Handbook on the Economics of Crime

Edited by **Bruce L. Benson** and **Paul R. Zimmerman**

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Bruce L. Benson

DeVoe Moore and Distinguished Research Professor of Economics, Economics Department Chair and Courtesy Professor of Law, Florida State University, USA

Paul R. Zimmerman

Economist in Antitrust I, United States Federal Trade Commission, USA

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Contributors

Bruce L. Benson, Chair, Department of Economics, DeVoe Moore Professor, Distinguished Research Professor and Courtesy Professor of Law, Florida State University

Paul R. Blackley, Professor of Economics, Le Moyne College

Erwin A. Blackstone, Professor of Economics, Temple University

Nicholas A. Curott, Department of Economics, George Mason University

Isaac Ehrlich, SUNY Distinguished Professor, UB Distinguished Professor, Chair of the UB Economics Department, Melvin H. Baker Professor of American Enterprise, State University of New York at Buffalo, and Research Associate, NBER

Simon Hakim, Director, Center for Competitive Government (CCG), Professor of Economics, Temple University

Paul Heaton, Associate Economist, RAND Corporation

Eric Helland, Robert J. Lowe '62 Endowed Professor of Economics and George R. Roberts Fellow, Claremont McKenna College

Keith Ihlanfeldt, DeVoe Moore Eminent Scholar and Professor of Economics, Director of the DeVoe Moore Center, Florida State University

Ted Joyce, Professor of Economics and Finance, Baruch College and Graduate Center, City University of New York and Associate, NBER

Jonathan Klick, Professor of Law, University of Pennsylvania Law School

Allen K. Lynch, Associate Professor of Economics and Quantitative Methods, Mercer University

G.P. Manish, Department of Economics, Suffolk University

Thomas B. Marvell, Justec Research

Thomas Mayock, Department of Economics and DeVoe Moore Center, Florida State University

Fred S. McChesney, Class of 1967 James B. Haddad Professor of Law, Director of the Law and Business Program and Professor in the Department of Management and Strategy, Kellogg School of Management, Northwestern University

Justin McCrary, Assistant Professor, School of Law, University of California, Berkeley

Carlisle E. Moody, Professor of Economics, College of William and Mary

David B. Mustard, Associate Professor of Economics, Terry College of Business, University of Georgia

Malavika Nair, Department of Economics, Suffolk University

Benjamin Powell, Assistant Professor, Department of Economics, Suffolk University

Edward M. Shepard, Professor and Chair, Department of Economics, Le Moyne College

Edward Peter Stringham, Hackley Endowed Chair for Capitalism and Free Enterprise Studies, Fayetteville State University, North Carolina

Alexander Tabarrok, Bartley J. Madden Chair in Economics at the Mercatus Center, George Mason University and Director of Research, The Independent Institute

Helen Tauchen, Professor of Economics, University of North Carolina at Chapel Hill

Douglas M. Walker, Associate Professor of Economics, Department of Economics and Finance, College of Charleston

Paul R. Zimmerman, Economist, US Federal Trade Commission, Bureau of Economics – Antitrust I

Preface: background and overview*

Bruce L. Benson and Paul R. Zimmerman

BACKGROUND

Economists have been thinking about crime for centuries. Adam Smith, in his 1763 *Lectures on Jurisprudence*, explained that 'the disorders in any country are more or less according to the number of retainers and dependants in it'. Smith was referring to the 'idle and luxurious life' enjoyed by servants that 'renders them altogether depraved both in mind and body' and, as a result, both unwilling and unable to survive except by 'crimes and vices' when released by their masters. The solution to this problem, according to Smith, was to create an environment that was conducive to a free and competitive economy, as this will 'give the poorer sort better wages' as well as independence. The hypothesized relationship between labor markets and crime suggested by Smith has been extensively explored in the modern literature, as explained by David Mustard in Chapter 14 of this volume.

Cesare Beccaria's essays on *Crime and Punishment* (1964 [1764]) appeared about a year after Smith's *Lectures*. Beccaria was a jurist in Milan who also studied and wrote about criminology and economics. He assumed that individuals choose to commit crimes when the expected benefits are greater that the expected costs, and contended that punishment could deter crimes. The deterrence hypothesis provides the focus of much of the modern economics of crime literature. Part I's Chapters 1, 2, 3 and 4, as well as Chapters 6, 7 and 16, in this volume all address theoretical and/or empirical issues about deterrence relationships. Beccaria was an advocate for reduced severity of punishment, however, and particularly opposed capital punishment. For punishment to be effective, he contended, it should 'never be an act of violence committed by one or many against a private citizen'. He also maintained that the harshest penalties must be moderate, 'proportionate to the crime, and established by law'. The concept of marginal deterrence is evident in his writings. Beccaria also advocated a presumption-of-innocence standard, and protection of civil liberties. One reason for Beccaria's arguments in favor of presumption of innocence, civil liberties and moderating punishment is that he was also a critic of the criminal law process, especially as it involved the use of torture. The behavior of legislators, police, judges, prosecutors, corrections officials, victims and other participants in the criminal justice system or their impacts on the performance of the criminal law process itself still has not attracted much attention by economists, relative to the studies of the behavior of criminals. Chapters 5 through 10 in Part II consider some of the important issues about the workings of the criminal justice system, however, and illustrate the kinds of questions economists can consider.

Jeremy Bentham was one of the people influenced by Beccaria's arguments and analysis. Bentham called the rational choice theory proposed by Beccaria the 'hedonic calculus' and concluded, like Beccaria, that punishment should be designed to convince individuals that criminal activity was not worth the cost. He also opposed capital punishment,

however, and instead, in his review of the Hard-Labor Bill in 1778, he argued for a 'general plan of punishment . . . in which solitary confinement might be combined with labor'. William Paley agreed, in *The Principles of Moral and Political Philosophy* (1785), that solitary confinement did provide the greatest opportunity of 'reform' for criminals, although he contended that the length of confinement should be measured, not by time, but by the 'quantity of work' a prisoner produced, because this would 'excite industry, and . . . render it more voluntary'. Paley also defended the use of capital punishment, in contrast to Bentham. In fact, he contended that capital punishment was such a powerful deterrent that many different types of crime should be swept 'into the net' of capital offences. 'Paley's Net', as it came to be known, was to be executed only in exceptional cases, however, so that 'few actually suffer death, whilst the dread and danger of it hang over the crimes of many'. Imprisonment with hard labor does not get much attention or support today, but capital punishment may be even more controversial than it was 220 to 230 years ago. The current debate among economists is detailed in Chapter 16.

Edwin Chadwick, a nineteenth-century economist and utilitarian reformer, focused on the allocation of criminal justice resources (circa 1829–41). He described the allocation process as an evolved publicly provided good with characteristics that would be labeled today as open-access or common-pool problems (Ekelund and Dorton, 2003). Chadwick's primary goal was crime prevention: 'A good police would be one well-organized body of men acting upon a system of precautions, to prevent crimes and public calamities; to preserve public peace and order.' Given this goal and his view of the criminal justice system as a common-pool process, he presented an argument for restructuring the institutions of the entire system to relieve what Hardin would describe as the 'tragedy of the commons' over 100 years later. He believed that the system misplaced incentives for crime prevention, creating dissipations due to the common access to policing and other criminal justice services, so he recommended a number of interrelated incentive alterations for both enforcement and penal systems. Chapter 8 considers Chadwick's arguments as they apply to modern-day policing and points to some of the implications for testing deterrence hypotheses regarding police resources.

Surprisingly, economists' interest in crime and criminal justice declined in the late nineteenth and early twentieth century. The last four decades have seen a dramatic revival of interest in and analysis of crime by economists, however. This revival is generally attributed, appropriately, to Gary Becker's seminal 1968 article.[1] Like his classical school predecessors, Becker assumed that potential criminals respond rationally and consistently to incentives: crime arises from the optimizing decisions of rational economic agents who maximize expected utility functions that take as arguments the expected return from criminal participation (both monetary and psychic rewards), the probability of being apprehended for an offence, and the 'monetary equivalent' of the severity of punishment. This means that a primary issue of interest is whether individuals considering criminal activity can be deterred from offending by increases in the probability of being caught and punished and/or increases in the severity of punishment if caught.

Becker did not try to specify what many social scientists might consider to be the ultimate causes of crime (i.e. the 'preferences' that individuals have, whether 'normal' or 'abnormal'). Instead, he identified factors that structure the costs of and returns to criminal activity in order to predict the incidence of crime. That is, he explained observed

criminal behavior directly through the examination of social and economic variables rather than indirectly as a result of the psychological makeup of potential criminals. Becker focused on determining the optimal enforcement of laws, and the use of optimal sanctions to deter crime.

Becker's foundational work was reinforced by Isaac Ehrlich (1973), who expanded the scope of the relevant incentives facing potential criminal offenders. He emphasized the potentially important impact of alternatives to crime in the form of legal employment. As in an occupational choice model, individuals derive income from time spent in either legitimate or illegitimate (i.e. criminal) activities. Ehrlich modeled the supply of offences wherein decision-makers consider the tradeoffs between these alternatives based on the expected costs and benefits of each. One of the costs of illegitimate activities is expected punishment, so the probability of punishment (arrest, prosecution, conviction) and the severity of punishment are still very important considerations that can deter crime. The opportunity for legal employment through economic expansion, job availability, wage levels, perhaps the availability of education or training and so on can reinforce the deterrence effect, offsetting incentives to commit crimes. From a policy perspective, the relative impacts of the 'negative' incentives such as an increase in the probability and/or severity of punishment, and the 'positive' incentives that arise through improved legitimate opportunities, come into play, as Adam Smith suggested.

Not only did Ehrlich (1973) expand on Becker's theoretical construction; he also offered the first of what would soon be an exploding number of empirical studies. He used a repeated cross-section of state-level data and employs two-stage least squares (2SLS) and seemingly unrelated regressions (SUR) to account for endogeneity, and modeled all seven crime rates reported by the FBI's Uniform Crime Report. Crime rates were positively related to both the median state income and the percentage of families below one-half of the median income, but unemployment was not consistently related to crime.

He also examined the deterrent impact of the likelihood (and severity) of punishment, finding that crime rates vary inversely with the probability of apprehension and punishment by imprisonment. Indeed, the so-called crimes of passion (murder, rape, assault) responded just as strongly to the expected costs of punishment as did property crimes.

The economic approach to crime was not accepted by many criminologists, sociologists and other social scientists who did not believe that deterrence mattered, and who focused on community (or social) forces as determinants of crime rather than economic opportunities. Ehrlich's empirical findings set off a substantial interdisciplinary controversy, as dueling models continue to be produced and published. The explosion of research on the economics of crime that followed has been phenomenal. This volume offers a number of chapters that review, and frequently expand on, various parts of this now huge literature.

OVERVIEW

Part I examines some of the important theoretical and empirical work that has been produced since Becker (1968) and Ehrlich (1973) published their seminal articles establishing the foundation for the economics of crime literature. Isaac Ehrlich has continued to focus much of his research on the economics of crime, so, appropriately, his chapter

appears first. He discusses developments in the literature, focusing on what he calls the 'market, or equilibrium, model of crime'. Helen Tauchen focuses on the empirical literature on the supply of crime instigated by Ehrlich (1973). As suggested above, there is a very large literature offering empirical models of the supply of crimes, and consequently many reviews have been published that focus on this literature. This chapter focuses on the most recent literature, and emphasizes the theoretical, data and econometric problems that arise in estimating the models and the alternatives followed in addressing these issues. Alex Tabarrok, Paul Heaton and Eric Helland offer information on data available for the study of crime, and then expand on the problems with and uses of data. Chapter 4 returns to theoretical issues. Justin McCrary explores and extends the new literature on dynamics and crime. He shows that a number of interesting dynamic features emerge when this approach is applied to the problem of minimizing the present discounted value of crime by adjusting policing and sentence lengths appropriately, currently and in the future.

Part II moves to economic analysis of the components of the criminal justice system and the role of and/or impact of these institutions. In Chapter 5, Nick Curott and Ed Stringham discuss the historical development of criminal justice institutions in England. In doing so, they dismiss the public-goods explanation for public criminal justice institutions and discuss the recent 'privatization' trends in crime control. Jon Klick and Alex Tabarrok consider the other side of the argument in the next chapter, contending, primarily from an empirical perspective, that the deterrence impact of public policing and imprisonment means that both are undersupplied. Thomas Marvell reinforces Klick and Tabarrok in Chapter 7 with regard to imprisonment. After a very detailed empirical examination of the relationship between prison population and crime, he concludes that the elasticity of crime with respect to prison population is around 1.0, and that there is a substantial spillover free-rider effect as increased prison populations in one state reduce crime in neighboring states. Chapter 8 considers the allocation of policing, concluding, as Chadwick did well over a century ago, that police resources can be characterized, at least in part, as a free-access common pool that gives police considerable power to choose among competing demands. In this chapter, Bruce Benson also reinforces the implications identified by Curott and Stringham in Chapter 5 that the criminal justice process is significantly influenced by political forces, including the political demands of the police themselves, and the demand for criminalization of actions such as drug consumption. Chapters 9 and 10 consider some of the consequences of the discretion that police (and other bureaucrats) have and the political influence that law enforcement interests wield. Specifically, Fred McChesney proposes an economic theory of corruption in Chapter 9 that emphasizes that the discretion that bureaucrats, including police, have can be understood as the power to allocate property rights, and this means that these bureaucrats can attempt to capture the benefits (or rents) associated with these rights, either by consuming them directly or by selling them. He contends that the economic model of crime explains the choice to be corrupt or not, but that politicians and interest groups, including bureaucracies, can also make corrupt acts legal, reducing the expected cost of corruption. In the context of their examination of the literature on drugs and crime in Chapter 10, Ted Shepard and Paul Blackley consider some of the consequences of politically created crimes and the allocation of criminal justice resources to the control of those crimes. Importantly, they show that allocating more police resources

to enforce drug laws reduces the capacity to control non-drug crimes, so property and violent crimes increase.

Part III of this volume turns to various relationships between crime and the economy. Allen Lynch begins with a review of the substantial economic literature on estimating the cost of crime. Chapter 12 focuses on one of the important consequences of crime: Keith Ihlanfeldt and Tom Mayock provide the first critical review of the literature dealing with the impact of crime on property values, and then they exploit a unique data set to estimate models that allow them to address the endogeneity of crime and to overcome other specification errors that have plagued the literature. Next, Ben Powell, G.P. Manish and Malavika Nair examine the literature on the impact of corruption and crime on economic growth. They consider the possibility that corruption and crime may actually enhance growth in a second-best sense, in that both can involve avoidance of laws that limit the potential for growth. The international variations in the definition of crimes and the quality of data make it difficult to find any consistent evidence on the crime–growth relationship, and the literature on corruption and growth is mixed, although including measures of institutional quality does suggest that corruption can enhance growth when institutions impose significant limitations on freedom of enterprise. David Mustard's contribution in Chapter 14 considers the literature on the relationship between labor markets and crime that has developed since Ehrlich focused on such issues in his supply-of-offenses model. He explains that empirical tests of the hypothesis proposed by Adam Smith and raised again in the foundational work on the economics of crime, is very mixed. However, the last ten years have witnessed substantial innovations in methodology and improvements in data that have made it possible to identify this relationship. In particular, studies using panel data consistently support the expected impact of labor market conditions on crime. The last chapter in Part III explores the substantial market for private security. Erwin Blackstone and Simon Hakim observe that annual growth in employment of private police is 50 percent higher than the growth of total employment. They describe the activities and factors influencing changes over time in private policing, evaluate private security performance, and consider the question whether private police are a substitute or complement to public police.

The volume's final part focuses on some of the controversial issues in the economics of crime literature. It begins in Chapter 16 with an exploration of the issue that Bentham and Paley disagreed about, and that continues to be hotly debated to this day: capital punishment. There was an intense reaction to Ehrlich (1975) when he reported empirical evidence of a deterrent effect of capital punishment, but with recent research readdressing the issue with improved empirical methodology and additional data, the issue is again being debated. Paul Zimmerman focuses on the most recent literature. He also offers new empirical estimates in order to address the 'most appropriate' definition of the execution risk, and to examine the influence of multicollinearity. Carl Moody explores the guns and crime relationship in Chapter 17, another issue that has been extremely controversial both in the political arena and in the academic literature. After considering the evidence and providing additional empirical analysis, Carl concludes that the correlations between guns and crime reflects a causal relationship from crime to guns. Chapter 18 considers the controversy caused by John Donohue III and Steven Levitt (2001) when they contended that legalization of abortion in the 1970s explained up to 50 percent of the decline in crime that occurred in the 1990s. Ted Joyce reviews the extensive empirical literature that has

been produced in fewer than ten years, and concludes that the most credible tests of the Levitt–Donohue contention do not support the causal connection between abortion and crime. Finally, Doug Walker explores the growing literature on the relationship between casinos and crime. While the presumption is that casino gaming in a location causes crime to be higher in that location, the growth in the numbers and dispersion of casinos in the USA over the last two to three decades has raised the relevance of the issue and attracted considerable attention from economists. It seems clear that crimes in casino jurisdictions will increase, as tourists are drawn to casinos. A careful review of the resulting studies reveals significant measurement problems and suggests that an understanding of the relationship between casinos and crime remains elusive because of the confounding fact that tourism in general may be the cause of increased crime often associated with casinos.

Many of the contributors to this volume conclude that the issues they focus on are still not resolved, so we can anticipate continued expansion in the economic literature on crime. These contributions also provide suggestions about and guidance for future research. A short conclusion suggests some other important issues about crime and criminal justice that deserve additional attention from economists.

NOTES

* The views expressed herein, and in all subsequent chapters and portions of this volume, are those of the respective authors and should not be regarded as reflecting the opinions of the US Federal Trade Commission, its Commissioners, or any other of its staff.

1. Other economists also published interesting research on crime at about the same time, such as Fleisher (1966) and Rottenberg (1968).

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Bruce Benson and Paul Zimmerman

Contents

PART I

THEORETICAL AND EMPIRICAL DEVELOPMENTS: BECKER, EHRLICH AND BEYOND

1 The market model of crime: a short review and new directions*

Isaac Ehrlich

INTRODUCTION

Historically, the literature on the association between the law, including legal infractions, and the economy was confined to the impact of the legal and regulatory systems on economic activity. Milestones have been the works of Ronald Coase and the mentoring of Aaron Director. Laws and regulations and the degree of their enforcement were taken by and large to be exogenous to the economic system.

The modern literature on the economics of crime, which had its origins in the early 1960s, when the level of criminal activity rose significantly to attract serious academic attention by economists (and more generally, the 'law and economics' movement that followed it), brought a new dimension to the literature by proposing that the incidence of crime as well as the degrees to which laws and regulations are enforced can themselves be treated as endogenous outcomes of rational choices on the part of individuals and law enforcement agencies. Early contributions were made by Fleisher (1966) and Rottenberg (1968). A key turning point was Gary Becker's (1968) seminal work on crime and punishment, and the NBER Law and Economics project of the late 1960s and 1970s, in which I had the privilege to play a part. Becker's work focused on the optimal enforcement of laws, and the use of optimal sanctions to deter crime. My contribution was the modeling of the 'supply of offenses' and its linkage to the law enforcement system, in an attempt to explain diversity in the incidence of crimes of different types in cross-section and over time. Bill Landes was analyzing another component of that system – the courts. The NSF grants that financed that NBER project were initially based on these works. Richard Posner joined the group with a focus on the economics of administrative agencies. He has gone on to pursue the application of the economic approach to all facets of the law.

This short chapter attempts to offer some insights into the continuous evolution of the economics of crime and law enforcement as a kind of guide for future developments. In this context it is designed to cover the following issues: the first section outlines a few selected stages in the evolution of the economic approach to crime and law enforcement. The second section offers a simple exposition of what I call the 'market, or equilibrium, model of crime'. The third section illustrates some natural applications and extensions of the market model, and the fourth offers a review of the literature that has so far dealt with components of the model. The fifth section offers a brief review of empirical studies concerning these components, including related methodological issues, and the evidence gathered from these studies. The sixth section discusses some of the policy implications offered by this evidence, and the seventh outlines some future directions of the literature. The analysis concludes with a brief summary.