

MITIGATION OF SENTENCE IN ORDER TO DETER?

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Deterrence continues to be one of the principal objectives of penal policy, upheld by legislature and judiciary alike. On the legislative level, increased penalties are frequently introduced, sometimes specifying minimum terms of imprisonment, with this aim in view.¹ On the judicial level, it was held by an American court that "the ultimate goal is deterrence".² Similarly, the decision to apply the sentencing "tariff" by the Court of Appeal in England (i.e., to determine the penalty according to an informal scale), rather than employ an individualized measure, is generally based on deterrence considerations.³

Adherence to the deterrence philosophy is illustrated by the more reflective comments of such a penologically-oriented magistrate as Sir Leo Page who, while rejecting the expiatory and retributive philosophies of sentencing, expressed the typical view:

"... When in the view of the court severity is necessary, it may endeavour to protect the community by the deterrent punishment of an offender designed to frighten him and other potential offenders from further crime."⁴

The preceding quotation specifies both deterrence of the defendant himself and of other potential offenders. These two forms of deterrence are frequently differentiated under the terms "specific" (or "special" or "individual") deterrence, on the one hand, and "general" deterrence on the other. The judiciary, however, as indicated in the quotation, generally express their belief in both aspects of the deterrence philosophy—even though it does not necessarily constitute their foremost consideration.

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¹ See, for example, the reasons given for introducing harsher penalties (including minimum penalties) for rape in Pennsylvania reported by B. Schwartz, "The Effect in Philadelphia of Pennsylvania's Increased Penalties for Rape" (1968) 59 *J. of Crim. Law, Criminology and Police Science* 509, 510. See also D. F. Greenberg, "Crime Deterrence Research and Social Policy", in S. S. Nagel (ed.) *Modelling the Criminal Justice System* (Beverly Hills, Sage Publications, 1977) 281, 282.

² *Sauer v. United States* 241 F. 2d 640 (C.A. Cal. 1957). See also *Pell v. Procunier* 417 U.S. 817, 822-823 (1974).

³ D. A. Thomas, *Principles of Sentencing* (2nd ed., London, Heinemann, 1979) Chs. 1 and 2.

⁴ L. Page, *The Sentence of the Court* (London, Faber and Faber, 1948) 44. For a more recent account of the "judicial confidence in the deterrent effect of the example of punishment" see R. Cross, *The English Sentencing System* (London, Butterworths, 1971) 106-107.

Thus Hogarth⁵ conducted an intensive study of the sentencing attitudes and practices of the Ontario magistrates. While the magistrates were divided in their views as to how important they considered general and specific deterrence—in each case a sizeable minority regarded these objectives (ranked on a Likert scale) as “very important”.⁶ Moreover, in terms of their “penal philosophy scores” devised by the author, general deterrence and specific deterrence were in second and third places respectively, following fairly closely behind “reformation”.⁷ Finally, while the magistrates tended to regard institutional sentences as relatively more effective in deterring the individual offender than in deterring others,⁸ two out of three were nevertheless convinced that they themselves had on some occasion been instrumental in “stamping out” an outbreak of a particular type of crime in a particular locality.⁹

Considerable skepticism of such views, however, has frequently been expressed by academic writers and penologists.¹⁰ The skepticism was directed primarily at the belief in the “general deterrence” effect of the death penalty, and relied partly on the apocryphal account of the pick-pockets who had a “field day” on the occasion of the execution of one of their fellows, and partly on studies of the available statistics on murder rates in jurisdictions in which the death penalty was in force as compared with those in which it was repealed or in abeyance.¹¹ Further, belief in specific deterrence would seem to have been dealt a blow by the widely-propounded theme, summarized by Martinson,¹² who argues, on the basis of a survey of evaluation studies, that the nature of the punishment has almost no effect on the subsequent conduct of the offender. While the brunt of the criticism of this school is directed at the rehabilitative

⁵ J. Hogarth, *Sentencing as a Human Process* (Toronto, University of Toronto Press, 1971).

⁶ *Ibid.* 71.

⁷ *Ibid.* 73, Table 15. An Israeli study of District Court judgments in the 1950s indicated rather less emphasis on deterrence. See S. Shoham, *Crime and Social Deviation* (Chicago, Regnery, 1966) 178-179.

⁸ Of the 71 magistrates responding, 42 viewed institutional sentences as a deterrent to the offender, while 36 viewed them as a deterrent to others. Hogarth *op. cit.* 74, Table 16.

⁹ *Ibid.* 76. Similar “proof” of the effectiveness of deterrent sentences is provided by Page *op. cit.* 178: “No crimes have been punished by the judges so relentlessly by long sentences as coining and blackmail. They have virtually disappeared from the calendar.” The possible fallacy involved in this form of reasoning, which ignores the “cyclical” nature of certain social phenomena, is pointed out by F. E. Zimring and G. J. Hawkins, *Deterrence: The Legal Threat in Crime Control* (Chicago, University of Chicago Press, 1973) 24-27.

¹⁰ See, e.g., H. E. Barnes and N. K. Teeters, *New Horizons in Criminology* (3rd ed., Englewood Cliffs, N. J., Prentice-Hall, 1959) 286.

¹¹ See the studies by Schuessler, Sellin and Vold summarized by J. P. Gibbs, *Crime, Punishment and Deterrence* (New York, Elsevier, 1975) 152-157. See also N. Walker, *Sentencing in a Rational Society* (London, Allen Lane, Penguin Press, 1969) 60.

¹² R. Martinson, “What Works? Questions and Answers about Prison Reform” (1974) 36 *The Public Interest* 22.

philosophy, it seems implicitly to detract from the effectiveness of punishment in terms of specific deterrence also.¹³

On the other hand, with regard to general deterrence at least, some academic support has lately been forthcoming for the deterrence doctrine, based upon empirical research conducted mainly by sociologists and econometricists. There has, indeed, been a plethora of research and publications in this area.¹⁴ The view sometimes expressed that the economists tend to find that punishment has a deterrent effect while the sociologists remain skeptical is not entirely baseless, but it represents an over-simplification.¹⁵

The debate has revolved hitherto around the question of the validity of the deterrence hypothesis. (Or hypotheses: many of the studies are concerned with the *certainty* of punishment rather than its *severity*.)¹⁶ In operational terms, the question posed has been whether there were empirical grounds for rejecting the null hypothesis that the severity of the penalty had no effect on the crime rate, in favour of the conclusion that increasing severity was indeed associated with a reduction in crime. There also exists, however, an alternative hypothesis, that increasing the severity of the penalty has a *positive* effect on crime rates and that, conversely, mitigation of sentence is associated with reduction of these rates.

It is the purpose of this article to explore this theme, in the context of the available data on both general and individual deterrence.

THE EFFECTS OF SEVERITY: THE EMPIRICAL EVIDENCE

Until recently, discussion of the deterrent effects of punishment remained largely on the speculative level, with little attempt at empirical verification

¹³ The forms of disposal considered in Martinson's survey were not confined to therapeutic treatments, but include, for example, incarceration as such, for periods of varying duration (see below p. 290). Moreover, the main criterion for success of the measures considered was recidivism—perhaps more appropriate as a criterion of effective deterrence than of rehabilitation.

¹⁴ See, e.g., the references in J. P. Gibbs, *op. cit. fn. 11*, 239-251; E. A. Fattah, "Deterrence: A Review of the Literature" in Law Reform Commission of Canada, *Fear of Punishment* (Ottawa, Ministry of Supply and Services, 1976) 105-119; and J. Palmer, "Economic Analysis of the Deterrent Effect of Punishment: A Review" (1977) 14 *J. of Research in Crime and Delinquency* 4, 18-21. Palmer mentions 78 publications on this topic in the econometric field alone. In addition to these three sources, comprehensive reviews of the literature have been conducted by the National Academy of Sciences by A. Blumstein, J. Cohen and D. Nagin, *Deterrence and Incapacitation: Estimating the Effects of Criminal Sanctions on Crime Rates* (Washington D.C., National Academy of Sciences, 1978) and by D. Beylveled, *The Effectiveness of General Deterrents Against Crime: An Annotated Bibliography of Evaluative Research* (Cambridge, Inst of Criminology, 1978) (microfiche).

¹⁵ This point will be substantiated by the discussion of some of the research findings below. The "war of the disciplines" has, however, recently been revived by the econometrician Isaac Ehrlich, who has attributed the sceptical tone of the report on deterrence issued by the National Academy of Sciences to the professional imbalance in the composition of its panel of experts. See I. Ehrlich and R. Mark, "Fear of Deterrence: A Critical Evaluation of the 'Report of the Panel on Research of Deterrent and Incapacitative Effects'" (1977) 6 *J. of Legal Studies* 293, 295.

¹⁶ Fattah (*op. cit. fn. 14*, 27-32) notes additional possible hypotheses related to the *publicity*, *swiftness* and *frequency* of punishment.

of the views held. The studies referred to above on the effectiveness of the death penalty relied upon statistical data; but not only were the analyses somewhat crude,¹⁷ but also the subject matter is far from typical of the penal system as a whole. Capital punishment was administered in such an arbitrary fashion that the Supreme Court of the United States subsequently struck down its use as "cruel and unusual punishment".¹⁸ Further, the offences for which it was imposed are by definition perceived to be of extreme gravity and cannot be considered representative. Finally—a somewhat neglected factor in this context—it is not altogether clear how far the alternatives to the death penalty are necessarily perceived as less severe.¹⁹ Thus, even if the death penalty were found to reduce the murder rate,²⁰ while this would undoubtedly constitute an argument in its favour, it would not necessarily indicate the greater effectiveness of harsher penalties.²¹

The more sophisticated studies conducted in recent years, however, have concentrated mainly on the duration of prison sentences as the measure of the severity of punishment. The criterion of severity is usually either the mean or the median term of imprisonment served by prisoners convicted for a particular type of offence and released during the course of a particular year, or still serving their sentences on a particular date. Here, also, reservations must be expressed about the criteria adopted; for not only may there be controversy as to which of the above measures is the most appropriate as a measure of the severity of prison terms, but

¹⁷ Studies outside the area of the death penalty were few and far between, and usually made no attempt to control for even the most relevant variables; see, for example, G. Rusche and O. Kirchheimer, *Punishment and Social Structure* (New York, Russell & Russell, 1939).

¹⁸ *Furman v. Georgia*, 408 U.S. 238 (1972). The subsequent revival of capital punishment statutes on a supposedly less arbitrary basis may be a ground for replicating in the future the studies of its deterrent effects.

¹⁹ Deterrence studies are not normally concerned with absolute deterrent effects, but with the relative advantages of one penalty over another—what Zimring and Hawkins, *supra*, fn. 9 refer to as "marginal deterrence".

²⁰ As found by I. Ehrlich, "The Deterrent Effect of Capital Punishment: A Question of Life and Death" (1975) 65(3) *American Economic Review* 397 (discussed further below).

²¹ T. Sellin, "Beccaria's Substitute for the Death Penalty" in S. F. Landau and L. Sebba (eds.) *Criminology in Perspective* (Lexington, Lexington Books, 1977) 3 has shown how the repeal of the death penalty, in the eighteenth century, resulted in arguably harsher penalties being imposed—incarceration or forced labour in conditions so oppressive that death was the almost inevitable result. An illustration of this principle in recent times is the occasional refusal on the part of an offender condemned to the death penalty to petition for pardon, as in the Gilmore case (see also J. Barzun, "In Favour of Capital Punishment", in H. A. Bedau (ed.) *The Death Penalty in America* (New York, Doubleday, 1967) 162). An attempt to measure the relative perceived severity of the death penalty as compared with other types of punishment, employing psychophysical scaling, is described by V. L. Hamilton and L. Rotkin, "Interpreting the Eighth Amendment: Perceived Seriousness of Crime and Severity of Punishment" in H. A. Bedau and C. M. Pierce (eds.) *Capital Punishment in the United States* (New York, AMS Press, 1977). Generally speaking, however, the whole problem of the relative severity of different forms of penalty has been neglected: see L. Sebba, "Some Explorations in the Scaling of Penalties" (1978) 15 *J. of Research in Crime and Delinquency* 247.

these criteria fail also to take account of a fundamental component of sentencing severity, namely the decision to impose a custodial rather than a non-custodial sentence. Thus the practice of imposing long terms of imprisonment might reflect a tendency to confine the use of prison for the most serious cases only and thereby indirectly reflect *leniency*.²² However, this possibility may be somewhat remote where the more serious offences are concerned, the probability of a non-custodial sentence being relatively low.²³

Most of the studies appearing in the sociological literature on deterrence have involved correlating the severity of prison sentences in the different American states with the crime rates in those states. To some extent these studies questioned the conventional skepticism with which the deterrent potential of punishments had been viewed hitherto. In the first of these studies, Gibbs found a negative relationship between homicide rates and the severity of prison sentences.²⁴ While there was a stronger negative association²⁵ with the *certainty* of imprisonment, there was an additive effect between the two. Gibbs drew the cautious conclusion that "even though the relation between severity and the criminal homicide rate is obviously not a close one by any standard, the evidence of an additive effect . . . cautions against entirely rejecting the possibility that severity in some way operates as a deterrent".²⁶ Gray and Martin²⁷ applied a multiple regression analysis to the same data which confirmed Gibbs' findings in principle, but found that "severity accounts for more of the variation in the homicide rate than does certainty".²⁸ Moreover, a study by Tittle²⁹ also found a substantial negative association between severity and the

²² A measure of severity based solely upon the proportion of offenders receiving custodial sentences would be unsatisfactory in that it would not take account of the duration of the sentence; a better solution would be to adopt a combined function based upon both the probability of a prison sentence and its duration.

²³ The probability of receiving a prison sentence is generally employed as a measure of *certainty* of punishment rather than of its *severity*; but here the denominator is not the total number of offenders sentenced, but the number of offences committed. Thus the proposal in the preceding note is not to be confused with Tullock's suggestion that "the appropriate technique is simply to divide the average sentence by the frequency with which it is imposed". G. Tullock, "Does Punishment Deter Crime?" (1974) 36 *The Public Interest* 103, 107. This technique is designed to evolve a combined measure of certainty and severity. See also below, p. 284.

²⁴ J. P. Gibbs, "Crime, Punishment and Deterrence" (1968) *Southwestern Social Science Quarterly* 515. Gibbs' measure of severity was "the median number of months served on a homicide sentence by all persons in prison on December 31, 1960", *ibid.* 519.

²⁵ Gibbs rejected the applicability of correlation coefficients on the grounds that the assumptions of normality were not met. Instead, he constructed contingency tables of states with above and below median crime rates and levels of certainty and severity, and applied chi-squared tests and phi-coefficients.

²⁶ *Op. cit.* fn. 24, 525.

²⁷ L. N. Gray and J. D. Martin, "Punishment and Deterrence: Another Analysis of Gibbs' Data" (1969) 50 *Social Science Quarterly* 389.

²⁸ *Ibid.* 391.

²⁹ C. R. Tittle, "Crime Rates and Legal Sanctions" (1969) 16 *Social Problems* 409.

homicide rate.³⁰ However, the comment which these studies elicited from Tullock, that “. . . these scholars took up their cudgels with the intention of demonstrating that Gibbs was wrong, and all ended up agreeing with him”,³¹ is misleading. For while these writers confirmed Gibbs’ finding that lower homicide rates were associated with greater certainty and severity of punishment,³² it emerged from Tittle’s study that, in the case of other felonies,³³ while *certainty* of punishment was in these cases, too, associated with lower crime rates, this was not true of the *severity* of punishment.³⁴ On the contrary, the association between crime rates and severity for all the other six types of offence considered was *positive*, as it was also for “all felonies”,³⁵ indeed, in the case of sex offences the positive correlation was significant at the 5% level. On the basis of these findings, Tittle observed: “In general it appears that the greater the severity of punishment, the greater the crime rate is likely to be.”³⁶ However, controlling for level of urbanization³⁷ “practically destroys any association”. Thus “it would seem that severity alone is simply irrelevant to the control of deviance”.³⁸

Chiricos and Waldo conducted a somewhat similar type of analysis.³⁹ They examined the relationship between the severity of prison sentences served by state prisoners released in 1960 and mean crime rates for the years 1960-1962, for six “index” offences.⁴⁰ The same analysis was also conducted for prisoners released in 1964, and mean crime rates for 1964-1966. In respect of the first period, the pattern found by Tittle was essentially repeated: the relationship between severity and crime rates for all offences except homicide was *positive*.⁴¹ Again, for one of these

³⁰ Kendall’s Tau $c = -.45$; $p = < .001$. Tittle’s analysis was based on categorical data, to which ordinal scores were assigned; *ibid.* 414.

³¹ *Op. cit.* fn. 23, 107.

³² But compare below, fn. 53, and R. G. Salem and W. J. Bowers, “Severity of Formal Sanctions as a Deterrent to Deviant Behaviour” (1970) 5 *Law and Society Review* 21, 23.

³³ Namely assault, larceny, robbery, burglary, auto theft, and sex offences.

³⁴ Tittle’s measure of severity was “the mean length of time served for felony prisoners released from state prisons in 1960”. *Op. cit.* fn. 29, 413.

³⁵ Two additional measures of severity were also employed here: the median sentence for state felony offenders imprisoned in 1960, and the number of crimes punishable by death. The latter in fact constitutes a measure of the *prescribed* severity of punishment. Moreover, it seems a somewhat inappropriate measure in the present context, since presumably the majority of felonies included in the analysis were not subject to the death penalty in any one of the states. When these measures were used, the correlations with crime rates remained positive.

³⁶ *Op. cit.* fn. 29, 416.

³⁷ Tittle also controlled for educational level, age and sex compositions, and “modernism” of the population.

³⁸ Tittle, *op. cit.* fn. 29, 416.

³⁹ T. G. Chiricos and G. P. Waldo, “Punishment and Crime: An Examination of Some Empirical Evidence” (1970) 18 *Social Problems* 200. The method of analysis was in fact that employed by Gibbs; *ibid.* 206.

⁴⁰ Sex offences were omitted for technical reasons.

⁴¹ Somewhat similar results were obtained by G. Antunes and A. L. Hunt, “The Deterrent Impact of Criminal Sanctions: Some Implications for Criminal Justice

offences—in this case assault—the positive association was significant at the 5% level. In respect of the second period, the correlations—including that for homicide—approximated to zero. The authors concluded that “if there is a correlation between the severity of punishment and subsequent criminality, our analysis—covering two points in time—has not been able to show it”.⁴²

Another analysis of a similar nature was that of Bailey, Martin and Gray, who examined the association between the median periods of imprisonment in state prisons for the years 1951, 1960 and 1964, and the crime rates in 1950, 1960, and 1964 respectively.⁴³ The product moment correlations were *positive* for 9 out of the 20 relationships examined.⁴⁴ The authors rejected the use of significance tests in the present context, but elected to regard a coefficient of $r = .400$ as “moderate”. By this criterion, the only coefficient of borderline “moderacy” was the negative correlation for homicide ($r = -.396$) in 1950. The only other correlations to exceed .200 were homicide in 1960 ($r = -.332$), and the positive correlations for auto theft in 1960 ($r = .295$) and burglary in 1964 ($r = .271$).

The authors also calculated logarithmic correlations between severity and crime rates, on the hypothesis that a power function was involved rather than a rectilinear relationship. If homicide is omitted, 15 of the 17 correlations were positive (albeit moderate in terms of magnitude). Thus, while one can accept the authors' conclusion that “severity has an important effect upon homicide, but for most crimes it is relatively unimportant”,⁴⁵ the results seem in fact to indicate that, homicide apart, severity was more likely to be associated with higher rather than lower crime rates.⁴⁶ It should be noted that this is more strongly indicated by the logarithmic analysis—which the authors themselves regarded as the more meaningful one.⁴⁷

Policy” (1973) 51 *J. of Urban Law* 145; G. Antunes and A. L. Hunt, “The Impact of Certainty and Severity of Punishment on Levels of Crime in American States: An Extended Analysis” (1973) 64 *J. of Crim. Law and Criminology* 486. These articles will be referred to in greater detail below.

⁴² Chiricos and Waldo, *op. cit.* fn. 39, 208.

⁴³ W. C. Bailey, J. D. Martin and L. N. Gray, “Crime and Deterrence: A Correlation Analysis” (1974) 11 *J. of Research in Crime and Delinquency* 124. The discrepancy in the years resulted from the lack of data on severity of sentence in 1950. However, in principle it would seem that examination of the deterrence hypothesis by reference to prison terms *subsequent* to the year of the crime rate under consideration was questionable; it would seem preferable to employ prison terms *imposed* at an earlier period, as employed in the Chiricos and Waldo study.

⁴⁴ These related to homicide, robbery, assault, burglary, theft and auto-theft in all three years and manslaughter and rape only in 1950, since prison data were not available for these offences in subsequent years.

⁴⁵ Bailey, Martin and Gray *op. cit.* fn. 43, 139.

⁴⁶ Similar results were obtained by Antunes and Hunt, “The Deterrent Impact of Criminal Sanctions . . .” *op. cit.* fn. 41 and C. H. Logan, “General Deterrent of Imprisonment” (1972) 51 *Social Forces* 64, Table 4.

⁴⁷ See also Gray and Martin *op. cit.* fn. 27, 395.

A few studies have attempted a longitudinal approach. Here the question is not whether jurisdictions which punish more severely have higher or lower crime rates, but what is the impact on the crime rates of a change in the severity of punishment within a particular jurisdiction.⁴⁸ Schwartz⁴⁹ examined the effect in Philadelphia of the increased penalties for rape, including the introduction of mandatory minimum terms of imprisonment of 15 years for rape involving bodily injury, in the State of Pennsylvania in 1966, following a particularly brutal case of rape. The incidence of reported rapes committed during the seven months following the introduction of the law was identical with the figures for the equivalent period during the preceding year. Moreover no significant differences could be identified in the seriousness of the offences before and after the introduction of harsher penalties. Schwartz concluded that "Pennsylvania's new deterrent strategy against rape was a failure as far as Philadelphia is concerned".⁵⁰

Chiricos and Waldo,⁵¹ in addition to the "cross-sectional" analysis referred to earlier, also conducted a longitudinal analysis of the relationships between percentage *changes* in the severity of punishment from 1960 to 1964⁵² for the six offences considered, and subsequent changes in the rates of crime. Owing to the uncertainty of the appropriate period in which changes in the crime rates might be expected to appear, the relationships were computed in respect of the crime rates for each of the following three periods: 1961-1965, 1962-1966, and 1963-1967. The

⁴⁸ Different types of longitudinal study are discussed by Gibbs, *op. cit.* fn. 11. It would seem that the need to control for other variables should be less acute in this type of study, as compared with those of the "cross-sectional" type (see Gibbs *ibid.* 146-148). Moreover, the problem of aggregation bias is substantially avoided (see Greenberg, *op. cit.* fn. 1, 287-289). On the other hand, the problem of interpreting the cause-and-effect relationship is exacerbated. Yet another approach—also confined to a particular jurisdiction but static as to the time dimension—is to analyze the effect of attaching a substantially more severe penalty to a nominally more serious offence; see F. E. Zimring, "Punishment and Deterrence: Bad Checks in Nebraska—A Study in Complex Threats", in D. F. Greenberg (ed.), *Corrections and Punishment* (Beverly Hills, Sage Publications, 1977) 173.

⁴⁹ *Op. cit.* fn. 1.

⁵⁰ *Ibid.* 514. See also the effect of the increase in penalties for sex offences in Norway which will be discussed below. Some success, however, may have been achieved by increasing penalties for certain special offences, such as drunken driving and the illegal possession of firearms; see Gibbs *op. cit.* fn. 11, 158; J. A. Beha, "'And Nobody Can Get You Out': The Impact of a Mandatory Prison Sentence for the Illegal Carrying of a Firearm on the Use of Firearms and on the Administration of Criminal Justice in Boston" (1977) *57 Boston Uni. L.R.* 96, 289. However, the possibility of regression or "cyclical" effects cannot be discounted here, see Gibbs *op. cit.* fn. 11, 158.

⁵¹ *Op. cit.* fn. 39.

⁵² Severity was measured by the median length of sentence served by state prisoners released in 1960 and 1964 respectively. The percentage change in severity was

$$\text{measured by } \frac{1964 \text{ severity} - 1960 \text{ severity}}{1960 \text{ severity}}$$

findings were generally inconclusive.⁵³ It may be noted, however, that of the 18 phi-coefficients, thirteen were positive and only five negative. Moreover, the only statistically significant association (for larceny: $\phi = .49$, $p = < .001$) was a *positive* one.

More enthusiastic support for the deterrent efficacy of the severity of punishments has emerged from the flood of studies recently conducted by econometricians in this area.⁵⁴ The most dramatic contribution has been Ehrlich's study of murder and capital punishment,⁵⁵ which purported to show that during the course of the period surveyed, each execution prevented between 7 and 8 murders. This study however has been criticized on methodological grounds.⁵⁶ Moreover, as observed earlier, capital punishment and murder may not be the paradigm example for deterrence research generally.

Ehrlich,⁵⁷ however, also examined the effect of the severity of prison sentences on the rates for other offences. Using the multiple regression technique generally employed in the econometric studies,⁵⁸ he took account not only of probability and severity of punishment, but also of family income and ethnic composition of the population.⁵⁹ Applying this model to the crime rates in the different states of the U.S. in 1940, 1950 and 1960, he found significant negative coefficients for all types of crime in all three years in respect of both probability and severity.

With a view to testing the validity of Ehrlich's findings Forst conducted a somewhat similar analysis on 1970 data.⁶⁰ However he included eight additional variables including police and correctional budgets, population migration and density, and other potentially criminogenic variables such as broken homes and unemployment. The outcome of the analysis was that the negative association established by Ehrlich regarding the effects of both certainty and severity of punishment disappeared.⁶¹ While it is

⁵³ The authors observed that by contrast with the studies by Gibbs and Tittle, the inconclusiveness applied also to homicide; see Chiricos and Waldo op. cit. fn 39, 210.

⁵⁴ See supra fn. 14.

⁵⁵ Op. cit. fn. 20, 414.

⁵⁶ W. J. Bowers and G. L. Pierce, "The Illusion of Deterrence in Isaac Ehrlich's Research on Capital Punishment" (1975) 85 *Yale L.J.* 187; Blumstein et al., op. cit. fn. 14. Even Tullock, op. cit. fn. 23, one of the most ardent supporters of the deterrence hypothesis, expressed reservations about this finding.

⁵⁷ I. Ehrlich, "The Deterrent Effect of Criminal Law Enforcement" (1972) 1 *J. of Legal Studies* 259.

⁵⁸ In addition, Ehrlich used a simultaneous-equation method of estimating seemingly unrelated regressions.

⁵⁹ Control for such variables is occasionally, albeit rarely, a feature of the socio-logically oriented studies; see supra fn. 37.

⁶⁰ B. E. Forst, "Participation in Illegitimate Activities: Further Empirical Findings" (1976) *Policy Analysis* 477. To the extent that Forst's study was based upon data relating to a different year, it may be regarded as being concerned with the *reliability* of Ehrlich's study. Forst's primary objective, however, was to consider the *validity* of Ehrlich's methodology even in relation to Ehrlich's own data.

⁶¹ "He estimates the elasticity of the aggregate crime rate with respect to the average time served in prison to be -1.12 , and I estimate it at 0.01 "; *ibid.* 479.

possible to offer explanations as to the discrepancies between the findings of the two studies with regard to the effect of severity⁶² without labelling Ehrlich's findings as spurious,⁶³ Forst's analysis clearly casts serious doubts upon Ehrlich's conclusions.

The econometric studies tend to be more concerned with law enforcement activities than with the severity of punishment.⁶⁴ However mention may be made of one further study in which severity was considered. Pogue⁶⁵ analyzed crime rates for Standard Metropolitan Statistical Areas in the years 1962, 1967 and 1968. His analysis included a number of socio-demographic and economic variables, including population density, unemployment rates, amount of state and federal aid, and police expenditures. Pogue concluded that his data did not support the hypothesis that crime rates were influenced by the severity of sentence.⁶⁶ It also emerged, however, that the coefficients of the sentence variable were *significantly positive* for all crimes except burglary and grand larceny, which were insignificant. Thus the weight of evidence fails to substantiate the deterrence hypothesis regarding the effect of the severity of punishment. On the contrary, there appears to be a positive association between severity and the crime rates.⁶⁷

⁶² The measure of severity of sentence adopted by Forst—the number of prisoners divided by the number of imprisonments during the year was different from Ehrlich's. Further, Forst does not discount the possibility that a trend toward leniency on the part of the courts between 1960 and 1970 had detracted from their deterrent effectiveness: "It is quite possible that a given change in the level of incarceration has a larger effect on the crime rate when incarceration is more widely used." *Ibid.* 489.

⁶³ The term "spurious" was reserved by Forst for Ehrlich's findings as to the relationship between the *probability* (certainty) of imprisonment and the crime rate; *ibid.* 487.

⁶⁴ It should be noted that many of the econometric studies are concerned with alternative sentencing strategies, in particular the relative deterrent effects of custodial and monetary penalties. See e.g., M. K. Block and R. C. Lind, "Crime and Punishment Reconsidered" (1975) 4 *J. of Legal Studies* 241; M. K. Block and R. C. Lind, "An Economic Analysis of Crimes Punishable by Imprisonment" (1975) 4 *J. of Legal Studies* 479. While these studies in general postulate that severity of punishment has deterrent value, they sometimes also emphasize the limitations of this model. Thus, for example, Block and Lind state, that "beyond some point in terms of the severity of punishment, it is not possible to keep deterrence constant by trading off harsher punishments against a lower probability of punishment": Block and Lind, "Crime and Punishment Reconsidered"; *ibid.* 246.

⁶⁵ T. F. Pogue, "Effect of Police Expenditures on Crime Rates: Some Evidence" (1975) 3 *Public Finance Quarterly* 14.

⁶⁶ *Ibid.* 33. Pogue's index of sentence severity was somewhat unusual: "The difference between the sentences actually given for each type of crime by the U.S. District Court(s) in the SMSA and the sentences that would have been given if the District Court had given the sentence for each type of crime that was given on the average by all District Courts." *Ibid.* 23 Table 2.

⁶⁷ D. Nagin, "General Deterrence: A Review of the Empirical Evidence", in A. Blumstein et al., *op. cit.* fn. 14, in his analysis appended to the report published by the National Academy of Sciences, also mentions a Canadian study by Avio and Clarke which found "a positive and often significant association between average sentence and both robbery and theft rates" (*ibid.* 111). It is thus surprising that he should state in his conclusions that "most people will agree that increasing sanctions will deter crime somewhat". This may be true as a social prediction, but

MISCELLANEOUS INTERPRETATIONS

A possible explanation for the finding that increased severity does not in general appear to have a deterrent effect is that the probability of apprehension being low, variations in severity are not perceived as being meaningful.⁶⁸ This hypothesis is supported by the data discussed earlier, which indicated (subject to exceptions) that severity of punishment is a deterrent only for homicide—homicide being an offence for which the probability of apprehension is relatively high.⁶⁹ On the other hand Logan, on the basis of his data, formed the opinion that “severity has slightly greater deterrent effect . . . under low certainty”.⁷⁰ However the differences between the correlations between crime rates and severity at high and low levels of certainty were not uniform.⁷¹ Finally, Tittle⁷² also examined the correlations between the rates of various offences and the severity of punishment at different levels of certainty, and no consistent pattern emerged.

Other possible explanations for the lack of deterrent effect of severity are the general ignorance on the part of the public as to levels of punishment⁷³ as well as the view emphasized in some recent studies⁷⁴ that social

its validity must be seriously doubted in the light of the research findings—and of Nagin's own analysis.

⁶⁸ Some support for this is found in a study reported by L. S. Anderson, T. G. Chiricos and G. P. Waldo, “Formal and Informal Sanctions: A Comparison of Deterrent Effects” (1977) 25 *Social Problems* 103. An alternative hypothesis states that where the probability of apprehension is high, the need for severity as a deterrent is reduced, and the effect of fluctuations in severity would be relatively slight. In this context the econometricians have raised the question as to whether offenders are risk-takers or “risk-averse”. Thus Becker has suggested that the limits on the efficacy of the threat of punishment indicate “risk preference” on the part of offenders (see G. S. Becker, “Crime and Punishment: An Economic Approach” (1968) 76 *J. of Political Economy* 169). However, Block and Lind claim to show that the limited efficacy of punishment can be accounted for without resort to this “bothersome assumption” (see Block and Lind, “Crime and Punishment Reconsidered” op. cit. fn. 64, 245).

⁶⁹ This finding conflicts with the view that deterrence is more relevant for “instrumental” offences where the objective may be attainable by other means, than for “expressive” offences. See W. J. Chambliss, “Types of Deviance and the Effectiveness of Legal Sanctions” (1967) *Wisc. L.R.* 703. Homicide would generally be classified as an “expressive” offence.

⁷⁰ Logan, op. cit. fn. 46, 71. He found a negative association between severity and crime rates of $-.17$ where certainty was high, and $-.21$ where certainty was low; *ibid.* Table 6. This is in contrast with Table 4, undifferentiated according to levels of certainty, where the correlation between severity and crime rates was positive $(+.12)$.

⁷¹ *Ibid.* Table 6. See also the additional note of caution based on the limited range of variability in certainty levels (*ibid.* fn. 13).

⁷² Op. cit. fn. 29.

⁷³ See R. L. Henshel and S. H. Carey, “Deviance, Deterrence and Knowledge of Sanctions”, in R. L. Henshel and R. A. Silverman (eds.) *Perception in Criminology* (New York, Columbia University Press, 1975) 54, 59-60.

⁷⁴ E.g. C. R. Tittle, “Sanction Fear and the Maintenance of Social Order” (1977) 55 *Social Problems* 579; R. F. Meier, “The Deterrence Doctrine and Public Policy: A Response to Utilitarians”, in J. A. Cramer (ed.) *Preventing Crime* (Beverly Hills, Sage Publications, 1978) 233-247.

conduct is overwhelmingly dictated by norms unrelated to legal sanctions. (This, however, is as much a *conclusion* to be derived from the deterrence data as it is an *explanation* of these data.) These explanations are undoubtedly helpful in explaining the *limited* effects of sentencing policy on crime rates; they do not, however, provide any clarification of the findings of apparent *positive* correlations between severity of punishment and crime rates. Can it be that the threat of a harsher penalty is in some way perceived by the potential offender as an attraction, or a challenge, serving as an encouragement to commit the offence rather than deterring him?⁷⁵

It is true that explanations are occasionally offered in this vein, notably by the psychoanalytic approach to criminology, whereby the crime is seen as an expression of the offender's need to assuage his guilt by invoking a punitive reaction on the part of society. It seems doubtful, however, whether this approach could explain more than a small minority of cases.

An alternative interpretation of the research findings would see severe sentences not as the cause of but as a *reaction to* higher crime rates,^{75a} an interpretation to which judicial declamations sometimes lend support. However, most of the analyses are based on geographical comparisons rather than comparisons over time,⁷⁶ and it seems unlikely that courts would be reacting to the level of crime rates in their jurisdiction relative to other jurisdictions (as opposed to fluctuations in crime rates within their own jurisdiction).⁷⁷

⁷⁵ Such an interpretation seems *prima facie* indicated by a study conducted by R. F. Meier and W. T. Johnson, "Deterrence as Social Control: The Legal and Extra-legal Production of Conformity" (1977) 42 *American Sociological Review* 292, who found that respondents who perceived the penalties for the use of marijuana as relatively severe were more likely to be users themselves ($\beta = .348$). Severity, however, was measured by the respondent's specifying that the courts were "(1) not strict enough, (2) about right or (3) too strict" (*ibid.* 298; emphasis added). The respondents were thus in fact expressing their opinion not as to how severe the courts were in practice but as to how severe they ought to be. Naturally, the users thought that the courts should be less severe than they were.

^{75a} See W. M. Minor, "Deterrence Research: Problems of Theory and Method" in J. A. Cramer (ed.), *Preventing Crime* (Beverly Hills, Sage Publications, 1978) 21-45. This raises the "simultaneity" issue, which was analysed exhaustively in the report published by the National Academy of Sciences (Blumstein et al., *op. cit.* fn. 14, 5) and led to their skeptical conclusion regarding the proven deterrent effect of punishment. It should be noted that a reversal of cause-and-effect relationship can also be surmised where correlations between severity of punishment and crime rates are found to be *negative*, if, for example, a higher caseload were to lead to more plea-bargains. See Greenberg, *op. cit.* fn. 1, 286. Cf. also the cause-and-effect controversy which has emerged with respect to the data on the effects of variations in the *certainty* of punishment. See H. N. Pontell, J. P. Gibbs, C. R. Tittle and R. L. Henshel, "Deterrence: A Statement and Three Commentaries" (1978) 16 *Criminology* 3.

⁷⁶ Chiricos and Waldo *op. cit.* fn. 39 correlated changes in the severity of punishment with *subsequent* changes in the crime rate. It would be interesting to observe whether their findings would have been different had they examined *preceding* changes in the crime rate.

⁷⁷ It is theoretically conceivable, however, that when conscious or relatively high rates of crime occur in their jurisdiction the courts resort to harsh sentences, in the hope that they will have a deterrent effect.

Yet another possibility is that both crime rates and severity of punishment are affected by a third variable. This could operate in one of two ways. On the one hand, the variable could be independent of both crime rates and severity, while influencing both (in this case in the same direction).⁷⁸ No such variable is clearly indicated by the studies, although, as noted above, Tittle^{78a} found that the degree of urbanization could account for the positive relationship between the two variables.⁷⁹

On the other hand, the third variable might be an *intervening* variable, which would provide a link between severity of sentence and crime rates, i.e., it would be directly affected by the severity of sentence, and it would in turn affect the crime rates. Thus Andenaes,⁸⁰ seeking an explanation for the higher rates of sex offences following the increase in penalties laid down for these offences by the Norwegian legislature in 1927, attributed these rates to a greater inclination to report such offences.⁸¹ Toby⁸² has suggested a mechanism which could account for a genuine positive association between severity and crime rates: the replacement of severe penalties with treatment measures would render the prohibited conduct less attractive for certain "machismo-oriented" offenders. These explanations are somewhat speculative, and seem unlikely to account for what appears to be a fairly generalized phenomenon.

One variable which appears to constitute an essential link between the severity of punishment and crime rates is the *perception* variable. For if the severity of sanctions is a factor in the decision making process on the part of the offender, the operative influence should be the sanction as *perceived by the offender*. Indeed, some writers regard the deterrence hypotheses as being concerned primarily with this question, the "objective measures of punishment [being used] as 'substitutes' for measures of perceived properties of punishments".⁸³

⁷⁸ E.g., a relatively high proportion of blacks or second-generation immigrants in the population could have the effect both of increasing the crime rates, assuming these groups were delinquency prone, and of increasing the severity of sentences as a result of discriminatory sentencing practices. Cf. also fn. 100.

^{78a} Op. cit. fn. 29.

⁷⁹ Geenberg, op. cit. fn. 1, 286-287, on the other hand, has suggested that the urbanization factor might result in a *negative* correlation between the variables, since the high crime rates in urban areas would be accompanied by "budgetary and reform group pressures [resulting] in more highly developed probation service and higher judicial utilization of probation than in rural areas".

⁸⁰ J. Andenaes, *Punishment and Deterrence* (Ann Arbor, University of Michigan Press, 1974) 23.

⁸¹ If this explanation is accurate, the "higher rates" are of course an artifact, an example of the phenomenon described by Gibbs op. cit. fn. 11, 159 as a "heightening effect".

⁸² J. Toby, "Deterrence without Punishment" in N. Bishop et al. (eds.) *General Deterrence: A Conference on Current Research and Standpoints* (Stockholm, National Swedish Council for Crime Prevention, 1975) 287-302.

⁸³ M. L. Erickson and J. Gibbs, "Objective and Perceptual Properties of Legal Punishment and the Deterrence Doctrine" (1978) 25 *Social Problems* 253.

Some studies have consequently attempted to evaluate the effects of perceived severity of punishment on crime rates. Since perceptions are measured on the basis of responses elicited from individuals, crime rates, too, have to be determined here on a subjective basis—on the basis of self-reported crimes.⁸⁴ While self-report may generally provide a more accurate measure of criminality or delinquency than official rates of crime, in the present context it raises the problems of the comparability of the studies dealing with perceived severity and objective severity respectively. Moreover, while the studies of objective severity concentrate mainly on the F.B.I.'s index crimes, the perception studies, which rely primarily on student respondents, tend to focus on petty offences and acts of delinquency.⁸⁵ This further aggravates the problem of comparability, for most researchers on deterrence emphasize the need to differentiate in this area according to typologies of offence and/or offender.⁸⁶

The findings of the perception studies with regard to the effects of severity are in fact rather inconclusive. Waldo and Chiricos⁸⁷ questioned university students regarding their perceptions and experience with marijuana and theft. They concluded that "the data for marijuana use and theft indicate that *no relationship* exists between perceptions of severe punishment and admitted criminality".⁸⁸ On the other hand Bondeson⁸⁹ reported negative correlations between self-reported crime and perceived minimum sentences (but no relationship with perceived maximum sentences). Silberman⁹⁰ found self-reported crime rates to have significant negative correlations with severity for two out of the nine offences included in his study. Yet for three offences the correlation was *positive* (although non-significant), while for female respondents there was "a tendency for those . . . who believe that crimes are severely punished to

⁸⁴ See, however, *ibid.*

⁸⁵ Bondeson's study is an exception in this respect. See U. Bondeson, "Survey Research as a Means to Explore General Deterrence", in N. Bishop et al. (eds.), *General Deterrence: A Conference on Current Research and Standpoints* (Stockholm, National Swedish Council for Crime Prevention, 1975) 137-151.

⁸⁶ See e.g. Andenaes *op. cit.* fn. 80, Ch. 3; Fattah *op. cit.* fn. 14, 65. Two recent studies, however, in which deterrence models were developed, have concluded that crime *in general* may be easier to predict than specific offences; see M. Silberman, "Towards a Theory of Criminal Deterrence" (1976) 41 *American Sociological Review* 442, 445; W. W. Minor, "A Deterrence—Control Theory of Crime" in R. F. Meier (ed.), *Theory in Criminology: Contemporary Views* (Beverly Hills, Sage Publications, 1973) 117, 131.

⁸⁷ G. P. Waldo and T. C. Chiricos, "Perceived Penalty Sanction and Self-Reported Criminality: A Neglected Approach to Deterrence Research" (1972) 19 *Social Problems* 522.

⁸⁸ *Ibid.* 536. However, Table 20A and the commentary thereon, indicate that marijuana users were more optimistic than non-users about avoiding the maximum penalty on conviction (*ibid.* 531). Cf. W. C. Bailey and R. P. Lott, "Crime, Punishment and Personality: An Examination of the Deterrence Question" (1976) 67 *J. of Crim. Law and Criminology* 99; Meier and Johnson *op. cit.* fn. 75.

⁸⁹ *Op. cit.* fn. 85.

⁹⁰ *Op. cit.* fn. 86.

be more criminally involved than those who believe otherwise".⁹¹ Finally, Teevan,⁹² in a review of his own studies, noted very little evidence of a deterrent effect of severity and concluded that "the deterrence hypotheses be cautiously retained for certainty of punishment and cautiously rejected for severity of punishment until other evidence is available".⁹³

Thus there appears to be no proven relationship between perception of severity and crime rates. Moreover, there seems to be no conceivable a priori basis for hypothesizing a negative relationship between perceived severity and actual severity such as would account for a *positive* association between severity and crime rates. There thus seems to be no evidence for the assumption of deterrence theory that objective severity affects crime rates through perceived severity.⁹⁴

The literature on deterrence reviewed earlier does, however, reveal the existence of a variable whose relationship with both the level of crime rates and the severity of penalties has been strongly indicated. This variable is the probability (or degree of certainty) of punishment, and its relevance in the context of severity will now be considered.

SEVERITY, CERTAINTY, AND CRIME RATES

The first question which must be considered under this heading is the effect on crime rates of increases and decreases in the probability that punishment will be imposed. Unlike the evidence relating to the deterrent effects of the severity of punishment, the evidence that greater certainty in the imposition of punishment is associated with lower crime rates is fairly strong. This conclusion is drawn not only by the majority of the econometric studies,⁹⁵ but also emerges from the sociologically-oriented studies of Tittle,⁹⁶ Logan,⁹⁷ Bailey,^{97a} Antunes and Hunt,^{97b} and to some

⁹¹ Ibid. 448. Among his concluding propositions, Silberman makes the surprising statement that "between offence categories a definite negative correlation between severity and crime rate is found". There seems to be no evidence for this proposition in the course of what is generally a comprehensive and integrated account of the data, other than some observations to the effect that the sparse evidence for the deterrent effect of sanctions has related to felonies rather than petty offences. Surely Silberman cannot be claiming to have shown that the lower rate for homicide as compared with totally dissimilar offences such as possession of marijuana is due to the severity of the sanction. Moreover, as applied to offence categories of a substantially similar character but subject to different legal and sanctioning classification, the above statement is inconsistent with findings of F. E. Zimring, op. cit. fn. 48 whose study was designed specifically to examine this hypothesis.

⁹² J. J. Teevan Jr., "Deterrent Effects of Punishment for Breaking and Entering and Theft", in Law Reform Commission of Canada, *Fear of Punishment* (Ottawa, Ministry of Supply and Services, 1976) 121.

⁹³ Ibid. 139. See also Fattah op. cit. fn. 14, 100.

⁹⁴ For a similar view regarding the *certainty* of punishment, see Erickson and Gibbs op. cit. fn. 83, 263.

⁹⁵ Including the study by Pogue op. cit. fn. 65.

⁹⁶ Op. cit. fn. 29.

⁹⁷ Op. cit. fn. 46.

^{97a} Op. cit. fn. 43.

^{97b} Op. cit. fn. 41.

extent from Chiricos and Waldo,^{97c} in spite of the reservations expressed in the last-mentioned study both as to their own and others' findings in this respect.⁹⁸ Admittedly, however, occasional discrepancies are found even here.⁹⁹

If the probability of the imposition of punishment (certainty) has an effect on crime rates,¹⁰⁰ the possibility must also be considered of an interaction effect between certainty and severity. The possibility that severity may have a greater effect on the crime rate at a higher or lower level of certainty has already been alluded to. Some studies have attempted instead to partial out the effects of certainty in order to ascertain the "uncontaminated" effects of severity. This approach is incorporated into the multiple regression models employed in the econometric studies, and was adopted also by Logan.¹⁰¹ The findings of the latter were particularly interesting in this context; for Logan found that while for most types of offence severity was positively correlated with crime rates, when certainty was taken into consideration the correlations were usually negative.¹⁰² Thus Logan's analysis clearly indicates an interaction effect between certainty and severity,¹⁰³ moreover it provides some support for the view that severity of punishment might have some deterrent effect, were it possible to neutralize its interaction with certainty.

Another question which arises here relates to the combined effect of changes in both certainty and severity in crime rates. Thus while Gibbs noted that "an additive effect is clearly suggested",¹⁰⁴ Antunes and Hunt¹⁰⁵ found that a multiplicative model was indicated, while Gray and Martin¹⁰⁶ indicated that a logarithmic equation was appropriate.

^{97c} Op. cit. fn. 39.

⁹⁸ See supra fn. 42.

⁹⁹ See W. C. Bailey, "Certainty of Arrest and Crime Rates for Major Felonies: A Research Note" (1976) 13 *J. of Research in Crime and Delinquency* 145. Bailey studied the relationship between certainty and crime rates in the counties and cities of Florida. While nearly all the correlations were negative, and mostly significant, positive significant associations were found for rape and, among the cities, for homicide. Moreover, Chiricos and Waldo, op. cit. fn. 39 in their study of changes in levels of certainty and crime rates, also found that many of the associations were positive. Finally, the econometric study conducted by Forst op. cit. fn. 60 refuted Ehrlich's findings not only in regard to the deterrent effects of severity, but also as to the deterrent effects of certainty.

¹⁰⁰ This "effect" is of course an interpretation of the statistical association. It has been suggested by Erickson, Gibbs and Jensen that a higher certainty level and a lower crime rate are both the result of greater social condemnation; see M. L. Erickson, J. P. Gibbs and G. F. Jensen, "The Deterrence Doctrine and the Perceived Certainty of Legal Punishments" (1977) 42 *American Sociological Review* 305.

¹⁰¹ Op. cit. fn. 46.

¹⁰² Ibid. Table 4. See also supra fn. 70. The exception was auto-theft, where the correlation remained positive. However, the negative correlations exceeded .30 in respect of only two types of offence—homicide and assault.

¹⁰³ This is consistent with the findings stated in fn. 70.

¹⁰⁴ Op. cit. fn. 24, 524.

¹⁰⁵ Op. cit. fn. 41.

¹⁰⁶ Op. cit. fn. 27.

The models proposed in all these studies assume that both certainty and severity operate in the same direction, i.e., that increased levels of either would tend to reduce crime rates. If, however, as suggested earlier, severity has either *no* effect on crime rates or has a *positive* effect, there would be no question of an additive effect.¹⁰⁷ (It will be recalled that Gibbs and Gray and Martin were considering the special case of homicide, for which severity was indeed found to have an effect in the hypothesized direction.)

In this context the study of Antunes and Hunt¹⁰⁸ is of interest. The authors, besides examining the effects of certainty and severity separately, experimented with different models combining certainty and severity, in additive and multiplicative combination, to determine which model produced the best predictor in terms of effect on crime rates. Since they found that severity as such had no effect (except in the case of homicide), it might be expected that certainty alone would be a better predictor than certainty in combination with severity. Nevertheless, they found that a multiple function of certainty and severity predicted on average very slightly more of the variance (.14) than certainty alone (.12). The authors attributed this result to "the impact of severity filtered through the certainty value" in cases of high certainty; for the model was weighted in favour of higher certainty levels.¹⁰⁹ Moreover, the difference in the average explained variance of .02 could be explained by the deterrent effect of severity in the case of homicide alone, where severity added considerably to the certainty effect.¹¹⁰ Finally, in the simple additive model tested by the authors, the regression slopes were *positive* for four out of the seven offences,¹¹¹ which again casts doubt upon the usefulness of taking into account severity in addition to certainty when predicting the supposed deterrent effect of punishment on crime rates.¹¹²

It is hardly surprising that difficulty has been encountered in determining an appropriate formula to reflect the decrease in crime rates resulting from additional certainty and severity. For, with the exception of homicide, we have seen that increased severity, unlike certainty, does not generally have the effect of lowering crime rates; if anything, it has the opposite effect. The question thus arises—the last but most critical

¹⁰⁷ At least in the popular sense. Technically, of course, a minus value can also be "added".

¹⁰⁸ Op. cit. fn. 41.

¹⁰⁹ Ibid. (1973) 64 *J. of Crim. Law and Criminology* 486, 490.

¹¹⁰ The combined model, however, also explained more of the variance than certainty alone in respect of assault and larceny.

¹¹¹ In the case of rape (for which the slope was positive) the value of r^2 was .31.

¹¹² Another model employed by Antunes and Hunt was designed to explore the hypothesis that "certainty has an independent deterrent effect in addition to the effect of its interaction with severity" op. cit. fn. 41, 490, the coefficient for which was calculated as follows: certainty + (certainty \times severity). This too, however, produced inconsistent results.

question under the present heading—whether there is a direct but *negative* association between these two variables.

While a large part of the deterrence literature is concerned both with the probability or certainty of punishment and its severity, these are generally treated only as independent variables in the analysis. Surprisingly little attention has been devoted by the literature to the relationship *between* these two variables. Two studies, however, have considered this topic. Logan,¹¹³ in his cross-sectional analysis of the certainty and severity of punishment among the different states in the U.S. discussed earlier, calculated the zero-order correlations between certainty and severity. For all seven types of offence the relationship was negative, while for “all felonies” there was a negative correlation of $-.63$.¹¹⁴

The second study, by Bailey and Smith,¹¹⁵ was devoted exclusively to this question. The authors calculated the correlations between the certainty and severity of punishment among the states in the years 1950, 1960 and 1964. Correlations were calculated both on the basis of the raw data and of the logarithms.¹¹⁶ Of the 40 correlation coefficients thereby produced, 37 were *negative*. Fourteen of these negative correlations were in excess of $-.400$, while two more approached this order of magnitude.¹¹⁷ The authors then proceeded to examine the relationship between *changes* in the levels of certainty and severity respectively.¹¹⁸ Here the authors found that 33 of the 40 correlations were negative,¹¹⁹ albeit mostly not of a high order of magnitude.¹²⁰

The authors concluded that: “The evidence reported above suggested a fairly consistent inverse trend in the relationship between our estimates of the severity and certainty of punishment, as well as between changes in the levels of these two variables.”¹²¹ This conclusion seems well supported by the data, and the caution subsequently expressed by the authors to the effect that, while “our findings are in the hypothesized direction, . . . few of the correlations are of a substantial size and consistent over time”

¹¹³ Op. cit. fn. 46.

¹¹⁴ The certainty rates were calculated using log transformations, in order to prevent distortion caused by outlying values, *ibid.* 70.

¹¹⁵ W. C. Bailey and R. W. Smith, “Punishment: Its Severity and Certainty” (1972) 63 *J. of Crim. Law, Criminology and Police Science* 530.

¹¹⁶ Bailey and Smith subsequently concluded that “the log statistical model appears clearly superior” *ibid.* 539.

¹¹⁷ Relatively high negative correlations were consistently found for assault, burglary and theft.

¹¹⁸ Changes in severity between 1951 and 1960 were correlated with changes in certainty between 1950 and 1960, changes in severity between 1951 and 1964 with changes in certainty between 1950-1964, and changes in severity between 1960 and 1964 with changes in certainty between the same years.

¹¹⁹ Tables 3 and 4 revealed only 36 correlation coefficients, 29 of which were negative. Therefore, four additional negative coefficients appear to have been omitted from the tables.

¹²⁰ Of the 29 negative coefficients presented in the tables, only four exceeded $-.400$.

¹²¹ Op. cit. fn. 115, 533.

and that "the severity and certainty of punishment are not substantially inversely related for the index crimes, nor are changes in their levels" does not seem to be called for on the basis of their data. Their caution derives from unduly conservative criteria for "substantial correlations", statistical significance in itself being regarded by the authors as insufficient.¹²² The fairly consistent (negative) slope of the correlations for *changes* in certainty and severity is particularly notable, in view of the absence of any consistent findings with respect to the effects of changes in certainty on crime rates in the study conducted by Chiricos and Waldo.¹²³ Finally, the authors themselves take the view that more reliable data would produce findings more in keeping with the hypothesis of a negative correlation between certainty and severity. The combined findings of this study and Logan's would appear to indicate almost conclusively a negative association between certainty and severity.

What explanation can be offered for such a negative association? Bailey and Smith¹²⁴ suggest why certainty may be reduced where the death penalty is provided for an offence, especially where it is mandatory; prosecutors, witnesses, juries, judges, clemency authorities and even prison officials may be instrumental in impeding the inexorability of its imposition where the employment of this controversial and irrevocable form of punishment may seem unwarranted. "In short the death penalty would appear to be quite uncertain";¹²⁵ and if used more widely, "the effect of the decline in the conviction rate will tend to offset the effect of the increase in execution risk".¹²⁶

However, the same applies in principle where offenders are liable not to the death penalty, but merely custodial sentences—in particular where such sentences are mandatory. Here, too, the harshness of the expected penalty may give rise to a reluctance on the part of investigatory and prosecutorial authorities to seek trial and conviction if the offence is only of marginal gravity.¹²⁷ Thus, for example, rape is an offence for which penalties tend to be harsh while the probability of punishment is extremely low.¹²⁸ This results partly from the technical requirements of the law such

¹²² The authors' criterion for a substantial correlation was that "one-fourth or more of the variation ($r > .50$) in one punishment variable is covariant with another"; *ibid.* 536.

¹²³ *Op. cit.* fn. 39.

¹²⁴ *Op. cit.* fn. 115.

¹²⁵ *Ibid.* 532.

¹²⁶ D. C. Baldus and J. W. L. Cole, "A Comparison of the Work of Thorsten Sellin and Isaac Ehrlich on the Deterrent Effect of Capital Punishment" (1975) 85 *Yale L.J.* 170, 182.

¹²⁷ This has been taken into account in at least one of the econometric analyses; see G. S. Becker *op. cit.* fn. 68, 18; see also H. L. Ross, "The Neutralization of Severe Penalties: Some Traffic Law Studies" (1976) 10 *Law and Society Review* 403.

¹²⁸ It has been estimated that only about one-sixth of rape suspects are convicted and sentenced to imprisonment; see L. Clarke and D. Lewis, *Rape: The Price of Coercive Sexuality* (Toronto, The Women's Press, 1977) 57. An Israeli study found that only 18% of the suspects were convicted of the offence which was the

as the corroboration rule, but it may also be due to the reluctance of the authorities to subject a suspect to the harshness of a lengthy term of imprisonment, where it is felt that the victim was partly guilty of "contributory negligence", by acting in a manner perceived by the rapist as encouragement.¹²⁹ The means by which the reservations of law-enforcement personnel might be overcome would be by *reducing* the severity of the penalties anticipated in these cases rather than by following the popular inclination (illustrated by the Pennsylvania legislation referred to above) to increase their severity. The association between reduced certainty and increased severity seems, then, not to be a statistical artifact, but to reflect the realities of the penal system:¹³⁰ "When penalties are low, we may expect the legal system, at least at the judicial level, to operate more smoothly, automatically, and relentlessly, so that certainty of imprisonment will be relatively high."¹³¹ Beccaria, too, placed greater emphasis on the certainty of punishment than its severity¹³²—although he did not of course posit a negative association between the two.

While the above analysis may appear to be somewhat convoluted the model which emerges is simple in the extreme: greater severity results in reduced certainty, which in turn gives rise to higher crime rates. Thus increasing severity will result in higher rather than lower crime rates.¹³³

subject of the original complaint; see L. Sebba, "The Requirement of Corroboration in Sex Offences" (1968) 3 *Israel L.R.* 29. (To these figures must be added the numerous cases in which the offence is not reported).

¹²⁹ For example, cases involving hitchhikers, cases in which the victim agreed to visit the suspect's apartment, and cases where there was previous intimacy between the parties; see M. Amir, *Patterns in Forcible Rape* (Chicago, Uni. of Chicago Press, 1971); L. Sebba and S. Cahan, "Sex Offences: The Genuine and the Doubtful Victim", in I. Drapkin and E. Viano (eds.), *Victimology: A New Focus* Vol. V, (Lexington, Lexington Books, 1975) 29. This concept is sometimes known as "victim precipitation".

¹³⁰ There are additional explanations for this association mentioned by Logan (op. cit. fn. 46) which would not involve the same cause-and-effect relationship. Thus it could be argued that if the courts were aware of the uncertainties of the penal process, judges might "compensate" by dealing relatively harshly with the few offenders who were convicted; see Greenberg op. cit. fn. 1, 285. Severity would then be the outcome of uncertainty, rather than its cause. Alternatively, if "the widespread use of plea-bargaining raises certainty of conviction while *simultaneously* lowering severity" (Logan *ibid.* fn. 46, 69, emphasis added) both increases in severity and decreases in certainty would be caused by the effect of a third variable. Cf. the discussion of the possible relationships between severity and crime rates, above, pp. 278-282.

¹³¹ Logan *ibid.* 69. See also the additional bibliographical references cited by the author for this argument.

¹³² "The certainty of a punishment, moderate though it be, will ever make a stronger impression than the fear of another, more terrible, perhaps, but associated with the hope of impunity." J. A. Farrer, *Crimes and Punishments* (London, Chatto and Windus, 1880) 189.

¹³³ Compare the conclusion drawn by Baldus and Cole (op. cit. fn. 126, 182) with regard to the death penalty, that "the increase in execution risk will cause a net increase, rather than a decrease, in the homicide rate", but see also the reply by I. Ehrlich, "The Deterrent Effect of Capital Punishment—a Reply" (1977) 67 *American Sociological Review* 452. It will be recalled that in the Philadelphia study of the punishment for rape (Schwartz op. cit. fn. 1) the number of reported

This model seems more consistent with the available data than its alternatives.¹³⁴ These data, it was noted, tended to produce positive correlations between severity of punishment and crime rates. The case of homicide is an exception, and our model may be inapplicable where the certainty of punishment is already very high.¹³⁵ The evidence provided by Logan that correlations between severity and crime rates are generally negative when certainty is partialled do not detract from the validity of the model, since in practice certainty cannot be controlled for when modifications in severity are introduced; on the contrary, certainty is directly affected—adversely—by such modifications. Thus such a “pure” effect of variations in severity is largely hypothetical.

SPECIFIC DETERRENCE: AN ALTERNATIVE MODEL

While individual deterrence, that is to say, deterring the individual offender on whom the punishment is being imposed, is usually mentioned in the philosophical literature on the purposes of punishment, besides being a common objective of the sentencing judge, scant attention has been paid to this topic in the context of empirical research. This results from the fact that the only measurement criterion generally available is that of recidivism, and this is more frequently used as a criterion of rehabilitation than of deterrence.¹³⁶ The criterion employed by studies of general deterrence, namely, overall crime rates, is clearly inappropriate as a measure of individual deterrence, and for this reason specific deterrence is not usually considered in the context of these studies.¹³⁷

Zimring and Hawkins,¹³⁸ on the other hand, have argued that specific deterrence is merely a sub-topic of the general deterrence problem, the concern here being with the deterrent effects of punishment on a sub-sample of the population—those on whom the punishment in question is actually being imposed. However, the connexion between the two forms

rapes immediately following the introduction of harsh and mandatory penalties was unchanged. It would be interesting to have conducted further research to determine (a) whether the rate of imprisonment for those cases remained constant, or whether the human elements in the penal system referred to earlier resulted in a reduction in certainty, and (b) if so, whether there was subsequently an *increase* in the number of rapes committed as the model outlined above would lead one to expect.

¹³⁴ See above, fn. 130.

¹³⁵ It should be emphasized that the exception (i.e. the apparent effectiveness of greater severity for homicide), applies to the severity of prison sentences, and not to the death penalty (cf. fn. 133).

¹³⁶ Cf. supra p. 269. However as mentioned in fn. 13 supra, recidivism is more appropriate as a criterion for deterrence, where the object is exclusively to prevent further offending, whereas rehabilitation suggests broader criteria of socialization or personality adjustment.

¹³⁷ See, however, the discussions of this topic in Zimring and Hawkins op. cit. fn. 9, 224-268; Gibbs op. cit. fn. 11, 185-188, and Antunes and Hunt op. cit. fn. 41, (1973) 51 *J. of Urban Law* 145, 155-180.

¹³⁸ Ibid. 224-225.

of deterrence is formulated here essentially on the semantic, or at best on the conceptual level. Almost no consideration has been devoted to the literature to the interrelationship of the two areas on the practical, empirical level. As mentioned, studies of general deterrence employ as their dependent variable the overall crime rates, which are taken as an indication of the outcome of a choice made by the potential offender as to whether or not to commit the offences. However, since a high proportion of offenders are in fact recidivists,¹³⁹ the potential offender has in fact frequently already undergone punishment. To this extent, the analysis of whether severe penalties deter *future* offenders is to some extent concerned with how far such penalties have deterred (or rehabilitated) *past* offenders. Indeed, a study concerned exclusively with the effect of punishment on potential offenders should adopt as its dependent variable crime rates for first offenders only.¹⁴⁰

It has been observed that the deterrent effect of punishment may vary with the personality of the offender,¹⁴¹ (or potential offender) but to differentiate between those who have been subjected to the punishments imposed and those who are merely presumed to know about them would seem to be at least as crucial. So long as this differentiation is not or cannot be employed in the analysis of crime rates, the findings of deterrence analysis may in fact conceal an interaction effect. It could be hypothesized that the positive correlations between severity and crime rates are due not to the adverse effects of severity on certainty (as suggested above) but to high positive correlations between severity and *recidivism*¹⁴²—while potential offenders who had never been convicted were in fact more effectively deterred by the heavier sentences.¹⁴³ The

¹³⁹ Cf. *infra* fn. 144.

¹⁴⁰ Fattah *op. cit.* fn. 14, 45 reports that this point was also raised in a paper delivered by Cousineau.

¹⁴¹ See Zimring and Hawkins *op. cit.* fn. 9, 96-128; Bailey and Lott *op. cit.* fn. 88. Further, most of the studies assume that there may be differences according to the type of offence committed: here, too, there may be an implied hypothesis of the personality effect.

¹⁴² The measure of the effect of the severity of the punishment in many of the deterrence studies reviewed here was the correlation between the time served by released prisoners and the crime rates *proximate to that release*. This measure in fact emphasizes the contribution of individual recidivism to the crime rate. An emphasis on deterrence of the potential offender would suggest the adoption of penalties imposed by the courts as the measure of severity, to be correlated with crime rates *proximate to the imposition of the penalties*.

¹⁴³ One econometrician, namely B. Klein, "Comment", in S. Rottenberg (ed.), *The Economics of Crime and Punishment* (Washington D.C., American Enterprises Institute for Policy Research, 1973) 106-112 has suggested that the greater deterrent effect on other potential offenders (referred to by Klein simply as "the crime rate") would in itself *encourage* recidivism on the part of the individual offender, "since the decrease in the expected return from crime would leave a noncompeting group of individuals with the greatest comparative advantage and taste for crime as a larger fraction of the remaining industry" (*ibid.* 108). Conversely, it has been argued that more effective *specific* deterrence (or rehabilitation or incapacitation) would encourage the recruitment of new offenders (and thus reduce the general deterrent effect), since "a sizeable proportion of the

effectiveness of specific deterrence is thus important not only in its own right, but also in the context of general deterrence.¹⁴⁴

A comprehensive review of the literature on the deterrent effect of punishment on the individual offender is not within the scope of this article; attention will be drawn only to the general pattern of the findings. As in the case of general deterrence, there are methodological problems, such as that of differentiating between "deterred" and "rehabilitated" offenders, and, in particular, of controlling for the different characteristics of offenders sentenced to penalties of varying severity. Again, however, as in the case of general deterrence, the findings tend in a particular direction: the imposition of harsher sentences has either no effect on the rate of recidivism, or it has an *adverse* effect. This emerges from the literature reviewed by Martinson,¹⁴⁵ Gibbs,¹⁴⁶ and Greenberg,¹⁴⁷ and is confirmed by such sophisticated studies as those of Gottfredson et al.¹⁴⁸ and Beck and

population would . . . also be available for a criminal career if a sufficiently attractive opportunity presented itself. . . . Taking active criminals out of the marketplace does nothing to reduce these opportunities; all it does is leave some of the opportunities unexploited" (L. C. Gould and J. Z. Namerwirth, "Contrary Objectives: Crime Control and the Rehabilitation of Criminals", in J. Douglas (ed.), *Crime and Justice in American Society* (Indianapolis, Bobbs-Merrill, 1971) 237, 257; see also E. van den Haag, *Punishing Criminals* (1975, New York, Basic Books, 53). *Sed quare*.

¹⁴⁴ C. R. Tittle, "Punishment and Deterrence of Deviance" in S. Rottenberg (ed.) *ibid.* 85, 88 comments that ". . . Specific deterrence is of far less importance than is general deterrence. Even complete specific deterrence would have little effect upon crime rates because only a small proportion of offenders are ever in a position to become recidivists." (See also C. R. Tittle and C. H. Logan, "Sanctions and Deviance: Evidence and Some Remaining Questions" (1973) 7 *Law and Society Review* 371, 374). This observation, however, seems inconsistent with the high rates of recidivism found in most follow-up studies. Moreover, the criminal statistics reveal that about one-half of the offenders who appear before the courts have previous convictions; see e.g. *Criminal Statistics 1974* (Jerusalem, Central Bureau of Statistics, 1977) 41; F. H. McClintock and N. H. Avison, *Crime in England and Wales* (London, Heinemann, 1968) 234. Among arrestees in the United States the proportion is considerably higher; see M. R. Haskell and L. Yablonsky, *Crime and Delinquency* (Chicago, Rand McNally, 1974) 55. On the other hand, insofar as the contribution of the recidivist to the crime rate is being emphasized here, it must also be admitted that longer sentences would tend to defer the resumption of criminality. Some researchers have taken cognizance of this problem, and attempted to differentiate between the preventive (incapacitative) and the deterrent effects of punishment; see Ehrlich *op. cit.* fn. 57, 267-269; I. Ehrlich, "Participation in Illegitimate Activities: A Theoretical and Empirical Investigation" (1973) 81 *J. of Political Economy* 521, 535-537; D. F. Greenberg, "The Incapacitative Effect of Imprisonment: Some Estimates" (1975) 9 *Law and Society Review* 541; A. Blumstein, J. Cohen and D. Nagin, *op. cit.* fn. 14. The incapacitative effects of punishment, however, appear to be modest; see S. van Dine, S. Dinitz and S. and J. Conrad, "The Incapacitation of the Dangerous Offender: A Statistical Experiment" (1977) 14 *J. of Research in Crime and Delinquency* 22 and the studies reviewed therein.

¹⁴⁵ *Op. cit.* fn. 12, 36-39.

¹⁴⁶ *Op. cit.* fn. 11, 185-188.

¹⁴⁷ "The Correctional Effects of Corrections: A Survey of Evaluation" in D. F. Greenberg (ed.), *Corrections and Punishment* (Beverly Hills, Sage Publications, 1977) 111, 115-116.

¹⁴⁸ D. M. Gottfredson, M. G. Neithercutt, J. Nuffield and V. O'Leary, *Four Thousand Lifetimes: A Study of Time Served and Parole Outcomes* (Davis, N.C.C.D. 1973).

Hoffman.¹⁴⁹ It seems, then, that harsher sentences operate not only against general deterrence, but also against specific deterrence.

Here, again, it is possible to offer rational explanations for an apparently paradoxical finding. The first and more frequently offered explanation is that harsh sentences, and in particular prolonged terms of imprisonment, have the harmful effect of stigmatizing the offender, and of his internalizing the norms and values of the prison (criminal) subculture,¹⁵⁰ rendering him virtually incapable of reintegration into society after protracted isolation therefrom. These are not arguments against the existence of a deterrent effect as such, but indications that any advantages in terms of deterrence may well be outweighed by other disadvantages.¹⁵¹

Another explanation of the counterproductive effects of more severe sentences is directly relevant to the deterrence issue as such. A study by Hammond¹⁵² based on observations of prisoners' attitudes during World War II describes the state of shock in which new prisoners found themselves for the first few weeks of their incarceration,¹⁵³ and their subsequent adjustment to the prison community. "The time which the prisoner had already spent in gaol was negatively correlated with his assessment of the rigour of conditions and with their deterrent effect. This suggests that when a prisoner has been in prison for some months he becomes dulled to its conditions and apparently less influenced against committing any further offence".¹⁵⁴ This study suggests clearly that a very short term of imprisonment may be a more effective deterrent than a longer term.¹⁵⁵

CONCLUSIONS

Following a period during which short-term prison sentences were discouraged, both by criminologists and sometimes even by legislation, on the grounds that they had the disruptive effects of incarceration while

¹⁴⁹ J. L. Beck and P. B. Hoffman, "Time Served and Release Performance: A Research Note" (1976) 13 *J. of Research in Crime and Delinquency* 127.

¹⁵⁰ The literature on this topic dates back to D. Clemmer, *The Prison Community* (New York, Holt, Rinehart and Winston, 1958) who, in this study first published in 1940 described this process as "prisonization".

¹⁵¹ See also the recent discussion of the effects of imprisonment by the Home Office, *The Length of Prison Sentences* (London, H.M.S.O., 1977) s. 10.

¹⁵² W. H. Hammond, "A Study of the Deterrent Effect of Prison Conditions" (1977) 15 *Howard J. of Penology and Crime Prevention* 12.

¹⁵³ Compare also the "Shock Probation" system applied in the State of Ohio; see J. A. Waldron and H. R. Angelino, "Shock Probation: A Natural Experiment on the Effect of a Short Period of Incarceration" (1977) 57 *Prison Journal* 45.

¹⁵⁴ Hammond, op. cit. fn. 152, 14.

¹⁵⁵ In Hammond's study "it was not possible from the data to arrive at the length of time which would give the maximum deterrent effect" (ibid. 15); but he mentions a Polish study where "the maximum effect of deprivation of liberty reached its peak at around seven months, but for first offenders the peak for more than four-fifths was one or two months" (ibid. 19). Hammond himself suggests short terms of "a month or fortnight or even less with full rigour, strict discipline, intensive and hard work . . ." (ibid. 23). Hammond's analysis is, of course, concerned primarily with offenders serving their first prison sentences; but see ibid. 21.

being of insufficient duration to rehabilitate,¹⁵⁶ there is currently a movement, if not towards very short sentences, at least towards shorter sentences. Thus a committee headed by former U.S. Senator Charles Goodell has recommended, subject to only two reservations, that prison sentences over five years should be barred altogether.¹⁵⁷ Similarly, a publication of the Home Office advocates that courts should "stop at the point where a sentence has been decided upon and consider whether a shorter one would not do just as well".¹⁵⁸

Which objectives of the penal system are reflected in these proposals? One factor may be the realization that long prison sentences impede rather than assist the process of rehabilitation; another is the alleviation of the pressure of prisoner overcrowding, in itself an obstacle to rehabilitative treatment. Yet another objective is undoubtedly to introduce greater fairness in sentencing, by reducing the disparity in prison sentences.^{158a} The preventive purpose of punishment (i.e., incapacitation), on the other hand, is prima facie frustrated by reducing the length of prison terms. Conceivably, the harm caused by sentences of longer duration (alluded to above) may be more than balanced by the offences prevented as the result of the prisoner's physical incarceration.¹⁵⁹ However, this objective is generally seen as appropriate only for a "hard core" of dangerous offenders^{159a}—insofar as they can be identified.¹⁶⁰

Finally, deterrence is no longer perceived as an unequivocal ground for the use of prison terms of long duration, owing to the doubts which have been raised as to their effectiveness in this respect. The thesis propounded in this article, however, suggests that the imposition of heavy sentences may be not only ineffective, but actually counter-productive. The evidence suggests that severe sentences neither increase the likelihood that the offender on whom the punishment is imposed will himself be deterred, nor, because of the probable adverse effects of increasing severity on the

¹⁵⁶ See H. von Hentig, *Punishment: Its Origin, Purpose and Psychology* (London, William Hodge, 1937) 208 and Page op. cit. fn 4, 13, 56. S.39(3) of the *Criminal Justice Act 1967* (U.K.) provided that (subject to certain exceptions) all sentences of up to six months had to be suspended; but see infra fn. 158. Nevertheless, in 1948 (perhaps before the campaign to eliminate short sentences had come to the fore), the British Parliament established the detention centre, designed to give young offenders a "short sharp shock".

¹⁵⁷ See A. von Hirsch, *Doing Justice: The Choice of Punishments* (New York, Hill and Wang, 1976) 139. The exceptions were for "certain murders, and possibly for sentences of predictive restraint . . .".

¹⁵⁸ Op. cit. fn. 151, 12. S.39(3) by the *Criminal Justice Act 1967* (U.K.) was subsequently repealed by the *Criminal Justice Act 1972* (U.K.).

^{158a} Under the scheme envisaged by the Goodell committee, very light (or non-custodial) sentences would also be eliminated for serious offences.

¹⁵⁹ See supra fn. 144 and infra fn. 163.

^{159a} The Goodell proposals make special allowance for this category; see supra fn. 157.

¹⁶⁰ The possibility of such identification has been seriously questioned; see J. Monahan, "The Prediction of Violence", in D. Chappell and J. Monahan (eds.), *Violence and Criminal Justice* (Lexington, Lexington Books, 1973) 15.

certainty of punishment, do they result in an enhanced deterrent effect on the potential offender.¹⁶¹ On the contrary, while it may be "premature to draw policy conclusions",¹⁶² it seems possible that in some situations deterrence is more likely to be achieved by *reducing* penalties than by increasing them.¹⁶³

¹⁶¹ It has been suggested that sentencing policy may also have a *long-term* effect on crime rates as a result of its influence on social norms (Andenaes, *op. cit.* fn 80, 24-28). This claim is, of course, difficult to evaluate. Another claim adopted from Durkheim's theory of crime levels and purportedly based upon empirical evidence, states that society maintains a constant level of punishment (see A. Blumstein and J. Cohen, "A Theory of the Stability of Punishment" (1973) 64 *J. of Crim. Law and Criminology* 198; A. Blumstein, J. Cohen and D. Nagin, "The Dynamics of a Homeostatic Punishment Process" (1976) 67 *J. of Crim. Law and Criminology* 317). Although this view has formed the basis for arguments against deterrence theory (see Ehrlich and Mark *op. cit.* fn. 15, 305) it seems also to imply that shorter prison terms would lead to either a higher rate of imprisonment (which if resulting from more efficient law enforcement would be a favourable outcome), or to a higher crime rate—which would contradict the model presented here. However, it would perhaps be safer at present to regard the homeostatic model as an intellectual and statistical stimulant rather than a social law.

¹⁶² Greenberg, *op. cit.* fn. 1, 290. In addition to the biases in the analysis referred to earlier, Greenberg has indicated how lack of linearity in the data may confound interpretations; see *ibid.* 286.

¹⁶³ The argument in favour of longer sentences based upon *incapacitation* cannot prevail as against the argument presented here against the efficacy of such sentences, as indicated by the deterrence studies, since ultimately any incapacitation effect of punishment would also be reflected in the crime rates upon which the deterrence studies are based.