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The Moral Costs of Crime: Prices, Information and Organization

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Chapter 12

THE MORAL COSTS OF CRIME: PRICES, INFORMATION, AND ORGANIZATION

RICHARD P. ADELSTEIN

AN INSTITUTIONAL VIEW OF THE CRIMINAL PROCESS

Economists naturally view the problem of crime and its control as a special case of the larger problem of allocating resources efficiently in the presence of external effects. This more general issue is most commonly illustrated by a manufacturing firm which produces air or water pollution in addition to its principal economic output. Consider, for example, a steel plant located in a densely populated area. The production of steel requires the use of a wide range of human and material resources, including land, labor, capital, organizational skill, and raw materials, and the plant generally acquires these primary resources by purchasing them in markets from others who own them. If these input markets are working well, the owners of the primary resources are completely compensated for their contribution to the production of steel by the plant's payment to each of a price equal to the full cost of producing the primary resource itself and making it available for steel production. In this way, the steel plant is forced to take account of the costliness of the resources it employs in deciding how much steel to produce; the plant will purchase only those

primary resources which are more valuable to it for the purpose of making steel than they would be to other purchasers who would use them differently. In such a case, the market mechanism allocates an "efficient" amount of each primary resource to the production of steel, and the plant, facing a market for its own output which determines the value of the primary resources to it, produces and sells an "efficient" amount of steel.

But there may be primary resources for which no markets exist. Suppose the production of steel necessarily entails filling the air around the plant with thick smoke. The plant's neighbors must breathe this smoke, which imposes a real cost upon them in the form of damage to their lungs and respiratory systems and which to this extent makes their good health a primary resource essential to the production of steel. Where the law initially awards ownership of this primary resource ("the good health of the plant's neighbors") to those whose lungs are damaged, and where free bargaining between the plant and its neighbors can be relied upon to reveal accurately the relative values of this resource to the parties involved, the market mechanism will effectively allocate "good health" just as it did the other primary inputs to steel production. Thus, the plant might compensate those of its employees who live near the plant by adjusting the wage rate to a mutually acceptable value which accounts for the costs imposed by the smoke. But as we shall argue in detail in the analogous case of criminal activity, such "internalization" of costs through the market mechanism may not be possible. Where the number of cost bearers is very great, and each bears a different, individualized cost as a result of breathing smoke, the practical difficulties involved in organizing these individually efficient market exchanges are likely to be insuperable. Without an alternative institutional structure designed to force the plant to consider the full resource costs of steel production given the market's failure to do so, the damages suffered by the plant's neighbors, their contribution to the production of steel, will remain "external costs." In a sense, the plant, while paying in full for

its other primary resources, will have "stolen" the good health of its neighbors, and it will produce an inefficiently large output of steel (which it sells at an inefficiently low price) as a result of its free use of a costly resource.

It is important to note that this posing of the externality problem does not in general contemplate the unconditional deterrence of cost-imposing activity. Given that the generation of smoke is a necessary concomitant of steel production, the costs imposed by the pollution can be totally eliminated only by shutting down the steel plant and reducing its output to zero. But if the value of the plant's output as reflected in the market for steel is greater than the value to their initial owners of all the primary resources used in the production of that output, including the good health of the plant's neighbors, a net social cost is incurred in closing the plant. Ceasing steel production would avoid the expenditure of any of the primary resources, but the community would also be denied the steel which, by hypothesis, it values even more highly than these resource costs. A systemically efficient allocation, one which directed all resources to their most valuable use, would require the community's tolerance of an "efficient" level of aggregate pollution cost; where the plant is able to pay the full resource cost of its neighbors' good health and still earn a profit from the sale of its steel, efficient allocation demands that it be allowed (or encouraged) to do so.

Concern with systemic efficiency in this sense leads one to ask how this efficient level of aggregate cost imposition might be achieved in cases where the market solution is unavailable. For many years, economists have argued that, in principle, efficient allocation could be organized despite the failure of the market mechanism by having the government assess the sum total of the pollution costs borne by the plant's neighbors and imposing this social cost upon the steel plant in the form of a tax. This institutional arrangement induces efficient outputs of both steel and smoke by forcing the plant to pay the full costs of all the primary resources used in the production of steel, a result which generally obtains whether or not the tax revenues

are subsequently distributed to those who have breathed the smoke.¹ Moreover, where actual enforcement of the tax is uncertain, systemic efficiency will be preserved (abstracting from considerations of risk preference) if the magnitude of the tax is adjusted so that the plant faces an *expected* tax equal to the social cost of the pollution. Thus, if there are ten such polluting plants, each of which imposes a total cost of \$10 upon its neighbors, a \$100 tax levied against one plant chosen at random will induce the same outputs in all the plants as would a \$10 tax levied against each of them.

But the practical obstacles to implementing such a tax mechanism for purposes of systemic efficiency are most formidable. The characterization of efficient allocations requires an immense amount of information regarding the precise values placed upon various resources by many individuals dispersed throughout the community, information which these individuals may or may not be motivated to reveal accurately. As Hayek (1945) has eloquently argued, the "marvel" of the market mode of economic organization is that by protecting the freedom to own and trade property and by decentralizing economic decision-making to the greatest extent possible, the market provides every individual with a personal incentive to reveal this information truthfully and the society as a whole with a reliable means by which resources can be continually reallocated toward their most valuable use. Alternative organizational modes which centralize allocational decisions are endemically inferior to markets in their ability to allocate efficiently because they are less able to extract the requisite information in useful and timely forms. But where markets fail and the goal of efficient allocation remains, nonmarket solutions (such as taxes or quantity controls) must be sought and careful consideration given to the relative capacity of these alternative institutional forms to gather and use the information necessary for centralized allocation decisions.

Since the pathbreaking work of Gary Becker (1968), economic analysis of the criminal process has largely drawn upon

this theoretical framework and postulated a systemic objective of efficient resource allocation. Following Becker, earlier writers (Harris, 1970; Stigler, 1970; Posner, 1972; among others) have emphasized the formal specification of efficient "marginal conditions," specific penalties to be levied against individual offenders which would fully internalize the costs imposed upon others by their crimes. Were the information necessary to fix these penalties actually available, their application would result in an efficient allocation of resources to criminal activity and its control given the underlying distribution of income and preferences. Valuable insights have resulted from this approach, among them the recognition that efficient allocation is generally incompatible with the complete deterrence of all criminal activity; efficiency requires that legal institutions be organized so as to tolerate "efficient" offenses, those in which the net benefit to the offender exceeds the sum of all costs imposed by the criminal act. But as we have suggested in the pollution case, inquiry of this kind has generally diverted attention from issues which are essential to a positive understanding of the criminal process as it exists in the real world. Are there actual or realizable institutional structures which can implement these marginal conditions in practice, that is, extract information sufficient to define the relevant prices and organize the myriad of individual transactions necessary to achieve systemic efficiency? And if we do in fact observe extant structures which appear directed toward facilitating these marginal transactions, how have these structures themselves come to be organized, and why?

The present analysis complements this earlier work by explicitly addressing the issue of institutional form and organization in the criminal process. In this as in other externality situations, the central problem in the search for institutional mechanisms to facilitate efficient allocation is the acquisition and dissemination of necessary information. Markets in externalities fail because the information required to permit efficient transactions, the magnitude of personal costs and benefits resulting from various externality relationships and

the identities of those involved, is generally impacted in individuals who have no opportunity or incentive to reveal the extent of the external effects upon them. But systems of criminal justice (as well as tort liability) can be seen as imperfect but operationally market-like structures which encompass mechanisms to extract this information in a form which will allow the identification and completion of efficient transactions on a case-by-case basis. Our concerns here are the properties of these institutional structures and the variations in form which result from differences in the nature of the external effects which give rise to them. The specifics of organization in the legal process, we argue, can be directly related to the human characteristics and capacities of individual decision-makers and the problems they face in acquiring necessary information in various exchange environments.

The institutional approach thus entails a basic shift in emphasis from the systemic efficiency properties of abstract allocational mechanisms to the act of exchange itself in real environments characterized by the imperfection or unavailability of essential information. Moreover, the great inherent difficulty of gathering sufficient cost information for efficient central planning in the criminal process requires reconsideration of fundamental analytical postulates. The initial postulation of a centrally administered objective of efficient resource allocation in the aggregate appears, in this light, to be a highly tenuous empirical proposition. In place of this dubious systemic teleology, we assume an individual human propensity toward beneficial exchange at many levels of behavior, including those within the purview of the criminal process. Given conditions of perfect information, individuals seeking to complete efficient criminal transactions in markets will, as Adam Smith suggested, efficiently allocate resources to criminal activity in the aggregate (just as to other uses) despite the absence of centralized direction toward that end. Where information is difficult or impossible for individuals to obtain, markets and other institutional forms can be seen as alternative and necessarily imperfect modes of organizing these ex-

changes, and the informational problems which confront human transactors at the margin become the key to understanding the legal institutions which have evolved in response to them.² A developmental perspective emerges; the evolution of observed legal institutions can be rationalized in terms of their relative efficacy in facilitating individually efficient criminal transactions given the practical obstacles to market organization and the particular quality of the costs associated with crime.

Focusing on markets which fail rather than on those which work well naturally draws attention to external effects which are very difficult to quantify and unlikely to manifest themselves as disturbances in market values. But to say that such effects are hard to measure is not to say that they do not exist. In the context of crime, it is clear that real costs of this kind are generated in the form of widespread social outrage and moral opprobrium by various types of illegal behavior. The magnitude of these costs, moreover, appears quite variable and highly sensitive to the specific details of each criminal act. The identities of victim and offender and the particular circumstances which surround a given offense are, in practice, principal determinants of the "gravity" or "seriousness" of the offense and thus of the punishment to be imposed upon the offender. Here, we deem these effects "moral costs" and argue that the continuing effort to assign values to them in individual cases and to internalize them by imposing roughly equivalent "taxes" upon offenders has played a major role in shaping existing organizational forms in the criminal process. The difficulty of this endeavor is the motivating theme of the analysis. In the sections which follow, we do not propose a means by which an independent observer might measure or predict the moral costs associated with a given criminal offense. Rather, we offer a new approach, an analysis of the way in which the institutions of the criminal process themselves attempt to reckon these costs and the effects of changes in the availability of information on the organizational form of these institutions.

THE ORGANIZATION OF EXCHANGE

Informational Problems in Markets for Crimes and Torts

From the earliest beginnings of the English common law to the present day, the representation of criminal punishment as a repayment of the damages caused by an offender's unlawful activity has characterized the Anglo-American criminal process. Two central elements of this venerable tradition will focus our discussion here. First, the law has recognized that persons other than those with an immediate relationship to the crime might be injured by an offense and that the lawbreaker's duty to right his wrongs extends to these persons as well as the direct victim of the act. Moreover, the social harm attributable to a given act has depended as much upon the set of individual circumstances which surround the act and the identities of the parties to it as upon the abstract character of the act itself.⁴

Consider a natural reformulation of these elements. Associated with each criminal act is a matrix of external effects in which two distinct kinds of costs, here termed economic and moral, are imposed upon the two separate classes of direct and indirect victims. Economic costs reflect personal welfare losses which are easily envisioned in material terms, and while they are principally borne by those directly party to the offense itself, they may also be imposed upon indirect victims dispersed throughout the community as a consequence of decreased personal and material security and diminished incentives toward socially acceptable modes of production. In contrast, moral costs result from each individual's own sense of right and wrong, and measure the personal welfare losses associated with whatever indignation or sense of injustice one experiences in the direct victim's plight at the hands of the offender. Largely borne by the class of indirect victims, such costs need not be manifested in changes of behavior on the part of their bearers (and thus need not appear as changes in market values), nor do we imply any ethical justification for a given instance of moral cost. Rather, these costs are postulated solely as a positive measure of the social outrage which plainly results from many kinds of crime.

This characterization of social cost preserves the institutional interpretation of the criminal process as a means of externality control through the exaction from the offender of a "price," in the form of deprivation of liberty or pecuniary fine, which corresponds roughly to the total social cost of his offense.⁵ Thus, for example, severe penalties for crimes which may impose little material or economic cost, such as rape or crimes of terror, can be understood in terms of the clearly substantial direct and indirect moral cost involved. Moreover, the apparent positive disparity in social cost imposed by otherwise identical statutory offenses can be traced to variations in moral cost; the outrage created by a given act is especially sensitive to the identity and social status of both offender and victim and the peculiar circumstances under which the crime was committed. Given these conditions, we would expect such a system to impose perhaps widely varying punishment prices upon persons committing ostensibly identical acts in differing circumstances and, in fact, the "individualization" of sanctions permeates the American criminal process and is one of its most distinctive features (Newman, 1966; Dawson, 1969).

This framework also suggests a useful positive distinction between crimes and torts. While the external effects of crime can generally be portrayed in terms of the four-celled matrix described above, neither moral nor substantial indirect economic costs (apart from those which themselves generate separate causes of action) are usually associated with cost-imposing behavior characterized as tortious. Moreover, save for direct psychic costs ("pain and suffering") which occasionally arise in personal injury cases and which might be seen as direct moral costs, the external effects of torts are all but exclusively economic in nature. Thus, while the substantial moral costs associated with criminal activity do not lend themselves to convenient monetary or "objective" expression and are borne by a large group of dispersed indirect victims, the external costs imposed by torts are much more clearly economic in character and are generally concentrated upon a single direct cost bearer or a small group of similarly situated

direct victims.⁶ In either case, however, some conceptual object of exchange must be defined if the problems of organizing transactions in these external effects are to be understood. Following Calabresi and Melamed (1972), we define an "entitlement" in the context of crimes and torts as a collectively granted right either to impose costs in a given way, or, contrarily, to be free of like costs imposed by the acts of others. Entitlements may be protected by "property rule," which permits transfer of the entitlement only if its buyer and seller are able to negotiate a mutually acceptable price, or by "liability rule," in which case an individual may acquire another's entitlement whenever he is willing to pay an objectively determined value for it.

Now the principal problem facing any institutional arrangement seeking to facilitate efficient transactions in external effects is the acquisition and dispersion of cost information sufficient for potential offenders to distinguish efficient from inefficient cost imposition *ex ante* at the margin. In general, the market alternative is characterized by entitlements placed in private individuals and protected by property rule, and under competitive conditions, the advantages of a decentralized price system as a means of extracting this information are well known (Hayek, 1945). Coase (1960) has shown that if entitlement transfer is sufficiently costless, free exchange will ensure an efficient level of cost-imposing activity regardless of the initial placement of entitlements; in this case, the latter question is one of distributional equity alone. But the individualized nature of the costs imposed by crimes and torts generally precludes this result. Since these costs vary with the particulars of the offense, a "small numbers" problem is created; every exchange situation is a bilateral monopoly in which the absence of equilibrating market forces provides opportunities for all parties to conceal their preferences in bargaining. In the criminal case, moreover, the large number of dispersed moral cost bearers suggests high coordination and information-gathering costs even where preferences are truthfully revealed. While these costly transactions are obviated by

assigning entitlements initially to those who value them most highly, the problem of making this determination *ex ante* in the absence of market valuation remains unsolved.

The failure of markets to extract this cost information in either case requires the development of alternative institutional structures designed to evaluate the costs imposed by various activities and thus to specify punishment prices sufficient to encourage only the efficient transfer of civil or criminal entitlements. This is the role of the legal process, and its "objectification" of costs transforms the protection of entitlements from property rule to liability rule and thus introduces an inevitable possibility of error in the valuation of costs. But while in both contexts the state provides a mechanism of price exaction which mediates between cost imposer and cost bearer by liability rule, the widely dispersed moral costs of crime pose informational problems in establishing the individualized price of entitlements not encountered in the civil setting. The qualitative distinction between crimes and torts, moreover, motivates striking variations in the organizational form of the Anglo-American legal process and the initial placement of entitlements in the two cases. On the civil side, entitlements are privately placed, with individual cost bearers retaining the right to be compensated directly by offenders for those costs they can demonstrate objectively in court. The economic character of the costs involved and their relatively narrow incidence enable the civil process to rely upon this arrangement as a means of generating dependable information as to the extent of cost imposed by tortious activity. Cost specification is facilitated by the possibility of resort to market values, and the small number of direct victims ensures that the full extent of cost imposed can be ascertained with a minimum of litigation. Where all the costs of the offender's activity can be accounted for in this way, the achievement of an efficient level of cost imposition is impeded only by the costs inherent in organizing the cause of action and bringing suit.

In general, however, no such right to direct compensation by cost imposers exists for victims of crime. Instead, criminal

entitlements are "publicly" placed, with the state rather than individual cost bearers as the recipient of the punishment price. Insofar as the cost information required to establish efficient punishment prices is impacted in the victims of crime, it might at first seem natural (as well as just) that the criminal process follow the civil and employ these persons directly as information sources by placing initial entitlements and their attendant incentives for cost revelation in them. But the multiplicity of moral cost bearers created by crimes makes this an unsatisfactory solution to informational problems in the criminal context. While the aggregate moral cost of a given offense may be substantial, the number of such cost bearers is generally very large and the individual cost borne by each relatively small. As a result, for most victims the cost of participating directly in the legal process by bringing suit to vindicate entitlements exceeds the benefit to be realized as compensation by offenders. This compensation could be more reliably achieved by the state's provision of a single public good available to all, the consumption of which would provide moral benefits generally sufficient to compensate the individual moral costs of the offense involved. Criminal punishment in the form of physical restraint or severe limitation of personal liberty is precisely such a public good. These punishments are highly visible affairs; the suffering imposed upon convicted offenders is easily recognized by the community as universally painful, and the element of retribution it represents is payment "in kind" for moral costs incurred. Informational problems still remain, for the sentencing authority must still tailor punishment prices to its own perception of the moral and economic costs involved. But this evolved institutional structure can be seen as an operational mechanism for the exchange of criminal entitlements which provides a measure of restitution at far less expense than would be required if all moral cost bearers were given enforceable entitlements like those granted on the civil side.⁷

Individualized Pricing of Criminal Entitlements: The American Model

The nonmarket institutions of criminal price exaction must deal with two distinct issues. First, initial entitlements must be arranged so as to distinguish lawful from unlawful activities, an often difficult determination which must consider both the net social effects of the activities involved and the costliness of the price exaction machinery itself. For forms of cost imposition deemed illegal, entitlements are placed in the state, which may then exact a punishment price from violators. In contrast, entitlements are placed in cost imposers for activities exempt from the criminal sanction, forcing those who bear costs either to suffer them or seek to remove their source by purchasing the entitlement. Given these decisions, a more precise accounting of the economic and moral costs generated by specific illegal activities must then be made so efficient punishment prices can be ascertained.

In the American model, this institutional structure consists of separate but interrelated legislative and judicial information-gathering processes. Initial decisions as to the establishment of both entitlements and punishment prices are made by legislatures, presumably representative bodies composed of persons sufficiently removed from the immediate effects of various activities to make disinterested assessments of the net costs they impose. These judgments require difficult interpersonal comparisons based upon *ex ante* legislative perceptions of external effects, a process inherently prone to error and lacking in specificity. Amelioration of this uncertainty defines the role of the judicial process, whose officers apply general legislative mandates with broad discretion to specific factual situations once they have occurred. At this second stage, legislative results are taken as tentative and subject to modification (or reversal) as individual cases are considered, and these judicial outcomes form a continuous error-correcting input to the legislature to inform and occasionally redirect judgments made there.

This rich interrelationship bears closer scrutiny. Consider two situations in which every member of a large group of persons has been consensually exposed to a probability of .005 that he will be killed within a certain period. In the first case, the risk is created by the construction of a needed bridge, a dangerous job which claims the lives of workers with statistical regularity; consent is obtained through adjustment in the wage rate. The second risk is created by a perverse individual who pays 200 persons to take part voluntarily in a lottery in which the "winner" will be put to death. While the indirect economic and moral costs imposed by these activities may plausibly be perceived as roughly equal, the substantial indirect economic benefits associated with the bridge project are clearly absent from the lottery. Assuming market exchange to be infeasible, a legislative assessment that the bridge project's benefits exceed its costs suggests the initial placement of cost-imposing entitlements in the construction firm. In this way, a host of efficient but costly transactions between the firm and those who bear the largely moral costs of the risk creation is obviated. Similarly, the net social cost associated with the lottery suggests that it be made illegal by placing the relevant entitlements in the state. Both these results are in fact consistent with American law regarding homicide (Harvard Law Review, 1968).

But the presumption of illegality in cases of net social cost may be overcome by costs involved in the process of price exaction itself. The identification, apprehension, conviction, and punishment of offenders clearly entail substantial economic cost, and moral costs may result as well whenever price exaction procedures are perceived by the citizenry to be "unfair" or "improper." These moral costs are incurred, for instance, when rights of a defendant embodied in the Constitution or widely shared communal values are endangered or when inadequate safeguards exist to protect against false arrest or conviction. Where the sum of these costs exceeds the net social cost of the activity, efficiency requires either that the activity be made legal or that laws against it be left unenforced.

Examples of this phenomenon are seen in the sporadic enforcement of traffic laws, petty misdemeanors, and marijuana laws, and one interesting institutional response to it has been the withholding of income taxes from wages.

The informational difficulties involved in these initial decisions are apparent, and similar problems inhere in the fixing of punishment prices for activities designed as criminal. While a penalty scheme which equated punishment price and costs imposed in each case would clearly facilitate efficient transfers of entitlements at the margin, the information necessary for such an undertaking is obviously beyond legislative reach. The most common American response has been legislative proscription of broadly defined offenses accompanied by variable punishment prices statutorily bounded above and below. Concurrently, responsibility for the case-by-case specification of costs and penalties *ex post* passes to the judicial mechanism with an implicit mandate to "individualize" the application of criminal sanctions in the least costly way possible. Through budgetary constraints on its officers and the monitoring of the moral costs of various procedures by appellate courts, the judicial process itself develops fact-finding procedures and modes of conviction (such as plea bargaining) which elicit the requisite information at relatively low cost (Adelstein, 1978).

The key to implementation of this mandate is the pervasive discretion vested in judicial officers to modify legislative standards where they believe circumstances warrant. Police officers may focus their efforts on certain types of activities to the exclusion of others or enforce the law selectively within offense categories, while prosecutors may frame charges as they see fit or elect not to pursue a given case at all.⁸ At trial, the jury may refuse to convict even where the facts show a clear violation of the law and, of course, the trial judge has wide latitude in fixing sentence upon conviction. This discretion, moreover, plays an important informational role in legal dynamics, for judicial action consistently at variance with legislative standards is a clear signal to legislators that their assessments of cost in various situations may be in error.

ORGANIZATIONAL FAILURE AND INSTITUTIONAL RESPONSE IN THE CRIMINAL PROCESS

Our analysis to this point has sounded a clear evolutionary theme. Beginning with a postulated human propensity toward exchange in the external effects associated with crimes and torts, we have identified specific human characteristics and properties of the external effects involved which prevent the organization of these exchanges in markets. These factors are then seen to motivate the development of alternative organizational forms so that efficient transfers of entitlements may be satisfactorily completed. But the same kinds of environmental problems which initially blocked the organization of markets may reappear in these evolved forms as well, requiring still further adaptation in legal institutions themselves (Adelstein, 1978). In this concluding section, we provide an example of the way in which these evolutionary problems are posed in the criminal process and consider the properties of various solutions to them.

A principal purpose of the institutional structures of the criminal process is to enable potential offenders to distinguish efficient from inefficient offenses prior to their commission. By promoting the efficient marginal transfer of entitlements, the equation of punishment price with costs imposed provides (abstracting from uncertainty) for an efficient level of criminal activity in the aggregate. But the highly individualized nature of these costs has motivated a two-stage approach to price exaction in which specific prices are defined precisely by the judicial process only upon *completion* of the offense involved. Implicit in such an approach, however, is an apparent informational paradox; in closely tailoring punishments to the peculiar circumstances of each offense so as to encourage only efficient transfers, the courts simultaneously reduce the flow of information requisite to these decisions to the potential offenders who must make them.

Consider a continuum of market structures defined by the degree of homogeneity which characterizes the good (here tortious or criminal entitlements) being traded. At one extreme

is the case of perfect homogeneity; every act of a given type committed by every offender imposes an identical cost upon the community. In this case, entitlements can be protected by property rule, and market forces relied upon to establish a single efficient equilibrium price for them. In this single parameter is all the information required by each potential offender to determine the efficiency of his contemplated act, and rational behavior on his part will suffice to ensure that only efficient transfers are undertaken. But as the costs imposed by a given act are allowed to vary with the circumstances surrounding it, problems of information impactedness cause the protection of entitlements to pass from property rule to liability rule and the single price established in the polar case gives way to a vector of efficient entitlement prices, one for each of the different levels of cost associated with the act. Moreover, this fragmentation of the exchange environment implies that the quantum of information contained in the price vector is smaller than that in the single price signal and generally insufficient in itself to effect only the efficient transfer of entitlements. Decisions at the margin require potential offenders to have more information about their place in the fragmented environment which has produced the multiplicity of prices than is contained in the set of prices themselves. They must know which of these prices will be exacted from *them* should they commit the act in question, and their ability to ascertain this extra bit of information diminishes as the costs imposed by the act become more specific to individual circumstances and the number of possible punishment prices associated with it increases. In the case of tortious entitlements, the economic nature of the costs imposed and the possibility of ex ante market valuation mitigate this problem to some degree. But the moral cost involved in criminal activity exacerbates the difficulty, and in the polar case of purely individual specific cost imposition, even full knowledge of the possible range of punishment prices fails to provide the potential offender with sufficient a priori information for his marginal decision. Thus, as the exchange environment changes

along the continuum in this direction, the "organizational failure" of the legal process becomes ever more pronounced and its institutions less able to perform the function of encouraging only efficient transfers of entitlements.

Two distinct organizational arrangements which remove much of the sentencing discretion granted judicial officers can be seen as institutional responses to this informational paradox, each best suited to a very different kind of exchange environment. The first, legislative drafting of a schedule of uniform, mandatory penalties for various offense categories, is a form of systemic planning which sharply reduces the economic cost of fixing punishment prices but which entails a substantial risk of inaccurate cost specification in individual cases.

An analysis by Diamond (1973) of the general problem of uniform corrective pricing in the presence of external effects illuminates the informational aspects of this strategy. Where individualized pricing is not possible, Diamond shows that aggregate efficiency can also be achieved by exacting a uniform punishment price from all offenders which represents a weighted average of the costs imposed by each offender's activity, the weights being the individual deterrent effects of increments in punishment. This result suggests that the problem of gathering information sufficient for the ex ante specification of these uniform punishment prices is a most formidable one. First, legislators must be able to predict the economic and moral cost which would be imposed by each potential offender in a given offense category; in contrast, the two-stage procedure requires only the ex ante articulation of these costs in the single case at bar. Further, the legislature must estimate the marginal deterrent effect of increased punishment upon every potential offender, information not required at all for individualized sentencing.

But where this information is available to the legislators, uniform penalty schedules and the general withdrawal of discretion from judicial officers may promote efficient levels of criminal activity at substantially less economic cost than the two-stage approach. In practice, exchange environments for

which this institutional structure is best suited might be characterized in two ways. Initially, the social cost, particularly the moral cost, imposed by each offense within a given category must be roughly equal and within the scope of ex ante estimation. These costs must thus be relatively insensitive to the peculiar circumstances of the offense and the identities of the direct parties to it. Secondly, criminal punishment must have a deterrent effect upon potential offenders which is roughly equal for every individual within easily defined classes of offenders. Generally, both these criteria seem more accurately to describe crimes against property (such as larceny and burglary) and "white collar" crimes (embezzlement or fraud) than crimes against the person, such as assault, rape, or homicide. Offenders in the former cases are usually motivated by pecuniary gain and are often "professional" criminals, more likely to weigh rationally the risks of the crime. At the same time, the individual characteristics of members of this group seem less likely to be significant determinants of the moral cost associated with their acts, perhaps justifying the assumption of equal social cost for statutorily identical offenses.

But even in these cases, judicial officers often strongly resist legislative attempts to limit their charging and sentencing discretion in this way. Where mandatory penalties are attached to crimes of general definition, the judicial mechanism adapts and continues the effort toward individualization; the usual result is an increase in plea bargaining as prosecutors reformulate charges against specific defendants to avoid systemic sentencing mandates (Newman, 1966: 53-56, 112-114). Moreover, crimes against the person, particularly violent crimes, are more often the product of passion and circumstance, elements which suggest wide variance from case to case and thus appear to call for individualized treatment at the judicial stage. An alternative response to the informational paradox, legislative establishment of clearly defined sentencing standards to be applied ex post by the judicial process to individual cases, addresses these problems by retaining more of the discretion traditionally (and perhaps unavoidably)

granted judicial officers. In a series of recent decisions with important ramifications for all criminal sentencing, the United States Supreme Court has invalidated mandatory penalty schemes and imposed the alternative of standards upon the criminal process as a means to implement the constitutional guarantee against cruel and unusual punishments in capital cases (see Adelstein, 1979). In this context, the present analysis provides an efficiency rationale for these holdings and may thus be of value in formulating grounds for policy and avoiding the adjudication of constitutional questions.

Systematic planning for purposes of efficiency in the criminal process however, must be undertaken only with the utmost sensitivity and circumspection. It is a commonplace that the particular terms of an efficient market allocation and its associated price vector depend directly upon the distribution of preferences and endowments which precede the exchange process. Thus, any claim that a particular market outcome is socially preferred or "optimal" presupposes a prior judgment as to the propriety of the underlying income distribution or the legitimacy of satisfying some individual preferences through the exchange mechanism, a consideration of paramount importance given the central role of moral cost in the price exaction framework. Class, income, status, religion, and simple bigotry all may be significant determinants of the moral cost associated with specific activities, and the potential of a price exaction process based largely upon such costs as an instrument of oppression, intended or otherwise, is apparent. Where this potential becomes reality, there is neither justice nor utility in enabling such tyranny to be carried out more efficaciously.

NOTES

1. Turvey (1963) has shown that failure to distribute this tax revenue directly to the plant's neighbors will lead to inefficient reallocations of steel and smoke where free bargaining between the plant and its neighbors is possible. This is because the neighbors, if not compensated directly for the costs they have borne; still retain an incentive to try to "bribe" the plant to stop polluting the air. But the infeasibility of

such negotiations is precisely what necessitates the tax mechanism itself, and thus reallocations of this kind are highly unlikely.

2. In this respect, the present analysis owes much to the "organizational failures framework" set forth in Williamson (1975). In general, this approach to economic organization is primarily concerned with situations where, due either to the characteristics of the individual parties to a given transaction or to imperfections in the structure of the particular market involved, transactions which might otherwise result in benefits to the potential traders fail to be consummated. This combination of human and environmental factors is viewed as a source of cost or friction in the conduct of exchange in markets, and motivates the perception of many kinds of organizations and social institutions as alternative mechanisms which evolve in response to these costs and permit the completion of mutually beneficial transactions where markets fail to do so.

3. This notion of moral cost has been suggested elsewhere in the legal literature. See, for example, Michelman (1967: 1173, 1214-1218); Calabresi and Melamed (1972: 1111-1112); University of Pennsylvania Law Review (1974); and Adelstein (1978).

4. Pollock and Maitland (1968: 451) trace the English practice to the time before the line separating crime from tort had been sharply drawn: "The deed of homicide is thus a deed that can be paid for by money. Outlawry and blood-feud alike have been retiring before a system of pecuniary compositions. . . . From the very beginning . . . some small offenses could be paid for; they were 'emendable.' The offender could buy back the peace that he had broken. To do this, he had to settle not only with the injured person but also with the king. . . . A complicated tariff was elaborated. Every kind of blow or wound to every person had its price, and much of the jurisprudence of the day must have consisted of a knowledge of these preappointed prices."

5. Price exaction of this kind will ideally lead to an "efficient" level of criminal offenses in that only those offenses in which the net benefit the offender exceeds the sum of economic and moral costs imposed by the act will be encouraged. Where the certainty of conviction in each case is less than perfect, Becker (1968) has shown that the punishment price which minimizes the sum of the costs imposed by the offense itself and the costs of maintaining a mechanism of price exaction (and thus would lead to systemic efficiency in the allocation of resources to crime and its control) must exceed the actual social cost of the act itself; the scale factor is the reciprocal of the probability of conviction. As Newman (1966) and Dawson (1969) make clear, however, this factor is generally not considered in the actual establishment of punishment prices in practice. Despite the low probability of conviction which characterizes many American jurisdictions, sentencing authorities continue to seek the punishment which most accurately reflects the true social cost of each offense without regard to this probability. This practice supports the positive portrayal of the criminal process as a means to facilitate exchange between cost imposers and cost bearers on a case-by-case basis rather than as a mechanism designed to achieve systemic efficiency of resource allocation.

6. An interesting intermediate case are civil adjudications which involve punitive or exemplary damages, for the moral element which motivates the punitive measures endows such civil wrongs with many of the attributes of crimes. Such damages are relatively rare, however, precisely because they blur the distinction between tort and crime and require the jury to assess their magnitude without formal guidance or the

procedural safeguards afforded the defendant by the criminal process. See Prosser and Wade (1971) and sources cited therein.

7. Note that this solution fails to deal with the often large economic costs visited upon direct victims. The perceived inequity associated with this failure has prompted many jurisdictions to institute administrative arrangements designed to ameliorate these costs. Generally, direct victims are given the opportunity to establish the objective economic cost they have borne, and those claims approved by a compensation board are than paid by the state. In this way, the state acts as insurer of these costs and, to the extent that this encourages potential direct victims not to undertake those private precautions to avoid the costs of crime which they would otherwise, an element of "moral hazard" is created. An interesting contrast is observed in the French criminal process, which allows direct victims to become third parties in criminal litigation itself at their own expense, entitled to introduce evidence independently of the public prosecutor on the issues of both guilt and damages. Should the defendant be convicted, he may face both a criminal punishment and an award of compensatory damages to the direct victim. See, generally, Vouin (1970).

8. Compare the "legality principle" of European systems, which compels the prosecutor to pursue all cases which come to its attention.

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