher rates of unemployment correlate with higher levels of crime. E. Gould, B. Weinberg & D. Mustard, *Crime Rates and Local Labor Market Opportunities in the United States: 1979–1995*, 84 Review of Economics and Statistics 45 (2002); S. Raphael & R. Winter-Ebmer, *Identifying the Effect of Unemployment on Crime*, 44 Journal of Law and Economics 259 (2001). For a review of studies, see R.B. Freeman, *The Labor Market*, in Crime. 171 (J. Q. Wilson and J. Petersilia, eds; 1995).

Notes and Questions

1. Explaining the Statistics: Use the economic model of crime to explain the statistical relationships we see between crime and other variables: for example, education or various demographic variables such as age, gender, and race.

2. Private Enforcement: Should the state encourage ex ante observable precautions (bars on windows, alarm system signs, barking dogs) or non-ex ante observable precautions (better door locks, video cameras, booby traps, guns)?

3. It's the Law: In Kennesaw, GA, there is an ordinance requiring all homeowners to keep a gun in their home. How might this fact increase your security? How might this fact decrease your security?

C. The Economics of Law Enforcement

The economic theory of public law enforcement is based on a specific perception of justice as efficiency. Under this perception, the purpose of public law enforcement is to maximize social welfare, where social welfare is the benefits that individuals obtain from crime minus the costs of committing crime, the costs of harm to victims, and the costs of enforcement. The government can maximize the social welfare function through three policy instruments: the probability of capture and punishment, the length of prison terms, and the level of fines.   In setting these policy instruments at their ideal levels, the economic model assumes that criminals behave rationally and weigh the costs and benefits of criminal activity before turning to crime.

Deterrence is the goal in the traditional economic model of public law enforcement. The optimal amount of deterrence occurs at the point where the marginal social cost of additional deterrence equals the marginal social benefit.   Thus, under the traditional definition, efficient deterrence balances the marginal costs of enforcement and the reduction in illegal gains to criminals against the marginal benefit of enforcement, which is the reduction in harm that results from enforcement.   Thus, deterrence is inefficient if the marginal gains to criminals plus marginal enforcement costs exceed the marginal harm to victims.

However, many researchers have questioned whether the gains to criminals should be considered. See, e.g. George J. Stigler, *The Optimum Enforcement of Laws*, 78 Journal of Political Economy 526 (1970); Steven Shavell, *Criminal Law and the Optimal Use of Nonmonetary Sanctions as a Deterrent*, 85 Columbia Law Review 1232 (1985). If we ignored these gains, optimal deterrence would occur at the point where the marginal enforcement costs equal the marginal enforcement benefits (which is the marginal harm to victims). With fewer

costs of deterrence to consider (i.e. ignoring the reduction in criminal gains that results from deterrence), the optimal level of deterrence increases.

United States v. United States Gypsum Co.
Supreme Court of the United States
438 U.S. 422 (1978)

MR. CHIEF JUSTICE BURGER delivered the opinion of the Court.

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This case presents the following questions: (a) whether intent is an element of a criminal antitrust offense.

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Gypsum board, a laminated type of wallboard composed of paper, vinyl, or other specially treated coverings over a gypsum core, has in the last 30 years substantially replaced wet plaster as the primary component of interior walls and ceilings in residential and commercial construction. The product is essentially fungible; differences in price, credit terms, and delivery services largely dictate the purchasers' choice between competing suppliers. Overall demand, however, is governed by the level of construction activity, and is only marginally affected by price fluctuations.

The gypsum board industry is highly concentrated, with the number of producers ranging from 9 to 15 in the period 1960-1973. The eight largest companies accounted for some 94% of the national sales, with the seven "single-plant producers" accounting for the remaining 6%. Most of the major producers and a large number of the single-plant producers are members of the Gypsum Association, which, since 1930, has served as a trade association of gypsum board manufacturers.

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Beginning in 1966, the Justice Department, as well as the Federal Trade Commission, became involved in investigations into possible antitrust violations in the gypsum board industry. In 1971, a grand jury was empaneled and the investigation continued for an additional 28 months. In late 1973, an indictment was filed in the United States District Court for the Western District of Pennsylvania charging six major manufacturers and various of their corporate officials with violations of § 1 of the Sherman Act, 15 U.S.C. § 1.

The indictment charged that the defendants had engaged in a combination and conspiracy "[b]eginning sometime prior to 1960 and continuing thereafter at least until sometime in 1973," in restraint of interstate trade and commerce in the manufacture and sale of gypsum board. The alleged combination and conspiracy consisted of:

> "[A] continuing agreement understanding and concert of action among the defendants and coconspirators to (a) raise, fix, maintain and stabilize the prices of gypsum board; (b) fix, maintain and stabilize the terms and conditions of sale thereof; and (c) adopt and maintain uniform methods of packaging and handling such gypsum board."

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The focus of the Government's price-fixing case at trial was interseller price verification — that is, the practice allegedly followed by the gypsum board manufacturers of telephoning a competing producer to determine the price currently being offered on gypsum board to a specific customer. The Government contended that these price exchanges were part of an agreement among the defendants, had the effect of stabilizing prices and policing agreed-upon price

increases, and were undertaken on a frequent basis until sometime in 1973. Defendants disputed both the scope and duration of the verification activities, and further maintained that those exchanges of price information which did occur were for the purposes of complying with the Robinson-Patman Act and preventing customer fraud. These purposes, in defendants' view, brought the disputed communications among competitors within a "controlling circumstance" exception to Sherman Act liability — at the extreme, precluding, as a matter of law, consideration of verification by the jury in determining defendants' guilt on the price-fixing charge, and, at the minimum, making the defendants' purposes in engaging in such communications a threshold factual question.

The instructions on the verification issue given by the trial judge provided that, if the exchanges of price information were deemed by the jury to have been undertaken "in a good faith effort to comply with the Robinson-Patman Act," verification, standing alone, would not be sufficient to establish an illegal price-fixing agreement. The paragraphs immediately following, however, provided that the purpose was essentially irrelevant if the jury found that the effect of verification was to raise, fix, maintain, or stabilize prices. The instructions on verification closed with the observation:

> "The law presumes that a person intends the necessary and natural consequences of his acts. Therefore, if the effect of the exchanges of pricing information was to raise, fix, maintain, and stabilize prices, then the parties to them are presumed, as a matter of law, to have intended that result."

The aspects of the charge dealing with the Government's burden in linking a particular defendant to the conspiracy, and the kinds of evidence the jury could properly consider in determining if one or more of the alleged conspirators had withdrawn from or abandoned the conspiracy were also a subject of some dispute between the judge and defense counsel. On the former, the disagreement was essentially over the proper specificity of the charge. Defendants requested a charge directing the jury to determine "what kind of agreement or understanding, if any, existed as to each defendant" before any could be found to be a member of the conspiracy. The trial judge was unwilling to give this precise instruction, and instead emphasized at several points in the charge the jury's obligation to consider the evidence regarding the involvement of each defendant individually, and to find, as a precondition to liability, that each defendant was a knowing participant in the alleged conspiracy.

* * *

[T]he jury returned guilty verdicts against each of the defendants.

* * *

II

We turn first to consider the jury instructions regarding the elements of the price-fixing offense charged in the indictment. Although the trial judge's instructions on the price-fixing issue are not without ambiguity, it seems reasonably clear that he regarded an effect on prices as the crucial element of the charged offense. The jury was instructed that, if it found interseller verification had the effect of raising, fixing, maintaining, or stabilizing the price of gypsum board, then such verification could be considered as evidence of an agreement to so affect prices. They were further charged, and it is this point which gives rise to our present concern, that, "if the effect of the exchanges of pricing information was to raise, fix, maintain, and stabilize prices, then the parties to them are presumed, *as a matter of law,* to have intended that result."

The Government characterizes this charge as entirely consistent with "this Court's longstanding rule that an agreement among sellers to exchange information on current offering

prices violates Section 1 of the Sherman Act if it has either the purpose or the effect of stabilizing prices,"

In this view, the trial court's instructions would not be erroneous, even if interpreted, as they were by the Court of Appeals, to *direct* the jury to convict if it found that verification had an effect on prices, regardless of the purpose of the respondents. The Court of Appeals rejected the Government's "effects alone" test, holding instead that, in certain limited circumstances, a purpose of complying with the Robinson-Patman Act would constitute a controlling circumstance excusing Sherman Act liability, and hence an instruction allowing the jury to ignore purpose could not be sustained.

We agree with the Court of Appeals that an effect on prices, without more, will not support a criminal conviction under the Sherman Act, but we do not base that conclusion on the existence of any conflict between the requirements of the Robinson-Patman and the Sherman Acts. Rather, we hold that a defendant's state of mind or intent is an element of a criminal antitrust offense which must be established by evidence and inferences drawn therefrom, and cannot be taken from the trier of fact through reliance on a legal presumption of wrongful intent from proof of an effect on prices. Since the challenged instruction, as we read it, had this prohibited effect, it is disapproved. We are unwilling to construe the Sherman Act as mandating a regime of strict liability criminal offenses.

A

We start with the familiar proposition that "[t]he existence of a *mens rea* is the rule of, rather than the exception to, the principles of Anglo-American criminal jurisprudence." In a much-cited passage in *Morissette v. United States*, Mr. Justice Jackson, speaking for the Court, observed:

> "The contention that an injury can amount to a crime only when inflicted by intention is no provincial or transient notion. It is as universal and persistent in mature systems of law as belief in freedom of the human will and a consequent ability and duty of the normal individual to choose between good and evil. A relation between some mental element and punishment for a harmful act is almost as instinctive as the child's familiar exculpatory 'But I didn't mean to,' and has afforded the rational basis for a tardy and unfinished substitution of deterrence and reformation in place of retaliation and vengeance as the motivation for public prosecution. Unqualified acceptance of this doctrine by English common law in the Eighteenth Century was indicated by Blackstone's sweeping statement that, to constitute any crime, there must first be a 'vicious will.'"

Although Blackstone's requisite "vicious will" has been replaced by more sophisticated and less colorful characterizations of the mental state required to support criminality, intent generally remains an indispensable element of a criminal offense. This is as true in a sophisticated criminal antitrust case as in one involving any other criminal offense.

This Court, in keeping with the common law tradition and with the general injunction that "ambiguity concerning the ambit of criminal statutes should be resolved in favor of lenity," has on a number of occasions read a state-of-mind component into an offense even when the statutory definition did not in terms so provide. Indeed, the holding in *Morissette* can be fairly read as establishing, at least with regard to crimes having their origin in the common law, an interpretative presumption that *mens rea* is required. "[M]ere omission . . . of intent [in the statute] will not be construed as eliminating that element from the crimes denounced"; instead Congress will be presumed to have legislated against the background of our traditional legal

concepts which render intent a critical factor, and "absence of contrary direction [will] be taken as satisfaction with widely accepted definitions, not as a departure from them."

While strict liability offenses are not unknown to the criminal law, and do not invariably offend constitutional requirements, the limited circumstances in which Congress has created and this Court has recognized such offenses, attest to their generally disfavored status. Certainly far more than the simple omission of the appropriate phrase from the statutory definition is necessary to justify dispensing with an intent requirement. In the context of the Sherman Act, this generally inhospitable attitude to non-*mens rea* offenses is reinforced by an array of considerations arguing against treating antitrust violations as strict liability crimes.

B

The Sherman Act, unlike most traditional criminal statutes, does not, in clear and categorical terms, precisely identify the conduct which it proscribes. Both civil remedies and criminal sanctions are authorized with regard to the same generalized definitions of the conduct proscribed ─ restraints of trade or commerce and illegal monopolization ─ without reference to or mention of intent or state of mind. Nor has judicial elaboration of the Act always yielded the clear and definitive rules of conduct which the statute omits; instead open-ended and fact-specific standards like the "rule of reason" have been applied to broad classes of conduct falling within the purview of the Act's general provisions. Simply put, the Act has not been interpreted as if it were primarily a criminal statute; it has been construed to have a "generality and adaptability comparable to that found to be desirable in constitutional provisions."

Although, in *Nash v. United States,* the Court held that the indeterminacy of the Sherman Act's standards did not constitute a fatal constitutional objection to their criminal enforcement, nevertheless, this factor has been deemed particularly relevant by those charged with enforcing the Act in accommodating its criminal and remedial sanctions. The 1955 Report of the Attorney General's National Committee to Study the Antitrust Laws concluded that the criminal provisions of the Act should be reserved for those circumstances where the law was relatively clear and the conduct egregious:

> "The Sherman Act, inevitably perhaps, is couched in language broad and general. Modern business patterns, moreover, are so complex that market effects of proposed conduct are only imprecisely predictable. Thus, it may be difficult for today's businessman to tell in advance whether projected actions will run afoul of the Sherman Act's criminal strictures. With this hazard in mind, we believe that criminal process should be used only where the law is clear and the facts reveal a flagrant offense and plain intent unreasonably to restrain trade."

The Antitrust Division of the Justice Department took a similar, though slightly more moderate, position in its enforcement guidelines issued contemporaneously with the 1955 Report of the Attorney General's Committee:

> "In general, the following types of offenses are prosecuted criminally: (1) price-fixing; (2) other violations of the Sherman Act where there is proof of a specific intent to restrain trade or to monopolize; (3) a less easily defined category of cases which might generally be described as involving proof of use of predatory practices (boycotts for example) to accomplish the objective of the combination or conspiracy; (4) the fact that a defendant has previously been convicted of or adjudged to have been, violating the antitrust laws may warrant indictment for a second offense. . . . The Division feels free to seek an indictment in any case where a prospective defendant has knowledge that practices

similar to those in which he is engaging have been held to be in violation of the Sherman Act in a prior civil suit against other persons."

While not dispositive of the question now before us, the recommendations of the Attorney General's Committee and the guidelines promulgated by the Justice Department highlight the same basic concerns which are manifested in our general requirement of *mens rea* in criminal statutes and suggest that these concerns are at least equally salient in the antitrust context.

Close attention to the type of conduct regulated by the Sherman Act buttresses this conclusion. With certain exceptions for conduct regarded as *per se* illegal because of its unquestionably anticompetitive effects, the behavior proscribed by the Act is often difficult to distinguish from the gray zone of socially acceptable and economically justifiable business conduct. Indeed, the type of conduct charged in the indictment in this case — the exchange of price information among competitors — is illustrative in this regard. The imposition of criminal liability on a corporate official, or for that matter on a corporation directly, for engaging in such conduct which only after the fact is determined to violate the statute because of anticompetitive effects, without inquiring into the intent with which it was undertaken, holds out the distinct possibility of overdeterrence; salutary and procompetitive conduct lying close to the borderline of impermissible conduct might be shunned by businessmen who chose to be excessively cautious in the face of uncertainty regarding possible exposure to criminal punishment for even a good faith error of judgment. Further, the use of criminal sanctions in such circumstances would be difficult to square with the generally accepted functions of the criminal law. The criminal sanctions would be used not to punish conscious and calculated wrongdoing at odds with statutory proscriptions, but instead simply to regulate business practices regardless of the intent with which they were undertaken. While, in certain cases, we have imputed a regulatory purpose to Congress in choosing to employ criminal sanctions, the availability of a range of nonpenal alternatives to the criminal sanctions of the Sherman Act negates the imputation of any such purpose to Congress in the instant context.

For these reasons, we conclude that the criminal offenses defined by the Sherman Act should be construed as including intent as an element.

* * *

Notes and Questions

1. Overdeterrence: In *U.S. Gypsum*, the Supreme Court recognizes the possibility of criminal sanctions overdeterring certain behaviors. What type of behavior is the court concerned with overdeterring?

2. Corporate Criminal Liability: The economic model of law enforcement assumes that efficient penalties can achieve optimal deterrence. When the issue is corporate criminal liability, several questions arise. Are criminal penalties even necessary to achieve adequate deterrence or are civil penalties sufficient? Should penalties be imposed on the corporation itself, or on its principals or agents? See, e.g. Vikramaditya S. Khanna, *Corporate Criminal Liability: What Purpose Does it Serve?*, 109 Harvard Law Review 1477 (1996); Jennifer Arlen, *The Potentially Perverse Effects of Corporate Criminal Liability*, 23 Journal of Legal Studies 832 (1994).

3. Efficient murders: Do we want as much crime prevention as possible? Is the efficient number of murders zero?

4. Getting Tough on Crime: Explain why "getting tough" on crime might cause a shift to more dangerous crimes and give examples.

1. Certainty versus Severity

Law enforcement can influence various policy instruments to achieve the optimal level of deterrence: the probability of punishment, the length of prison terms, and the level of fines. The probability of punishment depends on policing levels, arrest rates, conviction rates, imprisonment rates, funding for law enforcement, funding for courts and prosecutors, etc. In the economic model of law enforcement, the probability of punishment is often referred to as the *certainty* of punishment. In contrast, the length of prison terms and level of fines, which law enforcement can also influence, are referred to as the *severity* of punishment.

In deciding to commit a crime, a criminals' expected penalty is the product of the certainty of punishment and the severity of punishment. Table 1 shows several combinations of certainty and severity (presented as either a fine or the cost of imprisonment) that produce identical expected penalties (recall the discussion of expected value in Chapter VI):

Table 1.
Combinations of Certainty and Severity with Identical Expected Penalties;
The Risk Neutral Case

Probability of Sanction	Severity of Sanction	Expected Penalty
100%	100	100
50%	200	100
25%	400	100
10%	1000	100

If potential offenders are risk neutral and have no wealth constraints, all of the combinations of probability and severity should produce identical levels of deterrence. However, more severe sanctions are cheaper for society to implement. Increasing a monetary fine imposes almost no additional collection costs; rather, it generates additional revenue for society. Thus, a low probability/high fine combination will achieve the same deterrence as a high probability/low fine combination, but at much lower cost to society.

In contrast to fines, increasing the severity of imprisonment imposes significant costs on society that include the costs of running a prison (estimates suggest that it costs $40,000 a year to house a prisoner), the productivity costs of removing a criminal from society (assuming he provided some positive benefits to his community), and any psychic or stigma costs the criminal experiences while imprisoned. Despite these significant costs associated with imprisonment, it may still be relatively cheaper to increase the severity of imprisonment than to increase the probability of sanctions. Although the longer prison sentences increase enforcement costs, fewer individuals are imprisoned, which decreases enforcement costs and offsets some of the increase from longer sentences.

Thus, regardless of the form of sanction, in the basic economic model of law enforcement, low certainty/high severity is the optimal combination because it achieves deterrence at the lowest possible cost.

United States v. Rajat K. Gupta
United States District Court for the Southern District of New York
904 F.Supp.2d 349 (2012)

JED S. RAKOFF, District Judge.

The Court is called upon to impose sentence on Rajat K. Gupta, who on June 15, 2012, was found guilty by a jury of one count of conspiracy and three counts of substantive securities fraud, in connection with providing material non-public information to Raj Rajaratnam.

* * *

The heart of Mr. Gupta's offenses here, it bears repeating, is his egregious breach of trust. Mr. Rajaratnam's gain, though a product of that breach, is not even part of the legal theory under which the Government here proceeded, which would have held Gupta guilty even if Rajaratnam had not made a cent. While insider trading may work a huge unfairness on innocent investors, Congress has never treated it as a fraud on investors, the Securities Exchange Commission has explicitly opposed any such legislation, and the Supreme Court has rejected any attempt to extend coverage of the securities fraud laws on such a theory. Prosecution of insider trading therefore proceeds, as in this case, on one or more theories of defrauding the institution (or its shareholders) that owned the information. In the eye of the law, Gupta's crime was to breach his fiduciary duty of confidentiality to Goldman Sachs; or to put it another way, Goldman Sachs, not the marketplace, was the victim of Gupta's crimes as charged.

* * *

In the instant case, however, it is also clear to the Court, both from the jury's split verdict and from the Court's own assessment of the evidence, that the trades in question were those made by Rajaratnam and his Galleon funds on September 23, 2008 and October 24, 2008, directly and immediately as the result of tips from Gupta. In the former case, Gupta, late on the afternoon of September 23, tipped Rajaratnam about Warren Buffett's soon-to-be-announced infusion of $5 billion into Goldman Sachs, whereupon Rajaratnam caused various Galleon funds to purchase large quantities of Goldman stock just before the market closed. When the Buffett investment was announced the following morning, the stock surged, causing Galleon to realize an immediate gain of $1,231,630. In the latter case, Gupta, on October 23, tipped Rajaratnam that Goldman Sachs would soon report third quarter losses, whereas many analysts were predicting a profit. On the next day, Rajaratnam sold 150,000 shares of Goldman. Thereafter, as word began to seep out about Goldman's reduced prospects, the stock began to fall, and when the poor third quarter results were finally made public on December 16, 2008, it fell still further. Based on all the evidence, the Court concludes that it is more likely than not that Rajaratnam, in the absence of Gupta's tip, would not have caused Galleon to sell its valuable Goldman stock until the morning of December 17, 2008. The tip thus enabled Galleon to avoid losses of $3,800,565. Taken together, therefore, the September and October tip-based trades resulted in an illegal "gain" of $5,032,195.

* * *

But when one looks at the nature and circumstances of the offense, the picture darkens considerably. In the Court's view, the evidence at trial established, to a virtual certainty, that Mr. Gupta, well knowing his fiduciary responsibilities to Goldman Sachs, brazenly disclosed material non-public information to Mr. Rajaratnam at the very time, September and October 2008, when our financial institutions were in immense distress and most in need of stability, repose, and trust. Consider, for example, his tip to Rajaratnam on September 23, 2008. With Goldman Sachs in turmoil but on the verge of being rescued from possible ruin by an infusion of $5 billion, Gupta, within minutes of hearing of the transaction, tipped Rajaratnam, so that the latter could trade on this information in the last few minutes before the market closed. This was the functional equivalent of stabbing Goldman in the back.

So why did Mr. Gupta do it? Since motive is not an element of the offenses here in issue, it did not need to be proved at trial, and so one can only speculate. Having finished his spectacular career at McKinsey in 2007, Gupta, for all his charitable endeavors, may have felt frustrated in not finding new business worlds to conquer; and Rajaratnam, a clever cultivator of persons with information, repeatedly held out prospects of exciting new international business opportunities that Rajaratnam would help fund but that Gupta would lead. There is also in some of the information presented to the Court under seal an implicit suggestion that, after so many years of assuming the role of father to all, Gupta may have longed to escape the straightjacket of overwhelming responsibility, and had begun to loosen his self-restraint in ways that clouded his judgment. But whatever was operating in the recesses of his brain, there is no doubt that Gupta, though not immediately profiting from tipping Rajaratnam, viewed it as an avenue to future benefits, opportunities, and even excitement. Thus, by any measure, Gupta's criminal acts represented the very antithesis of the values he had previously embodied.

       * * *

As to specific deterrence, it seems obvious that, having suffered such a blow to his reputation, Mr. Gupta is unlikely to repeat his transgressions, and no further punishment is needed to achieve this result. General deterrence, however, suggests a different conclusion. As this Court has repeatedly noted in other cases, insider trading is an easy crime to commit but a difficult crime to catch. Others similarly situated to the defendant must therefore be made to understand that when you get caught, you will go to jail.

       * * *

Rajat K. Gupta is therefore sentenced to 24 months' imprisonment, concurrent on all counts, to be followed by one year of supervised release, on the terms stated from the bench and here incorporated by reference. The otherwise mandatory forfeiture has been waived by the Government, but Court imposes a fine in the sum of $5,000,000.

       * * *

SO ORDERED.

Notes and Questions

1. Unlikely Detection: In the case, does it make sense for the severity of penalties to be higher because the certainty of punishment is low?

2. Execute the Unlucky: Would the optimal certainty/severity combination be to lower the probability of detection to .001% but execute the convicted?

3. Cheaters: Consider two expected penalties for cheating on exams: (1) cheaters are caught 50 percent chance of the time, and when caught, the cheating student earns an F on the exam or (2) cheaters are caught only 1 percent of the time, but when they are caught, the cheaters are expelled with a permanent mark on their record. Which scenario is closer to reality? Would a low certainty/high severity penalty combination achieve the same deterrence as a high certainty/low severity combination?

4. Certainty and Severity: The majority of empirical studies suggest that the deterrent effect of the certainty of punishment far outweighs the deterrent effect of the severity of punishment. See, e.g. John Donohue, *Assessing the Relative Benefits of Incarceration: The Overall Change Over the Previous Decades and the Benefits on the Margin*, in Do Prisons Make Us Safer? The Benefits and Costs of the Prison Boom (S. Raphael, and M. Stoll eds, 2009). Why might this be the case?

2. Fines versus Imprisonment

Criminal sanctions can be monetary or nonmonetary. As we discussed in the previous section, fines impose little cost on society, and even generate revenue. In contrast, imprisonment imposes substantial enforcement costs on society. Thus, fines are the preferred sanction.

However, a combination of fines and imprisonment is necessary in many situations. If a fine exceeds an individual's wealth level, then the individual's expected penalty will be less than the expected penalty that law enforcement anticipated when selecting the probability and severity of sanctions. For example, in Table 1, a probability of 10% and a fine of $1000 for an individual with a wealth level of only $500 will achieve an expected penalty of only $50 instead of $100 because the fine is effectively capped at $500 by the individual's wealth. When there are wealth constraints, the fine should be set as high as possible, equal to the individual's wealth level. A prison sentence should also be imposed to bring the expected penalty to the desired level.

Tate v. Short
Supreme Court of the United States
401 U.S. 395 (1971)

MR. JUSTICE BRENNAN delivered the opinion of the Court.

Petitioner accumulated fines of $425 on nine convictions in the Corporation Court of Houston, Texas, for traffic offenses. He was unable to pay the fines because of indigency, and the Corporation Court, which otherwise has no jurisdiction to impose prison sentences, committed him to the municipal prison farm according to the provisions of a state statute and municipal ordinance, which required that he remain there a sufficient time to satisfy the fines at the rate of five dollars for each day; this required that he serve 85 days at the prison farm. After 21 days in custody, petitioner was released on bond when he applied to the County Criminal Court of Harris County for a writ of habeas corpus. He alleged that: "Because I am too poor, I am, therefore, unable to pay the accumulated fine of $425." The county court held that "legal cause has been shown for the imprisonment," and denied the application. The Court of Criminal Appeals of Texas affirmed, stating: "We overrule appellant's contention that, because he is too poor to pay the fines, his imprisonment is unconstitutional." We granted certiorari. We reverse on the authority of our decision in *Williams v. Illinois.*

The Illinois statute involved in *Williams* authorized both a fine and imprisonment. Williams was given the maximum sentence for petty theft of one year's imprisonment and a $500 fine, plus $5 in court costs. The judgment, as permitted by the Illinois statute, provided that, if, when the one-year sentence expired, Williams did not pay the fine and court costs, he was to remain in jail a sufficient length of time to satisfy the total amount at the rate of $5 per day. We held that the Illinois statute, as applied to Williams, worked an invidious discrimination solely because he was too poor to pay the fine, and therefore violated the Equal Protection Clause.

Although the instant case involves offenses punishable by fines only, petitioner's imprisonment for nonpayment constitutes precisely the same unconstitutional discrimination, since, like Williams, petitioner was subjected to imprisonment solely because of his indigency. In *Morris v. Schoonfield*, four members of the Court anticipated the problem of this case and stated the view, which we now adopt, that

"the same constitutional defect condemned in *Williams* also inheres in jailing an indigent for failing to make immediate payment of any fine, whether or not the fine is

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accompanied by a jail term and whether or not the jail term of the indigent extends beyond the maximum term that may be imposed on a person willing and able to pay a fine. In each case, the Constitution prohibits the State from imposing a fine as a sentence and then automatically converting it into a jail term solely because the defendant is indigent, and cannot forthwith pay the fine in full."

Our opinion in *Williams* stated the premise of this conclusion in saying that

"the Equal Protection Clause of the Fourteenth Amendment requires that the statutory ceiling placed on imprisonment for any substantive offense be the same for all defendants irrespective of their economic status."

Since Texas has legislated a "fines only" policy for traffic offenses, that statutory ceiling cannot, consistently with the Equal Protection Clause, limit the punishment to payment of the fine if one is able to pay it, yet convert the fine into a prison term for an indigent defendant without the means to pay his fine. Imprisonment in such a case is not imposed to further any penal objective of the State. It is imposed to augment the State's revenues, but obviously does not serve that purpose; the defendant cannot pay, because he is indigent, and his imprisonment, rather than aiding collection of the revenue, saddles the State with the cost of feeding and housing him for the period of his imprisonment.

There are, however, other alternatives to which the State may constitutionally resort to serve its concededly valid interest in enforcing payment of fines. We repeat our observation in *Williams* in that regard:

"The State is not powerless to enforce judgments against those financially unable to pay a fine; indeed, a different result would amount to inverse discrimination, since it would enable an indigent to avoid both the fine and imprisonment for nonpayment, whereas other defendants must always suffer one or the other conviction."

"It is unnecessary for us to canvass the numerous alternatives to which the State by legislative enactment — or judges within the scope of their authority — may resort in order to avoid imprisoning an indigent beyond the statutory maximum for involuntary nonpayment of a fine or court costs. Appellant has suggested several plans, some of which are already utilized in some States, while others resemble those proposed by various studies. The State is free to choose from among the variety of solutions already proposed and, of course, it may devise new ones."

We emphasize that our holding today does not suggest any constitutional infirmity in imprisonment of a defendant with the means to pay a fine who refuses or neglects to do so. Nor is our decision to be understood as precluding imprisonment as an enforcement method when alternative means are unsuccessful despite the defendant's reasonable efforts to satisfy the fines by those means; the determination of the constitutionality of imprisonment in that circumstance must await the presentation of a concrete case.

The judgment of the Court of Criminal Appeals of Texas is reversed, and the case is remanded for further proceedings not inconsistent with this opinion.

Notes and Questions

1. Fines versus Imprisonment: According to the economic model of criminal behavior, does deterrence depend on whether a criminal satisfies a penalty by paying a fine or serving a prison sentence?

2. The Economic Model: Is the court's decision in Tate v. Short consistent with the economic model of law enforcement?

3. Fines, Prison, and Wealth: Empirical studies indicate that there is a tendency to impose larger fines and shorter prison sentences on wealthy defendants. Joel Waldfogel, Are Fines and Prison Terms Used Efficiently? Evidence on Federal Fraud Offenders, 38 Journal of Law and Economics 107 (1995). Would it be ideal to allow wealthy defendants to satisfy their penalty by paying a fine and poorer defendants to satisfy their penalty by serving time in prison?

4. Bill Gates in Prison: For a wealthy individual such as Bill Gates, what level of fine would be equivalent to a 6 month prison term?

3. Extensions of the Basic Model

According to the basic economic model of law enforcement, sanctions should be as high as possible and probabilities should be as low as possible to achieve a given level of deterrence. However, this low certainty/high severity combination is not always optimal.

An Economic Theory of the Criminal Law
Richard A. Posner
85 Columbia Law Review 1193 (1985)

* * *

Once the expected punishment cost for the crime has been set, it becomes necessary to choose a combination of probability and severity of punishment that will bring that cost home to the would-be offender. Let us begin with fines. An expected punishment cost of $1000 can be imposed by combining a fine of $1000 with a probability of apprehension and conviction of one, a fine of $10,000 with a probability of .1, a fine of one million dollars with a probability of .001, etc. If the costs of collecting fines are assumed to be zero regardless of the size of the fine, the most efficient combination is a probability arbitrarily close to zero and a fine arbitrarily close to infinity. For while the costs of apprehending and convicting criminals rise with the probability of apprehension — higher probabilities imply more police, prosecutors, judges, defense attorneys, and so forth because more criminals are being apprehended and tried, than when the probability of apprehension is very low — the costs of collecting fines are by assumption zero regardless of their size. Thus, every increase in the size of the fine is costless, and every corresponding decrease in the probability of apprehension and conviction, designed to offset the increase in the fine and so maintain a constant expected punishment cost, reduces the costs of enforcement.

There are, however, many objections to assuming that the cost of collecting a fine is unrelated to its size:

(1) For criminals who are risk averse, an increase in the fine will not be a costless transfer payment. In Becker's model, the only cost of a fine is the cost of collecting it, because either the fine is not paid — the crime is deterred — or, if paid, it simply transfers an equal dollar amount from the criminal to the taxpayer. But for a risk-averse criminal, every reduction in the probability of apprehension and conviction, and corresponding increase in the fines imposed on those criminals who are apprehended and convicted, imposes a disutility not translated into extra revenue of the state. Thus, the real social cost of fines increases for risk-averse criminals as the fine increases. Nor is this effect offset by the effect on risk-preferring criminals, even if there are as many of them as there are risk-averse criminals. To the extent that a higher fine with lower probability of apprehension and conviction increases the utility of the risk preferrer, the fine has to be put up another notch to make sure that it deters — which makes it even more painful for the risk averse.

(2) The stigma effect of a fine (as of any criminal penalty), noted earlier, is not transferred either.

(3) The model implies punishment of different crimes by the same, severe fine. This uniformity, however, eliminates marginal deterrence ― the incentive to substitute less for more serious crimes. If robbery is punished as severely as murder, the robber might as well kill his victim to eliminate a witness. Thus, one cost of making the punishment of a crime more severe is that it reduces the criminal's incentive to substitute that crime for a more serious one. To put this differently, reducing the penalty for a lesser crime may reduce the incidence of a greater crime. If it were not for considerations of marginal deterrence, more serious crimes might not always be punishable by more severe penalties than less serious ones.

           * * *

(4) Limitations of solvency cause the cost of collecting fines to rise with the size of the fine ― and for most criminal offenders to become prohibitive rather quickly. The solvency problem is so acute that the costs of collecting fines would often be prohibitive even if the probability of punishment were one and fines correspondingly much smaller than in the model. This explains the heavy reliance on nonpecuniary sanctions, of which imprisonment is the most common today. Imprisonment both reduces the criminal's future wealth, by impairing his lawful job prospects, and imposes disutility on people who cannot be made miserable enough by having their liquid wealth, or even their future wealth, confiscated.

(5) The solvency limitation is made all the more acute because a fine generally is considered uncollectable unless the criminal has liquid assets to pay it. The liquidity problem may seem superficial and easily solved by requiring payment on the installment plan or by making the fine proportional to future earnings. But these are more costly forms of punishment than they seem, because by reducing the offender's net income from lawful activity, they increase his incentive to return to a life of crime.

(6) Very low probabilities are difficult to estimate accurately. Criminals might underestimate them or overestimate them, resulting in too little or too much deterrence.

           * * *

Imprisonment. ― If society must continue to rely heavily on imprisonment as a criminal sanction, there is an argument ― subject to caveats that should be familiar to the reader by now, based on risk aversion, overinclusion, avoidance and error costs, and (less clearly) marginal deterrence ― for combining heavy prison terms for convicted criminals with low probabilities of apprehension and conviction. Consider the choice between combining a .1 probability of apprehension and conviction with a ten-year prison term and a .2 probability of apprehension and conviction with a five-year term. Under the second approach twice as many individuals are imprisoned but for only half as long, so the total costs of imprisonment to the government will be the same under the two approaches. But the costs of police, court officials, and the like will probably be lower under the first approach. The probability of apprehension and conviction, and hence the number of prosecutions, is only half as great. Although more resources will be devoted to a trial where the possible punishment is greater, these resources will be incurred in fewer trials because fewer people will be punished, and even if the total litigation resources are no lower, police and prosecution costs will clearly be much lower. And notice that this variant of our earlier model of high fines and trivial probabilities of apprehension and conviction corrects the most serious problem with that model ― that is, solvency.

But isn't a system under which probabilities of punishment are low "unfair," because it creates ex post inequality among offenders? Many go scot-free; others serve longer prison

sentences than they would if more offenders were caught. However, to object to this result is like saying that all lotteries are unfair because, ex post, they create wealth differences among the players. In an equally significant sense both the criminal justice system that creates low probabilities of apprehension and conviction and the lottery are fair so long as the ex ante costs and benefits are equalized among the participants. Nor is it correct that while real lotteries are voluntary the criminal justice "lottery" is not. The criminal justice is voluntary: you keep out of it by not committing crimes. Maybe, though, such a system of punishment is not sustainable in practice, because judges and jurors underestimate the benefits of what would seem, viewed in isolation, savagely cruel sentences. The prisoner who is to receive the sentence will be there in the dock, in person; the victims of the crimes for which he has not been prosecuted (because the fraction of crimes prosecuted is very low) will not be present — they will be statistics. I hesitate, though, to call this an economic argument; it could be stated in economic terms by reference to costs of information, but more analysis would be needed before this could be regarded as anything better than relabeling.

There is, however, another and more clearly economic problem with combining very long prison sentences with very low probabilities of apprehension and conviction. A prison term is lengthened, of course, by adding time on to the end of it. If the criminal has a significant discount rate, the added years may not create a substantial added disutility. At a discount rate of ten percent, a ten-year prison term imposes a disutility only 6.1 times the disutility of a one-year sentence, and a twenty-year sentence increases this figure to only 8.5 times; the corresponding figures for a five percent discount rate are 7.7 and 12.5 times.

Discount rates may seem out of place in a discussion of nonmonetary utilities and disutilities, though imprisonment has a monetary dimension, because a prisoner will have a lower income in prison than on the outside. But the reason that interest (discount) rates are positive even when there is no risk of default and the expected rate of inflation is zero is that people prefer present to future consumption and so must be paid to defer consumption. A criminal, too, will value his future consumption, which imprisonment will reduce, less than his present consumption.

The discounting problem could be ameliorated by preventive detention, whereby the defendant in effect begins to serve his sentence before he is convicted, or sometimes before his appeal rights are exhausted. The pros and cons of preventive detention involve issues of criminal procedure that would carry us beyond the scope of this Article, and here I merely note that the argument for preventive detention is stronger the graver the defendant's crime (and hence the longer the optimal length of imprisonment), regardless of whether the defendant is likely to commit a crime if he is released on bail pending trial.

The major lesson to be drawn from this part of the Article is that criminal sanctions are costly. A tort sanction is close to a costless transfer payment. A criminal sanction, even when it takes the form of a fine, and patently when it takes the form of imprisonment or death, is not. And yet it appears to be the optimal method of deterring most pure coercive transfers — which are therefore the central concern of the criminal law. . . .
  * * *

a. Risk Preferences
When criminals are either risk averse or risk seeking, the low certainty/high severity combination may no longer be optimal.

First, consider the case where individuals are risk averse in sentences so that their disutility of the expected penalty rises more than in proportion to the expected penalty. In the case of prison sentences, this could result from an increasing desire for freedom or growing distaste for the prison environment as the time in prison increases. Risk averse individuals prefer a certain penalty, *f*, to an uncertain penalty with a mean of *f*.

Table 2 shows several combinations of certainty and severity (presented as either a fine or the cost of imprisonment) that produce the same disutility, but have different expected penalties. In contrast to the risk neutral case where combinations with equal expected penalties produce equal deterrence, when severity increases for a risk averse individual, combinations with lower expected penalties produce equal deterrence.

Table 2.
Combinations of Certainty and Severity with Identical Disutility;
The Risk Averse Case

Probability of Sanction	Severity of Sanction	Disutility of Expected Penalty	Expected Penalty
100%	100	100	100
40%	200	100	80
10%	400	100	40
1%	1000	100	10

If Table 2 referred to fines, it is not clear that a low certainty/high severity combination, such as a 1% probability of a $1000 fine, is more optimal than the other combinations in Table 2. Although enforcement costs are low, the expected fine, and therefore fine revenue is also low. If the decrease in fine revenue is greater than the savings in enforcement cost, the high fine combination could be a more expensive combination from society's perspective. For a discussion, see e.g. A. Mitchell Polinsky & Steven Shavell, *The Optimal Tradeoff Between the Probability and Magnitude of Fines*, 69 American Economic Review 880 (1979).

In contrast, if the sanctions in Table 2 were prison sentences instead of fines, then low expected sentences would not be costly. That is, the 1% probability of a 1000 day sentence has both low enforcement costs and low imprisonment costs. Thus, when offenders are risk averse, the high sentence/low probability combination is unambiguously the optimal combination.

Next, consider the case when offenders are risk seeking in sanctions; their disutility of the expected penalty rises less than in proportion to the expected penalty. In the case of prison sentences, this could occur for several reasons: if the disutility from the stigma of prison does not increase with the length of imprisonment, if more brutalization of prisoners occurs at the beginning of a sentence, or if discounting of future disutility makes earlier years in prison seem worse than later years. Risk-seeking individuals prefer an uncertain penalty with a mean of *f* to a certain penalty, *f*.

Table 3 shows several combinations of certainty and severity (presented as either a fine or the cost of imprisonment) that produce the same disutility, but have different expected penalties. In the risk-seeking case, as severity increases, combinations with higher expected penalties produce equal deterrence.

Table 3.
Combinations of Certainty and Severity with Identical Disutility;
The Risk-Seeking Case

Probability of Sanction	Severity of Sanction	Disutility of Expected Penalty	Expected Penalty
100%	100	100	100
60%	200	100	120
40%	400	100	160
30%	1000	100	300

If Table 3 referred to fines, then the optimal combination of certainty and severity would be high fine and low probability. This combination would achieve the same deterrence as other combinations, and the expected fine, or fine revenue, would be high and enforcement costs would be low.

If Table 3 referred to prison sentences, then the optimal combination may not be the long sentence/low probability combination. Because the increase in prison sentences is proportionally larger than the decrease in the probability, the expected penalty, or expected prison term rises. If the cost of longer imprisonment exceeds the savings in enforcement costs, then the long sentence/low probability combination would not be the cheapest way to achieve deterrence. For a discussion, see e.g. A. Mitchell Polinsky & Steven Shavell, *On the Disutility and Discounting of Imprisonment and the Theory of Deterrence*, 28 Journal of Legal Studies 1 (1999).

b. Marginal deterrence

The low certainty/high severity combination may also not be optimal if the goal is marginal deterrence. If penalties for all offenses are set at their maximal level, there is no reason to not commit a more serious offense. If an individual decides to mug someone, he might as well shoot the victim and other potential witnesses; murder carries no additional penalty and killing witnesses reduces the probability of being caught. Instead, the severity of sanctions should increase with the seriousness of the crime. Thus, the penalty for mugging should not be set at its maximal level; it should be set sufficiently below the penalty for murder so that the higher penalty for murder will provide an additional deterrent. Although the lower expected penalties will increase lesser crimes, the reduction in harm from the decrease in more serious crimes will more than offset the increase in harm from the lesser crimes, increasing social welfare.

c. Repeat Offenders

The low certainty/high severity combination may also not be optimal for first-time offenders so that there is room to increase the sanction if those offenders become repeat offenders. There are several reasons why it may be optimal to increase sanctions for repeat offenders. First, a prior criminal record signals that an individual has a higher propensity to commit criminal acts because either the costs of crime are lower for her or the benefits of crime are higher. Thus, higher sanctions are necessary to deter these high-risk offenders. Second, imposing higher sanctions on subsequent crimes increases the cost of committing first offenses; not only does a first offense carry an immediate penalty, it also increases future penalties. Thus, higher sanctions for subsequent crimes may deter first crimes. Third, a repeat offender has

already suffered the social stigma of conviction from the first offense. The cost of committing subsequent crimes is less because they do not carry the potential cost of social stigma. Thus, other costs of subsequent crimes, like the expected sanction, must be increased to maintain deterrence. Finally, repeat offenders may be better able to avoid detection and apprehension of subsequent crimes because they understand the system and have a larger criminal network. If the probability of punishment is lower for repeat offenders, the magnitude of punishment must be higher to maintain deterrence. See, e.g. A. Mitchell Polinsky & Daniel L. Rubinfeld, *A Model of Optimal Fines for Repeat Offenders*, 46 Journal of Public Economics 291 (1991); T. J. Miceli & C. Bucci, *A Simple Theory of Increasing Penalties for Repeat Offenders*, 1 Review of Law and Economics 71 (2005).

Ewing v. California
Supreme Court of the United States
538 U. S. 11 (2003)

JUSTICE O'CONNOR announced the judgment of the Court and delivered an opinion, in which THE CHIEF JUSTICE and JUSTICE KENNEDY join.
         * * *
         California's current three strikes law consists of two virtually identical statutory schemes "designed to increase the prison terms of repeat felons." When a defendant is convicted of a felony, and he has previously been convicted of one or more prior felonies defined as "serious" or "violent" in Cal. Penal Code Ann., sentencing is conducted pursuant to the three strikes law. Prior convictions must be alleged in the charging document, and the defendant has a right to a jury determination that the prosecution has proved the prior convictions beyond a reasonable doubt.
         If the defendant has one prior "serious" or "violent" felony conviction, he must be sentenced to "twice the term otherwise provided as punishment for the current felony conviction." If the defendant has two or more prior "serious" or "violent" felony convictions, he must receive "an indeterminate term of life imprisonment." Defendants sentenced to life under the three strikes law become eligible for parole on a date calculated by reference to a "minimum term," which is the greater of (a) three times the term otherwise provided for the current conviction, (b) 25 years, or (c) the term determined by the court pursuant to § 1170 for the underlying conviction, including any enhancements.
         * * *
         On parole from a 9-year prison term, petitioner Gary Ewing walked into the pro shop of the El Segundo Golf Course in Los Angeles County on March 12, 2000. He walked out with three golf clubs, priced at $399 apiece, concealed in his pants leg. A shop employee, whose suspicions were aroused when he observed Ewing limp out of the pro shop, telephoned the police. The police apprehended Ewing in the parking lot.
         Ewing is no stranger to the criminal justice system. In 1984, at the age of 22, he pleaded guilty to theft. The court sentenced him to six months in jail (suspended), three years' probation, and a $300 fine. In 1988, he was convicted of felony grand theft auto and sentenced to one year in jail and three years' probation. After Ewing completed probation, however, the sentencing court reduced the crime to a misdemeanor, permitted Ewing to withdraw his guilty plea, and dismissed the case. In 1990, he was convicted of petty theft with a prior and sentenced to 60 days in the county jail and three years' probation. In 1992, Ewing was convicted of battery and

sentenced to 30 days in the county jail and two years' summary probation. One month later, he was convicted of theft and sentenced to 10 days in the county jail and 12 months' probation. In January 1993, Ewing was convicted of burglary and sentenced to 60 days in the county jail and one year's summary probation. In February 1993, he was convicted of possessing drug paraphernalia and sentenced to six months in the county jail and three years' probation. In July 1993, he was convicted of appropriating lost property and sentenced to 10 days in the county jail and two years' summary probation. In September 1993, he was convicted of unlawfully possessing a firearm and trespassing and sentenced to 30 days in the county jail and one year's probation.

In October and November 1993, Ewing committed three burglaries and one robbery at a Long Beach, California, apartment complex over a 5-week period. He awakened one of his victims, asleep on her living room sofa, as he tried to disconnect her video cassette recorder from the television in that room. When she screamed, Ewing ran out the front door. On another occasion, Ewing accosted a victim in the mailroom of the apartment complex. Ewing claimed to have a gun and ordered the victim to hand over his wallet. When the victim resisted, Ewing produced a knife and forced the victim back to the apartment itself. While Ewing rifled through the bedroom, the victim fled the apartment screaming for help. Ewing absconded with the victim's money and credit cards.

On December 9, 1993, Ewing was arrested on the premises of the apartment complex for trespassing and lying to a police officer. The knife used in the robbery and a glass cocaine pipe were later found in the back seat of the patrol car used to transport Ewing to the police station. A jury convicted Ewing of first-degree robbery and three counts of residential burglary. Sentenced to nine years and eight months in prison, Ewing was paroled in 1999.

Only 10 months later, Ewing stole the golf clubs at issue in this case. He was charged with, and ultimately convicted of, one count of felony grand theft of personal property in excess of $400. As required by the three strikes law, the prosecutor formally alleged, and the trial court later found, that Ewing had been convicted previously of four serious or violent felonies for the three burglaries and the robbery in the Long Beach apartment complex.

* * *

As a newly convicted felon with two or more "serious" or "violent" felony convictions in his past, Ewing was sentenced under the three strikes law to 25 years to life.

* * *

When the California Legislature enacted the three strikes law, it made a judgment that protecting the public safety requires incapacitating criminals who have already been convicted of at least one serious or violent crime. Nothing in the Eighth Amendment prohibits California from making that choice. To the contrary, our cases establish that States have a valid interest in deterring and segregating habitual criminals..

* * *

The State's interest in deterring crime also lends some support to the three strikes law. We have long viewed both incapacitation and deterrence as rationales for recidivism statutes: "[A] recidivist statute['s] . . . primary goals are to deter repeat offenders and, at some point in the life of one who repeatedly commits criminal offenses serious enough to be punished as felonies, to segregate that person from the rest of society for an extended period of time." Four years after the passage of California's three strikes law, the recidivism rate of parolees returned to prison for the commission of a new crime dropped by nearly 25 percent.

* * *

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Against this backdrop, we consider Ewing's claim that his three strikes sentence of 25 years to life is unconstitutionally disproportionate to his offense of "shoplifting three golf clubs." We first address the gravity of the offense compared to the harshness of the penalty. At the threshold, we note that Ewing incorrectly frames the issue. The gravity of his offense was not merely "shoplifting three golf clubs." Rather, Ewing was convicted of felony grand theft for stealing nearly $1,200 worth of merchandise after previously having been convicted of at least two "violent" or "serious" felonies. Even standing alone, Ewing's theft should not be taken lightly. His crime was certainly not "one of the most passive felonies a person could commit." To the contrary, the Supreme Court of California has noted the "seriousness" of grand theft in the context of proportionality review. Theft of $1,200 in property is a felony under federal law, 18 U.S.C. § 641 and in the vast majority of States.

        * * *

In weighing the gravity of Ewing's offense, we must place on the scales not only his current felony, but also his long history of felony recidivism. Any other approach would fail to accord proper deference to the policy judgments that find expression in the legislature's choice of sanctions. In imposing a three strikes sentence, the State's interest is not merely punishing the offense of conviction, or the "triggering" offense: "[I]t is in addition the interest . . . in dealing in a harsher manner with those who by repeated criminal acts have shown that they are simply incapable of conforming to the norms of society as established by its criminal law." To give full effect to the State's choice of this legitimate penological goal, our proportionality review of Ewing's sentence must take that goal into account.

Ewing's sentence is justified by the State's public-safety interest in incapacitating and deterring recidivist felons, and amply supported by his own long, serious criminal record. Ewing has been convicted of numerous misdemeanor and felony offenses, served nine separate terms of incarceration, and committed most of his crimes while on probation or parole. His prior "strikes" were serious felonies including robbery and three residential burglaries. To be sure, Ewing's sentence is a long one. But it reflects a rational legislative judgment, entitled to deference, that offenders who have committed serious or violent felonies and who continue to commit felonies must be incapacitated. The State of California "was entitled to place upon [Ewing] the onus of one who is simply unable to bring his conduct within the social norms prescribed by the criminal law of the State." Ewing's is not "the rare case in which a threshold comparison of the crime committed and the sentence imposed leads to an inference of gross disproportionality."

We hold that Ewing's sentence of 25 years to life in prison, imposed for the offense of felony grand theft under the three strikes law, is not grossly disproportionate and therefore does not violate the Eighth Amendment's prohibition on cruel and unusual punishments.

Notes and Questions

1. Get Tough on Repeat Offenders: What arguments does the court give to explain why repeat offenders should be punished more severely than first-time offenders for the same offense?

2. Go Easy on Repeat Offenders: Some scholars have presented theories where it may be optimal to lower sanctions for repeat offenders. See, e.g. D. A. Dana, *Rethinking the Puzzle of Escalating Penalties for Repeat Offenders*, 110 Yale Law Journal 733 (2001); W. Emons, *A Note on the Optimal Punishment for Repeat Offenders*, 23 International Review of Law and Economics 253 (2003). What arguments can you think of for why repeat offenders should be punished less severely than first-time offenders?

d. Discount Rates

If the penalty is a prison sentence, a low certainty/high severity combination may not achieve adequate deterrence if potential offenders have very high discount rates. Because individuals with high discount rates value their future significantly less than their present welfare, adding additional years to a prison sentence several years into the future increases their perceived costs of crime only slightly.

United States v. Craig
United States Court of Appeals for the Seventh Circuit
703 F.3d 1001 (2012)

PER CURIAM

The defendant pleaded guilty to four counts of producing child pornography.
* * *

[T]he statutory maximum sentence for each count of conviction was 30 years. (It would have been longer had the defendant had previous convictions, but he didn't.) The judge sentenced him to the 30–year maximum on one count and to concurrent sentences of 20 years on each of the remaining three counts, but he ordered that the set of 20–year sentences be served consecutively to the 30–year sentence, making the total sentence 50 years. The judge was entitled to do this. . .
* * *

POSNER, Circuit Judge, concurring.

I write separately merely to remind the district judges of this circuit of the importance of careful consideration of the wisdom of imposing de facto life sentences. If the defendant in this case does not die in the next 50 years he will be 96 years old when released (though "only" 89 or 90 if he receives the maximum good-time credits that he would earn if his behavior in prison proves to be exemplary). . . . [I]n all likelihood the defendant will be dead before his prison term expires.

Federal imprisonment is expensive to the government; the average expense of maintaining a federal prisoner for a year is between $25,000 and $30,000, and the expense rises steeply with the prisoner's age because the medical component of a prisoner's expense will rise with his age, especially if he is still alive in his 70s (not to mention his 80s or 90s). It has been estimated that an elderly prisoner costs the prison system between $60,000 and $70,000 a year.

That is not a net social cost, because if free these elderly prisoners would in all likelihood receive Medicare and maybe Medicaid benefits to cover their medical expenses. But if freed before they became elderly, and employed, they would have contributed to the Medicare and Medicaid programs through payroll taxes — which is a reminder of an additional social cost of imprisonment: the loss of whatever income the prisoner might lawfully have earned had he been free, income reflecting his contribution to society through lawful employment.

The social costs of imprisonment should in principle be compared with the benefits of imprisonment to the society, consisting mainly of deterrence and incapacitation. A sentencing judge should therefore consider the incremental deterrent and incapacitative effects of a very long sentence compared to a somewhat shorter one. An impressive body of economic research . . . finds for example that forgoing imprisonment as punishment of criminals whose crimes inflict little harm may save more in costs of imprisonment than the cost in increased crime that it

creates. Ours is not a "little crime" case, and not even the defendant suggests that probation would be an appropriate punishment. But it is a lifetime imprisonment case, and the implications for cost, incapacitation, and deterrence create grounds for questioning that length of sentence.

For suppose the defendant had been sentenced not to 50 years in prison but to 30 years. He would then be 76 years old when released (slightly younger if he had earned the maximum good-time credits). How likely would he be to commit further crimes at that age? . . . [A]lthough persons 65 and older are 13 percent of the population, they accounted for only seven-tenths of one percent of arrests in 2010. Last year 1,451 men ages 65 and older were arrested for sex offenses (excluding forcible rape and prostitution), which was less than 3 percent of the total number arrests of male sex offenders that year. Only 1.1 percent of perpetrators of all forms of crimes against children are between 70 and 75 years old and 1.3 percent between 60 and 69. How many can there be who are older than 75?

It is true that sex offenders are more likely to recidivate than other criminals, Virginia M. Kendall and T. Markus Funk, Child Exploitation and Trafficking: Examining the Global Challenges and U.S. Responses 310 (2012), because their criminal behavior is for the most part compulsive rather than opportunistic. But capacity and desire to engage in sexual activity diminish in old age. Moreover, when released, a sexual criminal is subject to registration and notification requirements that reduce access to potential victims.

As for the benefits of a lifetime sentence in deterring other sex criminals, how likely is it that if told that if apprehended and convicted he would be sentenced to 50 years in prison the defendant would not have committed the crimes for which he's been convicted, but if told he faced a sentence of "only" 30 years he would have gone ahead and committed them? . . .

Sentencing judges are not required to engage in cost-benefit analyses of optimal sentencing severity with discounting to present value. Such analyses would involve enormous guesswork because of the difficulty of assessing key variables, including one variable that I haven't even mentioned, because I can't imagine how it could be quantified in even the roughest way — the retributive value of criminal punishment. By that I mean the effect of punishment in assuaging the indignation that serious crime arouses and in providing a form of nonfinancial compensation to the victims.

But virtually all sentencing, within the usually broad statutory ranges — the minimum sentence that the judge could have imposed in this case, by making the sentences on all four counts run concurrently, as he could have done, would have been 15 years, and the maximum sentence, by making them all run consecutively, as he could also have done, would have been 120 years — involves guesswork. I am merely suggesting that the cost of imprisonment of very elderly prisoners, the likelihood of recidivism by them, and the modest incremental deterrent effect of substituting a superlong sentence for a merely very long sentence, should figure in the judge's sentencing decision.

Notes and Questions

1. Incapacitation versus Deterrence: How does Judge Posner differentiate between the incapacitative effects and deterrent effects of a lengthy prison sentence?

2. Age and Imprisonment: Empirical evidence shows that the highest rates of commission of violent crimes occur when offenders are in their late teens and early twenties, and the highest commission rates of property crimes occur when offenders are in their late teens. Alfred Blumstein, *Prisons*, in Crime. 387 (J. Q. Wilson and J. Petersilia, eds; 1995). People begin to desist from violent crimes after age 22 and from property crimes after age 17. Michael

Tonry, Sentencing Matters (1996). Thus, incapacitating people beyond these ages may have little incapacitative effect. Would it make sense to release prisoners when they turn 30? Why or why not?

D. Crime in the U.S.

In 2011, both violent crime and property crime in the United States was at its lowest rate in 40 years. Over the 20 year period from 1991 to 2011, violent crime rates fell by 49 percent and property crime rates declined by 43 percent. This drop in crime was felt in all areas of the United States — both urban and rural — and it affected all demographic categories—male and female, young and old, and across all racial categories. Moreover, the drop in crime was significantly greater than that experienced by other countries for which comparable crime data is available.

Understanding Why Crime Fell in the 1990s:
Four Factors that Explain the Decline and Six that Do Not
Steven D. Levitt
18 The Journal of Economic Perspectives 163 (2004)
* * *

Six Factors that Played Little or No Role in the Crime Decline

The list of explanations offered as to why crime has fallen is a lengthy one. Here, I begin with six commonly suggested and plausible theories that in practice do not appear important in explaining the decline of crime rates.

1) The Strong Economy of the 1990s

The decade of the 1990s saw sustained economic growth. Real GDP per capita grew by almost 30 percent between 1991 and 2001. The annual unemployment rate fell from 6.8 in 1991 to 4.8 percent in 2001. If macroeconomic performance is an important determinant of crime rates, then the economy could explain falling crime.
* * *

Controlling for other factors, almost all of these studies report a statistically significant but substantively small relationship between unemployment rates and property crime.
* * *

Based on these estimates, the observed 2 percentage point decline in the U.S unemployment rate between 1991 and 2001 can explain an estimated 2 percent decline in property crime (out of an observed drop of almost 30 percent), but no change in violent crime or homicide.
* * *

2) Changing Demographics

The aging of the baby boomers represents a profound demographic shift. The elderly have extremely low rates of both offending and criminal victimization. In 2001, people over the age of 65 had per capita arrest rates approximately one-fiftieth the level of 15–19 year-olds. Perkins (1997), using NCVS data, reports that those over the age of 65 experience victimization rates for serious violent crime that are less than one-tenth of those of teenagers. Given that the share of the elderly population increased during the 1990s, a purely demographically driven decline in crime might be expected.

Two other concurrent demographic changes, however, counterbalance the crime-related benefits of an aging population. First, between 1990 and 2000, the black population rose from

12.1 percent to 12.9 percent. For reasons that are only partly understood, blacks have elevated victimization and offending rates relative to other Americans, particularly for homicide, where the differences across races are almost an order of magnitude. Second, in spite of the overall aging of the population, the echo of the baby boom is leading to a temporary increase in the number of teenagers and young adults. Between 1995 and 2010, the number of 15–24 year-olds is projected to increase by roughly 20 percent, and the share of the population between the ages of 15 and 24 will increase from 13.7 percent to 14.6 percent. (In comparison, 15–24 year-olds represented 18.7 percent of the population in 1980.) This age group has a greatly elevated involvement in crime. Indeed, many of the dire predictions for increased crime rates in the 1990s were based in part on the increasing number of adolescents.

Overall, these various demographic shifts probably had a slight ameliorating effect on crime.

* * *

Thus, demographic shifts may account for a little more than one-sixth of the observed decline in property crime in the 1990s, but are not an important factor in the drop in violent crime.

3) Better Policing Strategies

An enormous amount of media attention has focused on the policing strategies instituted in New York City under the leadership of Police Commissioner William Bratton and Mayor Rudy Guiliani. Their crime-fighting approach involved increased enforcement of nuisance activities like aggressive panhandling and better use of technology in identifying crime "hot spots." Other changes in policing strategy such as "community policing," in which the police attempt to work more closely as allies with communities rather than simply responding to emergency calls, were widely adopted in many other cities in the 1990s. In Boston, an innovative multiagency collaboration targeted gang violence.

* * *

In my opinion, there are reasons for skepticism regarding the claim that New York City's policing strategy is the key to its decline in crime. First, the drop in crime in New York began in 1990. Crime declines of roughly 10 percent across a wide range of offenses occurred in 1991 and 1992. Guiliani, however, did not take office until 1993, at which point Bratton was moved from the New York City Transit Police, where he had been using the same approaches, and appointed police commissioner. With the exception of homicide, which does decline sharply in 1993, the trend in crime shows no obvious break after Bratton is appointed.

* * *

[Moreover], given that few other cities in Table 2 instituted New York City–type policing approaches, and certainly none with the enthusiasm of New York City itself, it is difficult to attribute the widespread declines in crime to policing strategy. Even Los Angeles and Washington, D.C., two cities notorious for the problems they have experienced with their police forces achieved declines in crime on par with New York City once the growth in the size of New York City's police force is accounted for.

* * *

Thus, while the impact of policing strategies on crime is an issue on which reasonable people might disagree given the lack of hard evidence, my reading of the limited data that are available leads me to the conclusion that the impact of policing strategies on New York City crime are exaggerated, and that the impact on national crime is likely to be minor.

4) Gun Control Laws

There are more than 200 million firearms in private hands in the United States—more than the number of adults. Almost two-thirds of homicides in the United States involve a firearm, a fraction far greater than other industrialized countries. Combining those two facts, one might conjecture that easy access to guns in the U.S. may be part of the explanation for our unusually high homicide rates. Indeed, the most careful study on the subject finds that higher rates of handgun ownership, which represent about one-third of all firearms, may be a causal factor in violent crime rates.

There is, however, little or no evidence that changes in gun control laws in the 1990s can account for falling crime.

* * *

Given the realities of an active black market in guns, the apparent ineffectiveness of gun control laws should not come as a great surprise to economists. Even in the late 1980s, prior to the Brady Act, only about one-fifth of prisoners reported obtaining their guns through licensed gun dealers.

Gun buy-back programs are another form of public policy instituted in the 1990s that is largely ineffective in reducing crime. First, the guns that are typically surrendered in gun buy-backs are those guns that are least likely to be used in criminal activities. The guns turned in will be, by definition, those for which the owners derive little value from the possession of the guns. In contrast, those who are using guns in crimes are unlikely to participate in such programs. Second, because replacement guns are relatively easily obtained, the decline in the number of guns on the street may be smaller than the number of guns that are turned in. Third, the likelihood that any particular gun will be used in a crime in a given year is low. In 1999, approximately 6,500 homicides were committed with handguns. There are approximately 65 million handguns in the United States. Thus, if a different handgun were used in each homicide, the likelihood that a particular handgun would be used to kill an individual in a particular year is one in 10,000. The typical gun buy-back program yields fewer than 1,000 guns. Thus, it is not surprising that research evaluations have consistently failed to document any link between gun buy-back programs and reductions in gun violence.

More stringent gun-control policies such as bans on handgun acquisition passed in Washington, D.C., in 1976 and the ban on handgun ownership in Chicago in 1982 do not seem to have reduced crime, either. While initial research suggested a beneficial impact of the D.C. gun ban, when the city of Baltimore is used as a control group, rather than the affluent Washington suburbs, the apparent benefits of the gun ban disappear. Although no careful analysis of Chicago's gun ban has been carried out, the fact that Chicago has been a laggard in the nationwide homicide decline argues against any large impact of the law. From a theoretical perspective, policies that raise the costs of using guns in the commission of actual crimes, as opposed to targeting ownership, would appear to be a more effective approach to reducing gun crime.

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5) Laws Allowing the Carrying of Concealed Weapons

The highly publicized work of Lott and Mustard (1997) claimed enormous reductions in violent crime due to concealed weapons laws. The theory behind this claim is straightforward: armed victims raise the costs faced by a potential offender.

The empirical work in support of this hypothesis, however, has proven to be fragile along a number of dimensions.

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Ultimately, there appears to be little basis for believing that concealed weapons laws have had an appreciable impact on crime.

6) Increased Use of Capital Punishment

In the 1980s, a total of 117 prisoners were put to death in the United States. That number more than quadrupled to 478 in the 1990s. The debate over the effectiveness of the death penalty as a deterrent has been ongoing for three decades.

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Largely lost in this debate, however, are two important facts. First, given the rarity with which executions are carried out in this country and the long delays in doing so, a rational criminal should not be deterred by the threat of execution.

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Second, even taking as given very large empirical estimates of the seven murders deterred per execution or Mocan and Gittings (2003) estimate of six murders deterred per execution — the observed increase in the death penalty from 14 executions in 1991 to 66 in 2001 would eliminate between 300 and 400 homicides, for a reduction of 1.5 percent in the homicide rate, or less than one-twenty-fifth of the observed decline in the homicide rate over this time period. Moreover, any deterrent effect from such executions cannot explain the decline in other crimes. Given the way the death penalty is currently practiced in the United States, it is extremely unlikely that it exerts significant influence on crime rates.

Four Factors That Explain the Decline in Crime

Having argued that many common explanations for the decline in crime are unlikely to hold the true answers, I now turn to four factors that did, in my reading of the evidence, play a critical role in the crime reduction of the 1990s: the increasing number of police, the skyrocketing number of prisoners, the ebbing of the crack epidemic and legalization of abortion in the 1970s.

1) Increases in the Number of Police

Police are the first line of defense against crime. More than $60 billion is spent each year on policing.

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A number of recent studies have . . . reached the conclusion that more police are associated with reductions in crime.

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The number of police officers per capita, which is tracked by the FBI and reported annually in the Uniform Crime Reports, increased by 50,000–60,000 officers, or roughly 14 percent, in the 1990s. Although this increase was greater than in previous decades, it was smaller than might have been expected given the 1994 omnibus crime bill, which, by itself, had promised an extra 100,000 new police officers on the streets. Using an elasticity of crime with respect to the number of police of -0.40, the increase in police between 1991 and 2001 can account for a crime reduction of 5–6 percent across the board. The increase in police can thus explain somewhere between one-fifth and one-tenth of the overall decline in crime.

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2) The Rising Prison Population

The 1990s was a period of enormous growth in the number of people behind bars, as demonstrated in Figure 3. After many decades of relatively stable imprisonment rates, the prison population began to expand in the mid-1970s. By 2000, more than two million individuals were incarcerated at any point in time, roughly four times the number locked up in 1972. Of that

prison population growth, more than half took place in the 1990s. The increase in prisoners can be attributed to a number of factors, the most important of which were the sharp rise in incarceration for drug-related offenses, increased parole revocation and longer sentences for those convicted of crimes

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Using an estimate of the elasticity of crime with respect to punishment of -.30 for homicide and violent crime and -.20 for property crime, the increase in incarceration over the 1990s can account for a reduction in crime of approximately 12 percent for the first two categories and 8 percent for property crime, or about one-third of the observed decline in crime.

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3) The Receding Crack Epidemic

Beginning in 1985, the market for crack cocaine grew rapidly. Crack cocaine is produced by heating a mix of powder cocaine and baking soda. The resulting precipitate takes the form of airy nuggets. Extremely small quantities of this compound, when smoked, produce an intense, short-lived high. The emergence of crack cocaine represented an important development both because it facilitated the sale of cocaine by the dose for a retail price of $5–$10 and because the extreme high associated with crack proved to be popular among consumers. Crack frequently sold in open-air markets with youth gangs controlling the retail distribution. The crack cocaine trade proved highly lucrative for gangs, leading to violence as rival gangs competed to sell the drug.

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Beginning in 1985, homicide rates for black males under the age of 25 began a steep ascent, more than tripling in less than a decade, before once again falling dramatically to levels slightly above those of the pre-crack era. In stark contrast, the homicide rates of older black males continued on a long-term secular decline. Young white males also experienced a short-run increase in homicide in the late 1980s, but both the base rates and the increases for whites are much lower. The concentration and timing of the homicide spike among the young black males, which coincides with the rise and fall of the crack market, is suggestive of crack cocaine playing a critical role.

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As crack ebbed from 1991 to 2001, young black males experienced a homicide decline of 48 percent, compared with 30 percent for older black males, 42 percent for young white males and 30 percent for older white males. Depending on which control group one views as most reasonable, the estimated impact of crack on homicides committed by young black males ranges from 6 to 18 percent. Given that young black males commit about one-third of homicides, this translates into a reduction of 2–6 percent in overall homicides in the 1990s due to crack receding.

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4) The Legalization of Abortion

The U.S. Supreme Court's *Roe v. Wade* decision in 1973 may seem like an unlikely source of the decline in crime in the 1990s, but a growing body of evidence suggests an important role for legalized abortion in explaining falling crime rates two decades later. The underlying theory rests on two premises: 1) unwanted children are at greater risk for crime, and 2) legalized abortion leads to a reduction in the number of unwanted births.

Donohue and Levitt (2001) report a number of pieces of evidence consistent with a causal link between legalized abortion and crime, a hypothesis that to my knowledge was first articulated in Bouza (1990). The five states that allowed abortion in 1970 (three years before *Roe*

v. Wade) experienced declines in crime rates earlier than the rest of the nation. States with high and low abortion rates in the 1970s experienced similar crime trends for decades until the first cohorts exposed to legalized abortion reached the high-crime ages around 1990. At that point, the high-abortion states saw dramatic declines in crime relative to the low-abortion states over the next decade. The magnitude of the differences in the crime decline between high- and low-abortion states was over 25 percent for homicide, violent crime and property crime. For instance, homicide fell 25.9 percent in high-abortion states between 1985 and 1997 compared to an *increase* of 4.1 percent in low-abortion states. Panel data estimates confirm the strong negative relationship between lagged abortion and crime. An analysis of arrest rates by age reveal that only arrests of those born after abortion legalization are affected by the law change.

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Extrapolating the conservative estimates of Donohue and Levitt (2001) to cover the period 1991–2000, legalized abortion is associated with a 10 percent reduction in homicide, violent crime and property crime rates, which would account for 25–30 percent of the observed crime decline in the 1990s.

Notes and Questions

1. Abortion in Romania: In 1966, dictator Nicolae Ceausescu declared abortion and family planning illegal in Romania. What impact would you expect this change to have on crime in Romania? When would you expect the changes to occur?

2. Abortion, Lead Paint, and Fetal Alcohol Syndrome: According to Levitt, the legalization of abortion in 1973 accounts for an amazing 25-30 percent of the crime decline in the 1990s. Are there any other significant changes in the mid-1970s that could explain part of this decline? Hint: The federal government banned the use of lead paint in 1978 and researchers established a link between maternal alcohol abuse and a specific pattern of birth defects that results in weakened impulse control (fetal alcohol syndrome) in the early 1970s.

3. Bullet Control, not Gun Control: Levitt states that "[f]rom a theoretical perspective, policies that raise the costs of using guns in the commission of actual crimes, as opposed to targeting ownership, would appear to be a more effective approach to reducing gun crime." What kinds of policies might be effective?

4. Drugs and Crime: The relationship between illegal drugs and crime is a complicated one. At first glance, one might think that law enforcement efforts to reduce the supply of drugs will decrease crime because drug addicts often commit crime. However, basic economics tells us that any restriction in supply will increase the price of illegal drugs. The increased price will cause consumers whose demand for drugs is elastic to purchase fewer drugs. However, many drug users are addicts whose demand for drugs is inelastic; many of these addicts will turn to crime in an effort to pay the higher prices for drugs. Moreover, as drug prices increase, drug markets become more lucrative, increasing incentives for sellers to engage in crime to increase their market share. Prohibition increased the price of alcohol and made it worthwhile for Al Capone and others to resort to violence to control alcohol markets. Jeffrey Miron, *Violence and the U.S. Prohibitions of Drugs and Alcohol*, 1 American Law and Economics Review 78 (1999). Similarly, current efforts to combat drug use increase incentives for those involved in the drug trade to commit more crime as they fight over control of more lucrative drug markets. See, e.g. Gary S. Becker, Kevin M. Murphy, & Michael Grossman, *The Market for Illegal Goods: The Case of Drugs*, 114 Journal of Political Economy 38 (2006); Jeffrey Miron, *Do Prohibitions*

Raise Prices? Evidence from the Market for Cocaine, 85 Review of Economics and Statistics 522 (2003).