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Thomas J. Miles
Thomas.Miles@chicagounbound.edu

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Empirical Economics and the Study of Punishment and Crime

Thomas J. Miles

Upon first impression, economics might appear to be the discipline that has the least to contribute to the study of punishment and crime. A discipline traditionally concerned with financially-motivated market activity might seem to have little relevance to punishment and crime, subjects that usually involve issues of moral culpability. However, economics is an approach to understanding a wide range of human behaviors, including crime and the imposition of punishment. This article argues that economics, especially empirical economics, has much to contribute to the study of punishment and crime. It focuses on three features of economics that are especially salient: (1) the economic conception of punishment and crime; (2) the empirical methodologies of economics; and (3) the normative metric of efficiency.

First, economics provides a crisp model of how an individual behaves in the presence of legal rules and particularly how the individual responds to the presence of criminal punishments. Economics uses as its central conceptual framework decision-making by individuals. This framework comports with common intuitions about human behavior. Most of us do the best we can with what we have, or in the parlance of economics, we maximize our utility subject to constraints. In the context of criminal behavior, gains from criminal activity may increase utility but the threat and actual imposition of punishment are potentially significant constraints on the decision to participate in crime. This conception of behavior places relatively little emphasis on the social processes and psychological context of offending. In its ab-

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1 Olin Fellow in Law and Economics, University of Chicago Law School. B.A., Tufts University; Ph.D. (Economics), University of Chicago; J.D., Harvard Law School. The author thanks participants in the symposium for helpful comments.


straction from these factors, economics does not imply that they are unimportant; in fact, economists are increasingly incorporating such factors into their formal, mathematical models. Rather, by examining factors that are not context-specific, economic analysis attempts to make predictions about the impact of crime-control policies that are sufficiently general to be valuable to a broad range of policymakers.

A second advantage of economics is the relative rigor of its empirical analysis. A priority in economists' empirical analyses is to differentiate correlation from causation because economics assumes human behavior is rational or purposeful. A convincing test of the economic model shows more than mere correlations. A convincing test would not just identify that incentives and behavior appear to move together. It would confirm or refute that a change in a particular incentive caused a movement in observed behavior. Identifying the direction of causal flow requires considerable care in excluding the possibility that some unmeasured third factor accounts for the observed phenomenon. The distinction has import for more than just academics. Causal connections, and particularly the causes of crime rather than its mere correlates, are the relationships of interest for the appropriate design of public policy.

Third, economics provides a clear metric for evaluating the success of a criminal justice policy. The normative criterion of economics is efficiency, and efficiency implies an optimal level of law enforcement. In practice, this objective is implemented by comparing estimates of the costs and benefits of a policy.

This paper describes how these aspects of economics—testable implications, attention to issues of causation, and an evaluation of costs and benefits—are salient to understanding punishment and crime. Part I describes the economic model of criminal behavior and discusses how economists have attempted to evaluate or test the model empirically. In particular, it describes how economists have given special attention to issues of causation in measuring the effect of incarceration rates on crime rates. Previous researchers, who did not pay particular attention to causation, erroneously concluded that incarceration has little impact on crime rates. This section discusses how one economist

used "natural experiments" to identify the direction of causal flow. It also describes how economists are beginning to explore whether deterrence or incapacitation is the primary mechanism through which incarceration reduces crime.

Part II focuses on another criminal justice institution, one that more overtly utilizes condemnation of the offender. It examines the television program *America's Most Wanted*. Critics of the program argue that it promotes unnecessarily vindictive attitudes, while program producers contend that it provides a social benefit as it contributes to hastening the apprehensions of fugitives. This section describes how an economist assessed this claim. Empirical economics contributes to this evaluation by providing measurement of the consequential aspects of the program. Although empirical economics cannot measure all of the relevant quantities, it can assess this crucial one.

I. THE ECONOMIC ANALYSIS OF CRIME

A. The Economic Model of Crime

The modern economic approach to criminal behavior began with Gary Becker's seminal article, which furnished a formal economic model of illegal behavior.\(^4\) In Becker's model, potential offenders are rational or purposeful actors who compare the expected costs of criminal activity to the expected benefits.\(^5\) When the latter exceeds the former, the actor commits crime.\(^6\) This conception of criminal activity contrasts with the views of crime prevalent in criminology. Criminologists have theorized crime alternatively as biologically determined,\(^7\) or the consequence of a discrepancy between societal goals and the means available to achieve them,\(^8\) or a learned or culturally transmitted activity.\(^9\) Economics often abstracts from the biological, psychological, and social processes influencing crime and conceives of crime as the result of individual choice.\(^10\) However, some economists in recent

\(^5\) Id at 209.
\(^6\) Id at 176–79.
\(^7\) See, for example, William H. Sheldon, *The Varieties of Human Physique* 254–59 (Harper 1940).
\(^8\) See, for example, Robert K. Merton, *Social Theory and Social Structure* 176–94 (Free Press 1957).
\(^9\) See, for example, Edwin Sutherland, *The Professional Thief* (Chicago 1937).
\(^10\) See Becker, 76 J Polit Econ at 170 (cited in note 4) (suggesting that an economic approach "can dispense with special theories of anomie, psychological inadequacies, or
years have begun to develop models analyzing the role of social effects on criminal activity. These models do not abandon the rational actor conception of criminal behavior; rather they attempt to provide a richer account of the incentives and constraints facing the decisionmaker.

In the economic model of crime, policymakers have two mechanisms by which to reduce criminal activity: the probability of apprehension and the magnitude of the sanction. Crime reduction is costly for society because the probability of apprehension requires employing police and prosecutors. In the canonical model, the sanction is envisioned as a fine, rather than imprisonment, and fines, as pure transfers, require no expenditure of resources. However, other punishments, such as imprisonment, are readily incorporated into the model. Economists have developed numerous extensions of the basic economic model that include a wide range of complications, such as limited information, enforcement error, risk preferences, and the corruption of law enforcers. However, a central insight of the model is that criminal sanctions reduce crime through deterrence. A larger expected sanction reduces the attractiveness of criminal activity relative to legitimate pursuits. Although some economists have extended the model to incorporate incapacitation, criminal sanctions in the traditional formulation of the economic model operate through the potential offender’s ex ante decisionmaking rather than ex post constraints on his opportunity set.

The economic model of crime describes not only the choice of the individual offender; it also makes recommendations about the crime-control policies that society should adopt. Just as an individual maximizes utility subject to constraints, society in the model seeks to minimize the sum of expected losses from crime.


\textsuperscript{12} See Becker, 76 J Polit Econ at 177–78 (cited in note 4).

\textsuperscript{13} See id at 174.


\textsuperscript{15} See, for example, Steven Shavell, \textit{A Model of Optimal Incapacitation}, 77 Am Econ Rev 107 (1987).
and the costs of law enforcement. In addition to generating recommendations, some implications of the efficiency analysis of public law enforcement are consistent with existing patterns of punishment. First, the cost difference in the two components of the expected punishment implies an optimal or efficient structure of sanctions in the economic model. For a given level of deterrence, an efficient or optimal sanction is the combination of a probability of apprehension and a magnitude of the sanction that minimizes social costs. If policing is costly but fines are not, economics predicts that larger fines should be substituted for a higher risk of apprehension.\(^\text{16}\) Similarly, if two types of punishment are available rather than just one, and they differ in their costs of imposition, efficiency is enhanced by substituting the less costly penalty for the more costly one.\(^\text{17}\) For example, fines could be used instead of incarceration.

A second implication of the economic model is that the goal of public law enforcement is not the elimination of criminal activity altogether. When greater penalties reduce crime by more than the social cost of imposing them, the economic model predicts that society may gain from the imposition of greater penalties. Conversely, when the benefit of crime-reduction is less than the cost of imposing a particular penalty, an economic analysis recommends forgoing the penalty. For example, when imprisoning more offenders produces a benefit of reduced crime in excess of the cost of the higher incarceration rate, the economic prescription is that society should incarcerate more frequently. But, if the costs of incarceration produce relatively modest benefits of crime reduction—or none at all—an economic analysis suggests that society should reduce the frequency of incarceration.

This equalization of the costs and benefits of a particular crime-control policy has a broader implication about the nature of public law enforcement. It suggests that society should expend resources on crime-fighting policies up to the point at which the benefits they generate in terms of reduced crime roughly equal the costs of the policies. An implication of this prediction, one that is often surprising to the layperson, is that public law en-

\(^{16}\) But see Becker, 76 J Polit Econ at 180–85 (cited in note 4) (discussing the possibility of reducing crime by minimizing the probability of detection and maximizing the magnitude of the sanction). See also A. Mitchell Polinsky and Steven Shavell, The Optimal Tradeoff Between the Probability and Magnitude of Fines, 69 Am Econ Rev 880 (1979) (incorporating risk preferences into the analysis of optimal sanctions).

\(^{17}\) Becker, 76 J Polit Econ at 180–85 (cited in note 4).
enforcement does not seek to eliminate all criminal activity. As a theoretical matter, society could likely eradicate crime entirely by pouring vast resources into the complete enforcement of all criminal laws. But, at some point, the cost of eliminating the marginal (and hence minor) crime would likely exceed the benefit of doing so. This implication explains why society expends enormous resources on combating crime, while at the same time a positive crime rate persists.

Third, economics predicts that punishments increase with the severity of the offense. The punishment for murder, for example, is greater than that for petty larceny. When the imposition of punishments, such as imprisonment, is costly, the assignment of a large punishment for an offense inflicting a small amount of harm would be socially wasteful. Conversely, when a punishment is too small to deter a large harm, society could gain by imposing a larger sanction. The punishment for a particular offense therefore corresponds roughly to the harm it inflicts.

A difficulty with the escalating scale of sanctions is the incentive for deterrence on the margin. If the penalty for a particular offense is very large, it may dissuade its commission ex ante. Yet, when the difference between the expected punishment for one offense and a second, more severe offense is small, a criminal who chooses to undertake the first offense has little reason to refrain from also committing the second. The escalating scale of punishments in this circumstance provides only a weak incentive for an offender to forgo the second offense. The difficulty of structuring penalties in this circumstance is known as the problem of arranging “marginal deterrence.”

In sum, the economic model is “economic” in two senses. First, it is economic in that its actors are purposeful or rational decisionmakers who maximize their utility and in doing so, respond to the incentives created by criminal punishments. Second, the model is economic in that it employs efficiency as a metric for evaluating criminal law and criminal justice policies. The evaluative criterion has normative content. But, it retains some explanatory power in that it accords largely with the sorts of in

18 See George J. Stigler, The Optimum Enforcement of Laws, 78 J Polit Econ 526, 526–27 (1970) (noting that because society only enforces its laws to the extent that it can afford to, it must forego “complete” law enforcement).

19 See id at 527–29 (describing the problem of marginal deterrence and how it acts as a limitation on punishment); Steven Shavell, A Note on Marginal Deterrence, 12 Intl Rev L & Econ 345 (1992) (elaborating upon Stigler’s theory of marginal deterrence and concluding that marginal deterrence only requires sanctions to rise with harms when enforcement is of a general nature).
criminal punishments that society imposes. The next section describes how economists have attempted to confirm or refute the behavioral model of economics by examining patterns of offending.

B. Empirical Evaluation of the Economic Model

Much of the empirical evaluation of the economic model of crime analyzes whether increases in expected sanctions reduce the incidence of crime. Empirical analyses remain focused on this fundamental question partly because of the difficulty in distinguishing correlation and causation. A correlation means that two variables tend to move together. The co-movement of two variables does not necessarily imply that one variable causes the other because some unobserved third variable may account for their co-movement. For example, automobile traffic on weekends in Las Vegas, Nevada is usually heavy. Weekend visitors to Las Vegas typically depart with significantly less money than they possessed upon arrival. In Las Vegas, bad traffic therefore correlates with monetary losses. Nonetheless, the traffic jams do not cause visitors to lose their money.

Even when two variables are causally related, a correlation does not reveal the direction of causation. For example, pedestrians often carry umbrellas when it rains. The appearance of umbrellas therefore correlates with precipitation. The pedestrians' carrying their umbrellas, however, does not cause rain to fall. The causal direction is surely the opposite. In order to make a proper empirical evaluation of the economic model, the identification of causal relationships and the direction of causal flows are therefore crucial.\(^2\) In addition, crime-control policies succeed only if they are constructed with some knowledge of the causes of criminal behavior and some estimates of the relative importance of these factors.

The difficulty of disentangling causation and correlation particularly besets empirical assessments of the economic model of crime, because of the so-called simultaneity or endogeneity of criminal justice policies and crime rates. In other words, crime rates both determine and are determined by crime-control policies. For instance, the criminal justice system usually receives greater resources when crime rates are higher. This tendency

\(^2\) See, for example, Bar-Gill and Harel, 30 J Legal Stud at 499 (cited in note 11) (stating that attempts to draw policy implications from studies on deterrence may be flawed because crime rates may have significant effects on expected sanctions).
produces a positive correlation between certain crime-control policies and crime rates.\textsuperscript{21} Inferring from this correlation, however, that these policies cause a greater frequency of crime or that these policies are not effective in controlling crime is inappropriate. An empirical examination of a criminal justice policy that fails to isolate the direction of causal flow provides a potentially misleading test of the economic model of crime as well as a poor evaluation of the policy's success or failure.

In the past decade, empirical economists have made progress in disentangling the direction of causal flows for certain criminal justice policies.\textsuperscript{22} Their evidence suggests that certain crime-control policies, such as policing\textsuperscript{23} and incarceration,\textsuperscript{24} reduce crime rates. However, economists have found less frequent opportunities to evaluate whether these reductions in crime accrue from deterrence or from incapacitation. In the few instances in which they have sought to identify the operative mechanism, their estimates suggest that both deterrence and incapacitation may contribute to crime control.\textsuperscript{25}

Although a comprehensive review of the already-large and still-growing empirical literature by economists on criminal activity lies beyond the scope of this paper,\textsuperscript{26} a discussion of a few of its contributions makes apparent its central challenges and advancements. For example, a crucial question in criminal justice is whether incarceration reduces crime. An economic analysis predicts that incarceration reduces criminal activity through general deterrence, and if offenders recidivate, through incapacitation. However, some argue that the supply of offenders is perfectly elastic, meaning that if one offender is imprisoned, another steps forward to take his place in criminal endeavors.\textsuperscript{27} Others

\begin{itemize}
  \item \textsuperscript{21} For example, a state may respond to a high crime rate by incarcerating more offenders. Steven D. Levitt, \textit{The Effect of Prison Population Size on Crime Rates: Evidence from Prison Overcrowding Litigation}, 111 Q J Econ 319, 322 (1996).
  \item \textsuperscript{22} See Levitt and Miles, \textit{The Empirical Study of Criminal Punishment} (cited in note 3) (reviewing this literature).
  \item \textsuperscript{23} For a review of this literature, see Lawrence W. Sherman, \textit{Fair and Effective Policing}, in Petersilia and Wilson, eds, \textit{Crime: Public Policies for Crime Control} 435 (cited in note 3).
  \item \textsuperscript{24} See, for example, Steven D. Levitt, 111 Q J Econ 319 (cited in note 21).
  \item \textsuperscript{25} See, for example, Steven D. Levitt, \textit{Why Do Increased Arrest Rates Appear to Reduce Crime: Deterrence, Incapacitation, or Measurement Error?}, 36 Econ Inquiry 353 (1998).
  \item \textsuperscript{26} For a contemporary review of empirical economic research on the impact and operation of the criminal justice system, see Levitt and Miles, \textit{The Empirical Study of Criminal Punishment} (cited in note 3).
  \item \textsuperscript{27} See, for example, Richard A. Posner, \textit{An Economic Theory of the Criminal Law}, 85 Colum L Rev 1193, 1216 (1985) (noting that incapacitation may not be effective if the
claim that the experience of incarceration increases the likelihood that an offender will recidivate upon release.\textsuperscript{28} Imprisonment may constrain legitimate opportunities by eroding human capital and stigmatizing the offender.\textsuperscript{29} In addition, an imprisoned offender may acquire access to criminal networks and learn skills from fellow inmates that are useful to the commission of crime.\textsuperscript{30} As a result, upon release, employment in the legitimate sector is relatively less attractive. The impact of higher incarceration rates on aggregate crime rates is therefore an empirical question.

The first scholars to consider the impact of incarceration rates on the incidence of crime examined only national trends.\textsuperscript{31} Prison populations expanded considerably in the 1970s and 1980s, while crime rates rose steadily until the 1990s.\textsuperscript{32} In effect, incarceration rates correlated positively with crime rates over this period. Some scholars concluded that this positive correlation was evidence that incarceration did not reduce aggregate crime rates.\textsuperscript{33} This conclusion failed to recognize that, like umbrellas appearing on rainy days, higher incarceration rates are themselves partly a response to crime rates.

In the 1990s, several economists attempted to address the simultaneity problem by taking more sophisticated approaches to the data,\textsuperscript{34} and they drew different conclusions about the rela-s
tionship between imprisonment and crime. A leader in applying more advanced econometric techniques to break the simultaneity of criminal justice policy and crime rates is Steven Levitt. He attempted to untangle the causal effect of incarceration rates on crime by using an "instrumental variables" or "natural experiments" approach. The word "experiment" describes this methodology because it proceeds from an analogy to medical or laboratory experimentation. Ideally, a social scientist seeking to determine the effect of incarceration rates on crime would like to vary the frequency of imprisonment in one set of jurisdictions and observe what happens to crime rates subsequently. In order to exclude the possibility of other contemporaneous influences, the scientist would prefer to compare the outcomes to those in a similarly situated group of jurisdictions whose rates of incarceration were not varied.

The nature of the ideal comparison is worth noting. In effect, the scientist would ideally compare a "treatment" group of jurisdictions before and after the administration of the treatment, which here would be an increase in the incarceration rate, to an otherwise similar or "control" group of jurisdictions over the same timeframe. The scientist would thus examine two dimensions of comparison: treatment versus control, and before treatment versus after treatment. Borrowing these concepts, economists often refer to such comparisons as "difference-in-differences" because this approach draws comparisons across two dimensions.

The difficulties with conducting such actual experiments are evident. The exposure of some persons to a higher risk of incarceration and others to a possible higher risk of crime raise significant ethical questions, and the undertaking would be very costly in monetary terms. Social scientists instead seek to study instances in which such variations in policies occur without the direct intervention of an experimenter. When such spontaneous variations create effective treatment and control groups, social scientists often call them "natural experiments." The phenomenon creating the natural experiment is often referred to as an

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35 See, for example, Marvell and Moody, 10 J Quantitative Criminol at 120–21 (cited in note 34) (surveying four regression or correlation studies that estimate the impact of prison populations on crime rates differently).

36 Levitt, 111 Q J Econ at 323 (cited in note 21).

"instrumental variable." The instrumental variable affects the policy that is under consideration but otherwise unrelated to, or "exogenous" to, the outcome of interest. In the context of prisons and crime, an instrumental variable would induce movement in the rate of incarceration but the instrument would be otherwise unrelated to the incidence of crime. A natural experiment or a variable that satisfies the conditions for a valid instrument therefore allows the plausible identification of causal flows.

Although the instrumental variables methodology is not specific to economics, empirical economists have made most frequent use of it. In an influential paper, Steven Levitt employed the instrumental variables methodology to identify the causal relationship between prisons and crime.\(^{38}\) Levitt argued that a set of instrumental variables that permitted the identification of the causal effect of prisons on crime was prison overcrowding litigation.\(^{39}\) Lawsuits sponsored by the American Civil Liberties Union ("ACLU") alleged that overcrowded conditions in prisons violated the Eighth Amendment's prohibition against cruel and unusual punishment.\(^{40}\) Levitt showed that when courts ordered reductions in overcrowding in response to these suits, states often complied by releasing prisoners who would otherwise have been incarcerated.\(^{41}\) He argued these ACLU-sponsored suits were valid instrumental variables because they induced variation in prison populations but, after controlling for other factors, were otherwise unrelated to a state's crime rate.\(^{42}\)

Court orders issued in response to these suits permitted a "difference-in-differences"-type comparison. Crime rates in states where the suits produced such orders were compared before and after the issuance of the orders, as well as relative to crime rates in states without such litigation during the same time periods.\(^{43}\) Levitt's analysis showed that states that released prisoners as a result of the litigation experienced a simultaneous rise in crime rates relative to other states.\(^{44}\) In other words, lower incarceration-

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\(^{38}\) Levitt, 111 QJ Econ at 328–36 (cited in note 21).

\(^{39}\) Id at 323.

\(^{40}\) Id at 323–24.

\(^{41}\) Id at 325.

\(^{42}\) Levitt, 111 Q J Econ at 323 (cited in note 21) (noting that state prison overcrowding litigation is related to crime rates only through its impact on prison population because "tests of overidentifying restrictions are consistent with the exogeneity of the instruments across all of the specifications considered [and] changes in litigation status appear to affect crime rates, but not vice versa").

\(^{43}\) Id at 327–36.

\(^{44}\) Id at 337–44.
tion rates appeared to cause increased crime rates.\textsuperscript{45} His estimates implied that the release of an additional prisoner associated with approximately fifteen additional crimes per year.\textsuperscript{46}

Using his estimates of the effect of prisons on crime, Levitt conducted a cost/benefit analysis of incarcerating the marginal offender. Having found evidence consistent with the economic model of crime, he sought to determine whether incarceration was an efficient crime-control policy.\textsuperscript{47} At the time of his study, he concluded that the crime-reducing benefits of incarceration appeared to exceed its costs.\textsuperscript{48} In the wake of the continued rapid growth in prison populations in subsequent years, Levitt has retreated from that conclusion.\textsuperscript{49}

Levitt's study and others that similarly attempt to identify causal flows provide compelling evidence that increases in prison populations cause reductions in crime rates.\textsuperscript{50} Where economists have plausibly identified causation, an additional step in understanding the relationship between prisons and crime is to distinguish whether deterrence or incapacitation account for the estimated reductions in crime. Because the economic conception of crime is a model of deterrence, empirical analyses that fail to distinguish deterrence from incapacitation provide only a relatively weak test of the theory. In addition, understanding which mechanism is operative is crucial for designing policies to combat crime.

Although more work remains to be done, economists have begun to explore the relative importance of deterrence versus incapacitation.\textsuperscript{51} Research on this subject also draws "difference-in-differences"-type comparisons, and in doing so, it uses changes in criminal punishments as sources of variation from which to

\textsuperscript{45} Id.

\textsuperscript{46} Levitt, 111 Q J Econ at 344–45 (cited in note 21).

\textsuperscript{47} Id at 344–48.

\textsuperscript{48} Id at 348.

\textsuperscript{49} See Levitt and Miles, \textit{The Empirical Study of Criminal Punishment} (cited in note 3) (noting that "it appears that the current scale of incarceration is at or above the socially optimal level" because of the quick growth of the prison population).

\textsuperscript{50} See, for example, Marvell and Moody, 10 J Quantitative Criminol 109 (cited in note 34). Marvell and Moody examined time-series patterns in crime and imprisonment at the state level. Id at 121–26. They found that a positive cross-sectional correlation exists between incarceration and crime rates across states at a point in time. Id at 121. However, using an econometric technique called "Granger causation," they estimated that increases in prison populations led to reductions in crime rates. Id at 129.

\textsuperscript{51} See Levitt, 36 Econ Inquiry 353 (cited in note 25) (attempting to discriminate between deterrence and incapacitation as possible causes for the relationship between arrest rates and crime). See also Shavell, 77 Am Econ Rev at 109–10 (cited in note 15) (concluding that sanctions differ when incapacitation is the goal rather than deterrence).
identify the impact on criminal activity. For example, Daniel Kessler and Steven Levitt studied the impact of a popular referendum in California that imposed sentence enhancements for particular crimes. The affected offenses were serious crimes that prior to the referendum were almost always punished by a sentence of imprisonment. The sentence enhancements created a source of variation in the length of prison terms and thus permitted three dimensions of comparison: (1) before and after the sentence enhancements; (2) offenses subject to the enhancements and not; and (3) California versus other states.

A key insight of Kessler and Levitt's paper was that the sentence enhancements had an additional incapacitating effect only upon the expiration of the conventional prison term, which was the basic sentence without the enhancement. Any reduction in crime occurring before the completion of the standard prison term was therefore attributable to deterrence rather than incapacitation. Kessler and Levitt observed that following the passage of the enhancements, the rate of crimes covered by the enhancements in California fell by four percent relative to the frequency of crimes not covered by enhancements. These estimates suggest that deterrence plays some role in influencing the volume of criminal activity. To measure the full impact of the sentence enhancements, Kessler and Levitt also examined the rates of crimes after the expiration of the standard prison terms. They found further reductions in the incidence of the affected crimes, indicating that incapacitation also accounts for part of the crime-reducing impact of imprisonment.

In sum, empirical economists have contributed to the understanding of punishment and crime by employing empirical designs that more rigorously identify causal effects. When they have found that policies, such as incarceration, reduce crime, they have attempted to determine the channel through which these reductions occur. Although more research on the question is necessary, initial inquiries suggest that both deterrence and incapacitation play roles in reducing crime.

52 Daniel Kessler and Steven D. Levitt, Using Sentence Enhancements to Distinguish Between Deterrence and Incapacitation, 42 J L & Econ 343 (1999).
53 Id at 345.
54 Id.
55 Id at 359.
56 Kessler and Levitt, 42 J L & Econ at 359 (cited in note 52).
57 Id.
II. CONDEMNATION AND EMPIRICAL EVALUATION OF CONSEQUENCES

A. Condemnation and Consequences: An Example

Criminal punishment differs from other kinds of sanctions in that it expresses condemnation of the offender's act.58 Because criminal punishments bundle consequences and condemnation together, a proper analysis of punishment requires analysis of both dimensions. A number of law enforcement devices use public condemnation directly in an effort to produce tangible outcomes. In so doing, they draw upon existing attitudes toward offenders while simultaneously helping to shape these views. The justification for the registries is that they allow citizens to take precautions or to assist public law enforcement and thus reduce the incidence of such crimes. However, critics doubt the purported crime-reducing effect of such policies and note the strongly, perhaps excessively, condemnatory nature of these policies. Empirical economics, by providing a rigorous evaluation of the impact of such policies, can help determine whether the purported consequentialist justifications have any validity.

An example of this sort of inquiry is recent work examining the impact of the television program America's Most Wanted ("AMW"). This program appears to have both consequentialist and expressive dimensions. Its sponsors claim that it has a substantial impact in apprehending fugitives, but in its efforts to do so, it expresses spirited condemnation of offenders.

For readers unfamiliar with AMW, the program publicizes fugitives, purportedly in order to facilitate their capture. At the beginning of each broadcast, a tally of fugitives who have been located through viewer tips or as "direct results" of the show fills the screen.59 The show airs at 9:00 PM Eastern time on Saturdays on the Fox Television Network. The program displays photographs of the featured fugitive and provides descriptions of his physical appearance and habits. One of the most controversial

58 See, for example, Dan Kahan, Social Influence, Social Meaning, and Deterrence, 83 Va L Rev 349, 383 (1997) ("Punishment does more than impose disutility on the offender; it also expresses the community's moral condemnation."). Compare John C. Coffee, Jr., Does "Unlawful" Mean "Criminal"?: Reflections on the Disappearing Tort/Crime Distinction in American Law, 71 BU L Rev 193, 193–94 (1991) ("[T]he factor that most distinguishes the criminal law is its operation as a system of moral education and socialization. . . . Far more than tort law, the criminal law is a system for public communication of values.").
59 At the time of this draft, that number is 857.
parts of the broadcast is its re-enactment of crimes. Most of the fugitives sought by the television program are wanted for violent offenses, and therefore, the re-enactments of the offenses are often vivid. Program producers argue that the violent depictions are an integral component of the show's effectiveness in that the violence motivates viewer interest. Interviews with witnesses, victims (if still living), and victims' family members offer additional details and elicit viewer empathy. The host, victims' rights advocate John Walsh, asks viewers with information on the whereabouts of the featured fugitives to call the program's phone bank (1-800-CRIMETV). Telephone operators allow callers to remain anonymous and forward their tips to the relevant law enforcement authorities for investigation.

Legal scholars, to the extent that they ever refer to the program, lament the program's dubious entertainment value. Critics of the show contend that it promotes vindictive attitudes. By its own admission, the program uses vivid language to denounce the fugitives it features. When the network revived it from a planned cancellation in 1996, its producers consciously chose to ramp up its rhetoric in order to stimulate viewer interest. The program added a subtitle with a retributivist or even vengeful theme: America Fights Back. Host Walsh regularly denounces offenders personally. Other critics argue that the show re-in-

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60 See Anna Williams, Domestic Violence and the Aetiology of Crime in America's Most Wanted, 31 Camera Obscura 97, 101 (1993) (finding that Walsh's introductions to the re-enactments of crimes implies "that they are documentary evidence," thereby conflating criminal justice and television drama).

61 See John Walsh and Philip Lerman, No Mercy 252 (Pocket Star 1998) ("[W]hen we do tone down the violence, we always get heat from the police. You didn't show how violent that guy was," they'd say. "How horrible the crime was. How mutilated the victim was. Nobody's gonna want to turn this guy in 'cause you didn't make it look like he did anything all that bad.").

62 See id at 35–36.

63 See Rosanna Cavallaro, Police and Thieves, 96 Mich L Rev 1435, 1454 (1998) (referring to "the tabloid world of true crime stories and 'America's Most Wanted'"); Matt Henneman, Public Interest v. Private Justice, 21 Am J Crim L 335, 335 (1994) (lamenting "the downward spiral of popular culture that has produced 'reality' television such as 'America's Most Wanted'").


65 See, for example, note 61.

66 Walsh and Lerman, No Mercy at 395–96 (cited in note 61).

67 Program managers debated the sorts of names that Walsh could call the offenders on air. One example of the sorts of language the show uses suffices:

"This is one of the most heartbreaking cases we've ever been involved in. Police say [the fugitive] is capable of anything. This guy has gotta be taken down. Justice
forces and accentuates the fear of crime.68 Others point out that it endorses undesirable crime-control policies.69 In sum, those who voice concerns about the program maintain that it conveys condemnation that is excessive in both quantity and kind.

The nature of the legal challenges brought by criminal defendants who have previously been featured on the show provide further evidence of AMW's unambiguous condemnations. They typically assert one of two claims: (1) that the broadcast was a form of prejudicial pre-trial publicity; or (2) that testimony about the defendant's appearance on the program was improperly admitted. Despite the program's strong language, criminal defendants usually fail in these claims. With respect to claims that an AMW broadcast prejudices jurors, only one court has concluded that the airing was inflammatory.70 Typically, courts deny motions for changes of venue on account of the broadcast and instead, during voir dire, inquire whether prospective jurors saw the broadcast. In some cases, jurors did not see it,71 but when jurors have seen it, some courts dismissed them for cause.72 In other cases, courts have permitted jurors who stated that the broadcast did not affect their ability to be fair to remain on the

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for this devastated family starts with you. So let's get busy. The next time I see [this fugitive's] face, I wanna see bars in front of it.'

It was the tone I wanted to set for the new show. Stop pretending to be objective about these cases. Let's get the scumbag.

(The producers spent about two weeks arguing over whether I could say "scumbag" on the air, by the way. We decided it was okay—but then our viewers objected. They thought it wasn't dignified. So I mostly stopped using it.)

Id at 410.

68 See Williams, 31 Camera Obscura at 101 (cited in note 60) ("The show represents crime as an insidious omnipresent threat which preys on 'ordinary people' without warning.").

69 See Gray Cavender and Lisa Bond-Maupin, Fear and Loathing on Reality Television: An Analysis of "America's Most Wanted" and "Unsolved Mysteries", 63 Soc Inquiry 305, 315 (1993) ("Modern danger legitimizes public surveillance. Forging a partnership between the police, the media, and the audience, these programs encourage wide dispersal of community social control.").

70 State v Garrett, 466 SE2d 481, 485 n 3 (W Va 1995) (noting that the trial court impaneled a jury from a neighboring county because of the "inflammatory nature" of a broadcast that depicted defendant "as a brutal, hard-drinking and violent person who stalked the victim at her home on the night before he shot her"). But see People v King, 1996 WL 33362221, *1–2 (Mich App) (per curiam) (finding that there was no showing of actual prejudice or that the publicity from AMW was "inflammatory").

71 United States v Bruce, 1996 WL 640468, *4–5 (6th Cir) (noting that none of the jurors had seen the "tabloid television program").

72 State v Van Tran, 864 SW2d 465, 473 (Tenn 1993) (denying a motion for a change of venue and dismissing for cause the only juror who saw the AMW broadcast); King, 1996 WL 33366221 at *2.
Challenges to the admission of a defendant's appearance on the show have also met with limited success. When the defendant is charged with unlawful flight, courts have generally found his appearance on AMW relevant, particularly to consciousness of guilt. When the defendant is not charged with unlawful flight, courts often have concluded that the testimony about the broadcast is improper, but harmless in view of the evidence of guilt. Although the condemnatory nature of the program is a common legal issue for fugitives apprehended by the show, the lack of success of such challenges suggests that program's denunciations do not threaten the fairness of a prosecution or require procedural correctives to remedy any unfairness.

B. Assessing Whether Publicity Has Consequences for Fugitives

Even if the condemnations of the program do not jeopardize the fairness of subsequent legal proceedings or raise the cost of prosecuting the offender, it is unclear whether the program provides the purported benefit of faster apprehensions. Casual observation suggests that AMW has some role in hastening apprehensions. Judicial opinions often note when a criminal defendant appeared on the program, even if it was not relevant to the legal issues in the case. Many of these opinions implicitly suggest that

73 People v Bolin, 956 P2d 374, 388 (Cal 1998) (noting that jurors who had seen the broadcast gave assurances that they would decide the case only on the basis of courtroom evidence). See also People v White, 2004 WL 1683045, *13–14 (Cal App) (finding no misconduct, no bias, and no prejudice when a juror admitted during deliberations that he had seen the AMW airing about defendant because he stated he had not yet made up his mind about defendant's guilt).

74 Commonwealth v Kane, 2004 WL 136353, *3–4 (Mass App) (finding a prosecutor's mention of AMW unnecessary but relevant to defendant's alleged flight and consciousness of guilt); People v Slater, 701 NYS2d 371, 372 (NY App 2000) (admitting testimony about AMW as part of the effort to locate defendant as circumstantial evidence of consciousness of guilt); State v Korecky, 1995 WL 360303, *5 (Ohio App) (holding that brief mention of AMW had some relevance to the charge of fleeing and the probative value was not substantially outweighed by potential prejudice). But see State v Thcker, 2002 WL 1378947, *8–9 (Ohio App) (finding that testimony about AMW was unnecessary to establish fugitive status and should have been excluded).

75 Ford v Curtis, 277 F3d 806, 811 (6th Cir 2002) (noting that the evidence of defendant's AMW appearance was improperly admitted but was harmless because evidence of guilt was overwhelming); Carr v State, 689 So2d 283, 286 (Fla App 1996) (finding the jury's exposure to defendant's largely exculpatory statement that she was not the "animal" depicted on AMW harmless). See also Caudill v Commonwealth, 120 SW3d 635, 662–63 (Ky 2003) (stating that testimony that defendant appeared on AMW did not necessitate a mistrial); Bray v Commonwealth, 68 SW3d 375, 383–85 (Ky 2002) (same). But see Wilding v State, 674 So2d 114, 119 (Fla 1996) (concluding that testimony mentioning defendant's AMW appearance was clearly "irrelevant and highly prejudicial").
the program has facilitated the capture of the defendants by noting that the defendant's arrest followed the AMW broadcast.\textsuperscript{76} Other cases expressly state that the broadcast produced the tips that led police to the defendant's location.\textsuperscript{77} In some cases, the show's graphic depiction of the crime or its detailed description of the offender motivated persons in the fugitive's household to tip off the authorities.\textsuperscript{78}

\textsuperscript{76} See United States v Tampico, 297 F3d 396, 398 (5th Cir 2002) (per curiam) (AMW airing "led to" defendant's arrest); Johnson v Reilly, 349 F3d 1149, 1152 (9th Cir 2000) (defendant located "[a]lmost immediately" after the broadcast of his profile on AMW, the "popular crime-fighting television show"); United States v Hyde, 1991 WL 270789, *1 (9th Cir 1991) (defendant arrested following an episode of AMW that featured his offense); Biernat v Staub, 2002 WL 31236202, *1 (E D Mich 2002) (defendant arrested after an AMW broadcast); State v Wilson, 92 P3d 729, 729 (Or 2004) (defendant apprehended following an AMW broadcast); Manley v State, 979 P2d 703, 711 (Nev 1999) (defendant caught after having been made subject of an AMW episode); Commonwealth v Kindler, 722 A2d 143, 145 (Pa 1998) (defendant arrested subsequent to a broadcast on AMW); Commonwealth v Mrozek, 703 A2d 1052, 1054 n 2 (Pa 1997) (same); Jenkins v State, 391 SE2d 397, 399 (Ga 1990) (defendant arrested following an AMW broadcast); Commonwealth v Jackson, 822 NE2d 754, 756 (Mass App 2005) (defendant arrested after AMW aired his photograph); Chandler v Sundquist, 107 SW3d 538, 538 (Tenn App 2002) (defendant arrested after an AMW broadcast); State v Volgares, 1999 WL 354335, *2 (Ohio App 1999) (defendant arrested less than one hour after AMW aired his profile); Garrett, 466 SE2d at 485 (defendant arrested "apparently after he was featured on 'America's Most Wanted'"); United States v Willis, 43 MJ 889, 893 (AF Ct Crim App 1996) (defendant captured after AMW featured a vignette of his alleged crime).

\textsuperscript{77} See United States v Henderson, 241 F3d 638, 643 (9th Cir 2000) (defendant arrested following an anonymous tip to AMW); United States v Oliver, 118 F3d 562, 564 (7th Cir 1997) (FBI arrested defendant after being "tipped off through America's Most Wanted"); State v Cisco, 861 S2d 118, 123 n 8 (La 2003) (AMW broadcast generated a citizen tip); Kane, 2004 WL 136353 at *3 (citizen tip received following an AMW broadcast led to the location of defendant); Goodwin v Superior Court, 2004 WL 870470, *3 (Cal App 2004) (neighbor contacted authorities after viewing the case on AMW); State v Jiang, 819 A2d 9, 12 (NJ App 2003) (broadcast of AMW resulted in a tip of defendant's location and eventually led to his surrender); State v Cavaye, 2002 WL 31769092, *2 (Tenn Crim App 2002) (barrister informed authorities of defendant's presence following an AMW broadcast); Commonwealth v Miller, 724 A2d 895, 898 (Pa 1999) (defendant arrested after receipt of a tip following the airing of a description of the unsolved crime on AMW); Henderson v State, 962 SW2d 544, 548 (Tex Crim App 1997) (tips regarding defendant's whereabouts received following AMW broadcast); State v Clark, 936 P2d 1215, 1216 (Wash App 1997) (defendant arrested "[f]ollowing a tip generated by the television program America's Most Wanted"); Lopez v State, 1994 WL 585766, *2 (Tex App 1994) (defendant located following an anonymous tip received after an AMW broadcast); State v Coats, 1994 WL 547745, *2 (Ohio App 1994) (further investigation for an episode of AMW led to defendant's arrest); State v Bright, 505 SE2d 317, 319 (NC App 1988) (defendant captured based on tips received in response to broadcasts on AMW and Unsolved Mysteries). See also Commonwealth v Maisonet, 1997 WL 1433742, *1 (Pa 1997) (defendant arrested "[w]ith the assistance of the TV program, America's Most Wanted"); George v State, 717 S2d 844, 845 n 1 (Ala 1996) (defendant arrested "as a result of an episode of the television show America's Most Wanted").

\textsuperscript{78} See Huggins v State, 889 S2d 743, 752 n 3 (Fla 2004) (describing how after seeing AMW's profile of the case, a woman reported to police that she suspected her sister's boyfriend of the murder); State v Tucker, 2002 WL 1378947, *2 (Ohio App 2002) (noting how after watching AMW, a relative of defendant's girlfriend grew suspicious, searched
Although the number and nature of these apprehensions strongly suggest that the program’s broadcasts result in some captures, they are only indirect evidence that the show systematically raises the likelihood of apprehension. These figures are simple tallies, rather than a rate, of apprehensions. Moreover, they are not relative to a baseline or counterfactual rate of apprehensions that would have prevailed in the absence of the program. Perhaps just as many fugitives would have been apprehended in the absence of the program as were apprehended in its presence.

The program might have no effect or a negative effect on the rate of apprehensions for several reasons. First, the program’s viewers may not pay enough attention to the program to remember the characteristics of the offender when they encounter a person matching the description. Eyewitness identifications are notoriously inaccurate, and therefore it seems unlikely that viewers’ recollections would have sufficient accuracy to generate positive leads. Second, the police and the program producers might conspire to feature the fugitives who already have a high probability of capture. The program may feature fugitives with high probabilities of apprehension in order to create a false impression of its effectiveness and thereby attract viewers. Similarly, law enforcement authorities may favor the appearance of a high success rate in order to marshal public support for themselves. Third, even if the show’s producers and law enforcement are not in cahoots, the availability of the program may induce police to alter the investigative techniques they employ or the types of fugitives they pursue. If the program is a relatively less effective investigative technique, then this substitution may actually cause the rate of apprehensions to fall. For these reasons, an empirical evaluation that considers the rate of apprehensions that would occur in the absence of the program is necessary.

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79 See, for example, Peter N. Shapiro and Steven D. Penrod, *Meta-analysis of Facial Identification Studies*, 100 Psychol Bull 139, 144 (1986) (using a meta-analysis of 128 eyewitness identification and facial recognition studies to find that following the introduction of minor facial alterations, such as the addition or removal of a hat or eyeglasses, identification rates typically dropped from 75% to 54% and misidentifications rose from 22% to 30%).
Thomas Miles assessed the efficacy of *AMW* in influencing the rate of apprehensions.\textsuperscript{80} He examined a sample of fugitives who appeared on wanted posters and compared them to a subset of fugitives who also appeared on *AMW*. In effect, fugitives who appeared on the program were a treatment group, and fugitives who did not appear on it were a control or comparison group. Fu-

gitives featured on wanted posters were a plausible comparison
group, because their presence on wanted posters indicated that
law enforcement was actively pursuing them and was seeking
the public's assistance in doing so. The television broadcast ex-
posed the fugitives to an even greater degree of publicity than the wanted posters did. The timing of broadcasts provided a sec-
ond dimension of comparison and permitted a "difference-in-
differences"-type evaluation of the program. If an appearance on

*America's Most Wanted* raised the probability of a fugitive's app-
prehension, the increase should occur only after the date of
broadcast, but not at other times. Thus, Miles's analysis com-
pares apprehension rates of those who appear on the program (a treatment group) during the month of their individual broadcasts
to the apprehension rates in other months, as well as relative to fugitives who never appear on the show (a comparison group).

Miles found that the rates of apprehension in the compari-
son group were low, less than two percent per month, and that
these rates declined steadily over time.\textsuperscript{81} However, his estimates showed that the risk of apprehension during the month of the

*AMW* broadcast for fugitives profiled on the show was nearly an
order of magnitude higher.\textsuperscript{82} Thus, the program appeared to raise
the risk of apprehension significantly, but the impact was tempo-
rary. In subsequent months, the apprehension risk fell and was
indistinguishable from that of fugitives who did not appear on
the program. The estimates imply that for the typical fugitive
featured on the show, his apprehension occurred roughly two
years sooner.\textsuperscript{83}

Just as many studies of the crime-reducing effect of prisons
often do not distinguish whether deterrence or incapacitation is
the operative mechanism, Miles's estimates of the impact of

*AMW* do not isolate the channel that hastens apprehensions. The program could alter the behavior of fugitives, their pursuers, or

\textsuperscript{81} Id at 300.
\textsuperscript{82} Id.
\textsuperscript{83} Id at 302.
both. For example, the program may generate viewer tips, and these investigative leads may improve the efficacy of police efforts. Alternatively, if fugitives are aware that they are the subject of an AMW broadcast, they may alter their behavior. Some fugitives may become more desperate and commit additional offenses in an effort to further their flight. One fugitive confessed after his apprehension that he saw “a ‘promo’ for America’s Most Wanted indicating that he would be featured in an upcoming program. . . . Fearing discovery, he went to San Francisco and there he killed” a person to prevent his discovery.\(^{84}\) However, in other instances, fugitives have surrendered to authorities after learning that they were the subject of an AMW profile.\(^{85}\) Although Miles’s estimates do not directly measure the channel through which apprehensions are facilitated, the number of opinions indicating that fugitives were aware of the broadcast suggests that a fugitive’s behavioral response to the broadcast may account for at least part of the program’s impact.\(^{86}\)

\(^{84}\) \textit{State v Cohen}, 1991 WL 236929, *13 (Del 1991). During his confession, defendant described how the advertisement for the next week’s episode announced that it would feature the case of a “punk rocker drummer and stripper who killed his parents, and [Cohen realized] I knew then it was me, ‘cause that description. . . . it’s vague, but it’s still pretty much me.” Id at *32. Opinions also offer some anecdotal evidence that the notoriety of the program motivates some fame-seeking criminals to commit offenses. See \textit{Fields v State}, 923 P2d 624, 628 (Ok Crim App 1996) (asserting that defendant confessed to killing and was not sorry for it because he wanted to be featured on AMW); \textit{Robertson v State}, 871 SW2d 701, 704 (Tex Crim App 1993) (quoting defendant’s admission to officers that his crimes were so severe, “I figured I’d be on America’s Most Wanted TV show by now”). In other instances, the program may convince fugitives to redouble their efforts to avoid detection. See, for example, \textit{State v Armstrong}, 93 P3d 1061, 1066 (Ariz 2004) (noting that a defendant informed his girlfriend of an AMW broadcast that described his involvement in two murders and attempted to convince her to flee with him); \textit{Aylor v State}, 1997 WL 136479, *5 (Tex App 1997) (describing witness testimony that defendant decided to leave for Mexico after AMW broadcast her story).

\(^{85}\) See \textit{State v Ellen}, 500 NW2d 818, 820 (Neb 1993) (after living under an assumed name for two years, defendant surrendered upon seeing himself on AMW); \textit{People v Martinez}, 2004 WL 2634621, *2 (Cal App 2004) (after a co-worker recognized him from an AMW broadcast, a fugitive considered fleeing to Mexico but turned himself into authorities instead); \textit{Jang}, 819 A2d at 12 (broadcast of AMW resulted in a tip of defendant’s location and eventually led to his surrender); \textit{Nguyen v State}, 1991 WL 63601, *1 (Tex App 1991) (defendant turned himself into authorities approximately one week after he was featured on an episode of AMW).

\(^{86}\) See, for example, \textit{United States v Bowman}, 215 F3d 951, 959–60 n 3, 961 (9th Cir 2000) (holding that a co-conspirator’s statement that defendants had been featured on AMW was admissible under the co-conspirator exception to the hearsay rule); \textit{United States v Scarpa}, 897 F2d 63, 66 (2d Cir 1990) (noting that when an officer asked if defendant had seen his profile on AMW, defendant laughed and said that he had); \textit{State v Moody}, 94 P3d 1119, 1131 (Ariz 2004) (detailing grand jury testimony about a suspect’s bragging that he had committed murders and had been featured on AMW); \textit{Commonwealth v Watkins}, 843 A2d 1203, 1218 n 17 (Pa 2003) (stating that defendant admitted he saw himself on AMW); \textit{Bruce v State}, 569 A2d 1254, 1258–59 (Md 1990) (finding that when an officer asked if defendant had seen the re-enactment of his crime on AMW, de-
Using these estimates, Miles attempted to approximate whether the benefits of quicker apprehensions exceed the social costs. These costs include the opportunity costs of the police officers’ time in assisting in the production of the show, the costs of incarcerating the offender, and the opportunity costs of broadcasting a different program in lieu of *AMW*. Miles’s estimates suggest that the program may provide social benefits, but several quantities were difficult to measure. Perhaps the most important of these is the incidence of false arrests. The case law contains some examples of allegations of false arrests resulting from the program’s broadcasts,\(^87\) but the full extent of the broadcast-induced false arrests and their frequency relative to that of wanted persons not featured on the program are unknown. One factor potentially contributing to a higher rate of false arrest among fugitives featured on *AMW* is that the program has eschewed liability under section 1983,\(^88\) because falsely arrested persons have not been able to establish that the television program was acting under color of state law.\(^89\) The program itself does not execute arrests. Law enforcers remain responsible for determining whether viewer tips establish probable cause for arrest and face liability when they fail to do so.\(^90\)

The study of *AMW* illustrates how empirical economics may help evaluate criminal justice institutions that have significant expressive features and yet claim consequential effects. Techniques such as “difference-in-differences” comparisons allow

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\(^{87}\) See, for example, *Maxwell v City of Indianapolis*, 998 F2d 431 (7th Cir 1993) (affirming a denial of summary judgment in a civil rights action brought by an individual who was arrested after his co-workers incorrectly identified him as a fugitive featured on *AMW*).

\(^{88}\) Civil Rights Act of 1871, 42 USC § 1983 (2000) (creating liability for individuals who, under color of law, deprive a citizen of any rights, privileges, or immunities granted by the Constitution).

\(^{89}\) See, for example, *Ali v Moore*, 984 SW2d 224, 228 (Tenn App 1998) (affirming summary judgment for defendant, Fox Television Broadcasting, in a § 1983 action on the ground that defendant failed to demonstrate that Fox’s broadcast of episodes of *AMW* featuring defendant constituted activities that were “under color of” state law).

\(^{90}\) In *Maxwell*, the court affirmed the denial of summary judgment in a § 1983 action against police officers who arrested a suspect after his co-workers alleged that he matched the profile of a fugitive featured on *AMW*. 998 F2d at 436. The court held that discrepancies between the appearance of the fugitive and the arrestee were so great that a jury could reasonably conclude that probable cause was not supported. Id at 434–36. Moreover, the court concluded that the officers were not entitled to qualified immunity. Id at 436. But see *Delgado v City of Los Angeles*, 1995 WL 341515, *1 (9th Cir 1995) (affirming a grant of summary judgment in favor of federal agents in a *Bivens* action because the plaintiff failed to show that the officers lacked a reasonable belief that the plaintiff was the individual named on the arrest warrant and that they acted with malice).
more convincing examination of the causal effects of a policy intervention. These resulting estimates are often crucial to the evaluation of whether the policy provides a net social benefit. The estimated increase in the probability of a fugitive's apprehension, for example, is evidence that this particular institution has an impact on criminal activity. The program is not exclusively expressive or entertainment. Moreover, this estimate is a key parameter in assessing whether the AMW program provides a net social benefit. A complete evaluation requires estimates of other quantities that are still more difficult to measure, but the estimated increase in the apprehension hazard provides at least a bound on how large other costs must be to render the program a social loss.

CONCLUSION

Empirical economics has a significant contribution to make to the understanding of punishment and crime. It builds on the crisp behavioral implications of the fundamental rational-choice model of criminal behavior and finds avenues in which to test those predictions. More so than other methodological approaches, it pays close attention to issues of causation. By attempting to identify causal directions, it provides a relatively rigorous test of the rational choice model and provides the evidence most helpful to criminal justice policymakers. For scholars who emphasize the moral and expressive functions of criminal law and punishment, empirical economics provides a valuable tool. Criminal punishment often bundles together condemnation and consequences, and by measuring the consequences with some precision, empirical economics helps assess the relative importance of these two functions. By measuring whether a policy has any causal impact on criminal activity, empirical economics helps determine the validity of consequential justifications for criminal justice programs. Finally, measures of the effects of a policy are important parameters in evaluating whether a policy provides net social benefits.