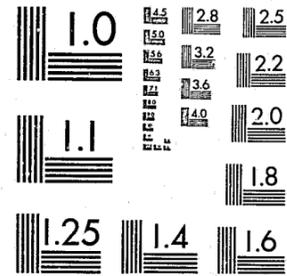


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THE JUDICIAL RESPONSE TO CRIME
AND THE CRIMINAL: A UTILITARIAN PERSPECTIVE

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ABSTRACT

A theoretical model, based on utilitarian principles, is developed to explain the societal response, via the judiciary, to offender attributes and to the overall crime rate. The theory provides a mechanism which explains commonly observed patterns of judicial behavior as well as behavioral patterns specific to particular environments. The model's dependent variable is length of prison sentence, and its principal arguments involve offender and offense characteristics, resource costs, the availability of alternative sanctions instruments, and the community's tolerance for crime. An empirical version of the model is constructed, using data for Georgia. It is shown that the court pursues both utilitarian and egalitarian objectives; but that, in important respects, these dual objectives are repudiated.

THE JUDICIAL RESPONSE TO CRIME AND THE CRIMINAL: A UTILITARIAN PERSPECTIVE

"...until quite recently, social scientists concentrated on understanding and explaining lawbreaking rather than on understanding and explaining the societal reactions to lawbreaking." (Sutherland and Cressey, 1978: 301)

Gibbons' (1979) recent review of the perspectives and themes dominating criminology echoes and substantiates the foregoing observation. While it is true that, in recent years, interest in the official response to criminal behavior has quickened; nonetheless, the criminal justice response function remains the step-child of criminological analysis. That the division runs deep is readily apparent in the standard texts, which present theories of offender behavior in one major section, and criminal justice practice in the other. Our understanding of criminal justice systems is largely derived from theories that lack generality, and is clouded by the lucubrations of empiricists more interested in description than analysis. With the present research we hope to bridge the division, to enlarge the perspective, and, in particular, to enrich the understanding of the behavior of one component of the criminal justice system, the judiciary. In this research, we advance, for consideration, a theoretical model which encompasses the behavior of actual and potential offenders and the societal response to that behavior. In the model, the judiciary is cast in the pivotal role of intermediary in the interplay between offenders and society. The theory provides, at once, a mechanism which explains commonly observed patterns of judicial behavior, and an

analytical structure within which essentially unpredictable, but regular patterns of behavior, specific to particular environments, may be satisfactorily explained. Finally, the theory may be used to appraise the possibly conflicting statements that the court's sentencing decisions are just, that they serve the best interests of the society, and that they are idiosyncratic and discriminatory.

The research focuses on one dimension of the sentencing outcome, the length of sentence received by incarcerated offenders. A theoretical model, based on utilitarian principles, is developed to explain the sentencing decision. The principal arguments in the model involve offender and offense characteristics, resource costs, the availability of alternative sanctions instruments, and the community's evaluation of the costs of crime. An empirical variant of the model is then constructed, using data drawn from the state of Georgia. Its parameters are evaluated, and the overall validity of the utilitarian perspective is appraised.

I. EMPIRICAL CORRELATES OF SENTENCE LENGTH

The sentencing variation literature may be dichotomized into studies which focus on offense and offender characteristics and studies which focus on the behavior of the judiciary and the environment in which it operates.

Offense and Offender Characteristics

The offense record, which comprehends both the offenses resulting in the instant sanction as well as those in the offender's past (accounting for both the number of such offenses as well as their severity), is generally viewed as the principal variable determining the type and length of sentence received. The empirical record leaves no doubt that legal sanctions tend, quite generally, to be more severe for more serious offenses. The principle is established by statutes which set forth minimum and maximum sentences, is endorsed by official guidelines such as those emanating from Wilkins, et al. (1976), and is readily confirmed by statistical evidence (see, for example, Gottfredson and Hindelang, 1979; Jacob and Eisenstein, 1975; Tiffany, et al., 1975; and Wellford, 1975). To illustrate the strength of the empirical relation, consider Table 1, in which an index of the seriousness of UCR Part I offenses is compared to the sentence received by offenders incarcerated for one of these offenses by action of the federal, Georgia, and North Carolina courts. As a result of discretionary criminal justice action, one might expect considerable "noise" to be introduced into the relation between seriousness of offense, as measured by the Sellin-Wolfgang index, and the length of sentence received by those incarcerated. Plea bargaining may result in a rape or robbery being adjudicated as an assault; offenders may receive differential treatment because of their age or gender; one court may be more or less lenient compared to another; etc.

TABLE 1
 MEAN SENTENCE LENGTH BY OFFENSE
 SERIOUSNESS: UCR OFFENSES, GEORGIA,
 NORTH CAROLINA, AND UNITED STATES COURTS^a

Offense	Sellin- Wolfgang Index ^b	Expected Sentence Length		United States
		Georgia	North Carolina	
Homicide	100.0	8.1	13.4	13.9
Rape	31.7	6.5	16.1	6.1
Aggr. Assault	22.8	2.0	2.7	3.2
Robbery	12.0	4.2	9.3	12.3
Burglary	9.5	2.1	3.5	3.7
Larceny	6.0	1.3	1.9	3.1
M.V. Theft	9.9	1.5	1.9	3.7

^aExpected length of incarceration at time of admission, in years, for new admissions into the Georgia and North Carolina systems in 1978 and 1979, respectively; sentence received from U.S. District Courts for year ending June 1979 for the United States. The state data reflect the time inmates will actually serve, and are derived from Department of Corrections' experience, taking into account customary parole board decisions, good time, statutory requirements, etc. The U.S. data are simply sentences handed down by the Court; and, hence, are not strictly comparable with the state data.

^bDerived from Sellin-Wolfgang (1964), with homicide set equal to 100.
 Sources Georgia and North Carolina: Orsagh (1981). United States: Hindelang, et al. (1980: 434-437).

Yet, despite the potential seriousness of such intervening, attenuating factors, they fail to obscure the basic relation. The hypothesis of a positive relation is supported by all three data sets.¹

Demographic characteristics of offenders are widely recognized as correlates of sentencing variation. Empirical evidence with which to confirm the existence of, and to measure the extent of, differential sentencing relating to demographic characteristics is readily obtained, but the proper inference to be derived from this evidence has not been established. First-order correlation coefficients uniformly support the generalization that women, youth, and whites receive shorter sentences than their opposite cohort. However, because these characteristics are statistically correlated with offense histories, and because sentencing variation typically refers to a single stage of the criminal justice process, thereby distorting the representativeness of the sampled populations, pure gender, age, and race effects are difficult to derive, even with the best of statistical analysis. Measuring gender effects provides a case in point. Analysis of transition probabilities across stages of the criminal justice system supports the contention that females are less likely to be arrested, to be charged if arrested, to be convicted if charged, etc. When controls are introduced to account for offense seriousness,

¹The simple correlation coefficients are 0.94, ($p < .005$), 0.71 ($p < .05$), and 0.78 ($p < .025$) for Georgia, North Carolina, and the United States, respectively.

prior criminal record, etc., the residual gender effect may diminish but it usually continues to support the hypothesis that women are treated more leniently (Alabama Section, 1975; Baab and Furgeson, 1967; Bernstein, et al., 1977b; Cameron, 1953; Hindelang, 1974; Nagel and Weitzman, 1971; Pope, 1975; Tjaden and Tjaden, 1981); though sometimes the evidence is more favorable to the hypothesis of no gender effect (Bernstein, et al., 1977a; Cohen and Stark, 1974; Green, 1961, Robin, 1965; Rottman and Simon, 1975). Admittedly, some empiricists allege that, for some offenses, females are treated more harshly. The argument seems sound with respect to some status offenses (Chesney-Lind, 1978b) and non-traditional offenses (Bernstein, et al., 1977a). Also, Clements (1972) and Temin (1973) indicate that statutory provisions designed to provide more favorable treatment for adult females also have had perverse sentencing effects in some jurisdictions.²

²The evidence adduced in support of the latter contention is indirect and lacks generality. The proper question is: On the average, have these statutory provisions resulted in higher incarceration rates for women; and, because of these statutes, do women actually serve more time, if incarcerated? Comparisons among minima, maxima, and indeterminate sentence lengths do not constitute a satisfactory answer.

Some arguments alleging discrimination against women are specious. That three-quarters of all incarcerated females, but only half of all incarcerated males, have been confined for relatively minor offenses does not warrant the inference that women are treated more harshly (Chesney-Lind, 1978a). Such ratios would obtain, for example, if three-quarters of all female offenses and half of all male offenses are minor, and if males are twice as likely (or half as likely!) to be incarcerated for any particular offense. Nor will discrimination have been demonstrated if the overwhelming proportion of arrestees for prostitution are women (Chesney-Lind, 1978a), or if, on the average, women are convicted of more serious charges (Bernstein, 1977a).

The exceptions duly noted and notwithstanding, it can be said that, at present, the weight of evidence still supports the contention that, on the average, females probably receive more favorable sentences.

Much of the extensive racial discrimination literature is statistically flawed. Of the more careful analyses, that of Chiricos, Jackson, and Waldo (1972), Hagan (1975), and Swigert and Farrell (1977) show that sentencing is biased against blacks. So does Uhlman (1979), though he thinks its actual effect is very small; and Unnever et al., (1980), but the sample used by the latter is small and non-random. Lizzote (1978) finds no direct bias in his sample of Chicago defendants. However, because blacks are less likely to make bail, and because making bail is related to sentence length, he argues the existence of serious indirect discrimination.³ Post-incarceration treatment would also appear to be biased: discrimination against blacks is found in the decision to grant parole (Carroll and Mondrick, 1976) and in the use of early release via "shock probation" (Petersen and Friday, 1975). Finally Bullock (1961) shows that, in the Texas criminal justice system, blacks received longer sentences for burglary, but shorter sentences for homicide and rape.

³Failure to make bail depends upon the seriousness of the offense and one's prior record, both of which are related to race in Lizzote's sample, thereby diminishing and possibly removing this second-order racial effect.

On the other hand, in their reanalyses of the earlier empirical evidence, Hindelang (1969), Hagan (1974), and Wellford (1975) conclude that little, if any, racial bias can be found in sentencing decisions. Much of the more recent evidence supports this view. No sentencing bias was found in Washington, D.C. (Rhodes, 1978), Denver (Britt and Larntz, 1980), Atlanta (Gibson, 1978)⁴ or Chicago, Baltimore or Detroit (Eisenstein and Jacob, 1977); none within Texas counties (Baab and Furgeson, 1967) or California counties (Pope, 1975); nor in juvenile courts in North Carolina (Clarke and Koch, 1980. See also Cohen and Kluegel, 1978); and none in federal parole decisions (Elion and Megargee, 1979).

In law and in practice, the criminal justice system treats adults more harshly than juveniles. But does sentence severity increase with age within the separate juvenile and adult offender populations? Casual empiricism suggests that it does. For example, the age-specific ratio of incarcerations to arrests increases with age. However, more careful analysis, in which offense seriousness and prior record are taken into account, yields mixed results. Age was found to be unrelated to sentence severity by Baab and Furgeson (1967), Britt and Larntz (1980), Clark and Koch (1976), Green (1961), Pope (1975), and Rhodes (1978) with respect to adult populations, and by Clark and Koch (1980) and Cohen and Kluegel (1978) with respect to juvenile populations. On the other hand, Zimring (1978) found young adults to be treated more leniently and Greenwood et al. (1980)

⁴Substantial racial bias was found in Atlanta, but it was both pro- and anti-black, with the effects equally distributed.

that leniency was the rule for younger adults in two of the three jurisdictions which they examined.

Effects of Resource Constraints

Does sentence severity vary with the quantity of resources available to the criminal justice system? The question has not been subjected to systematic empirical investigation. Indirect evidence relating to the question may be obtained by observing the effect of plea bargaining on conviction rates and sentence length. The argument is that, as case loads increase, the prosecutor and court will strive to maintain conviction rates by trading off a reduced sentence for a certain conviction. Support for this argument is found in Gillespie (1976), where it is shown that conviction rates increase when resources are more ample, and that sentence length is lower where more plea bargaining takes place. Additional evidence is offered by Rhodes (1976; 1977), who finds a relation between resource availability and case filings and also between the demand for trial and sentence length. On the other hand, Rhodes (1978), using data for Washington, D.C., concludes that plea bargaining had no effect on sentencing practice; while Rubinstein et al. (1978) found that the complete elimination of plea bargaining failed to produce more trials, fewer convictions; and harsher sentences.⁵

⁵The latter study relates to the first full year subsequent to the elimination of plea bargaining in Alaska. The plea bargain effect did vary substantially by offense, but its overall effect in this first year was not consistent with the resource scarcity argument.

II. THE THEORETICAL MODEL

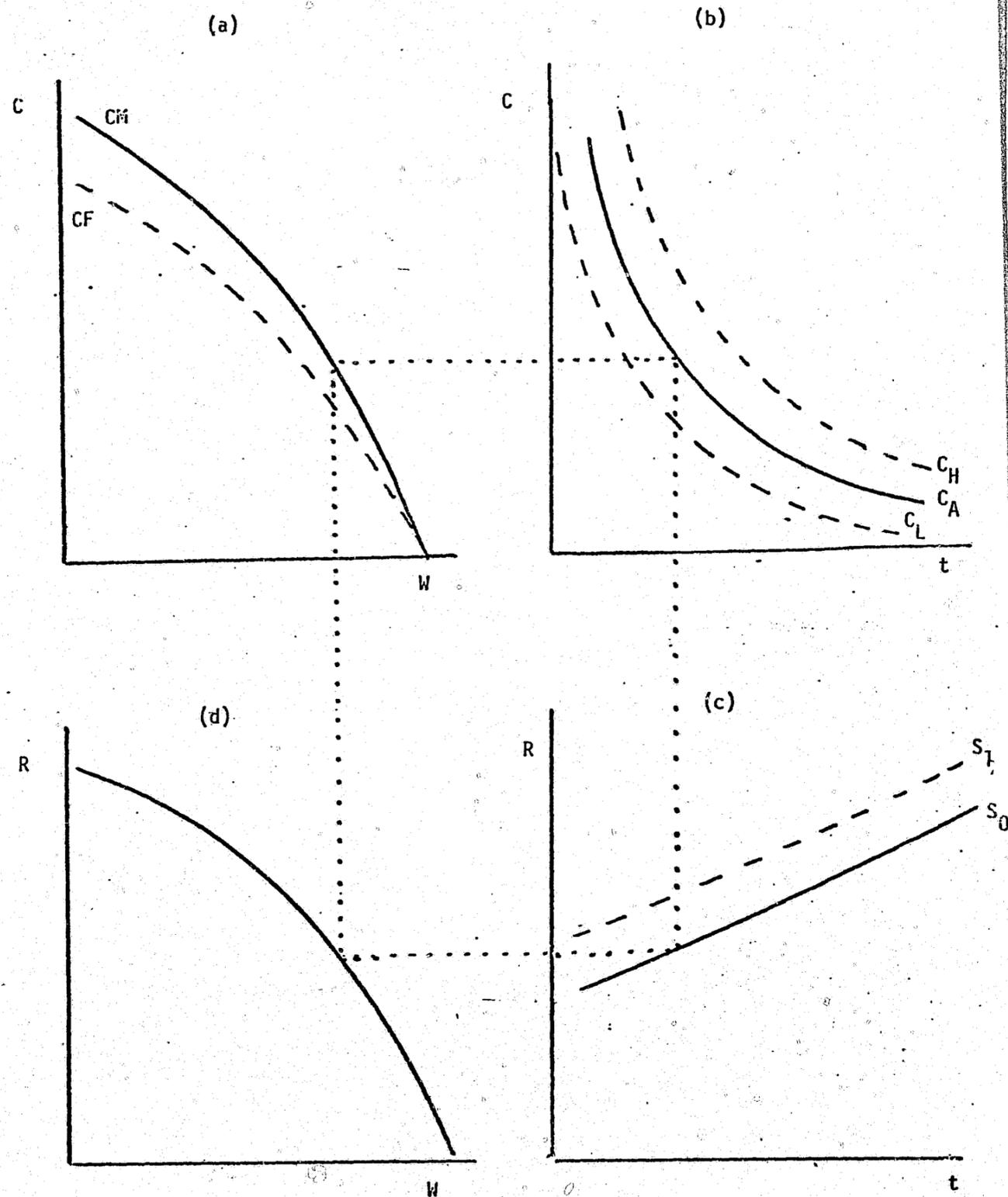
We advance for consideration the hypothesis that the sentencing patterns just described derive from the application of utilitarian principles; that the court strives, through sentencing, to maximize societal wellbeing. The utilitarian model to be developed is a direct descendant of the path-breaking work of Becker (1968), whose model has been further articulated by Stigler (1970), Landes (1974), and Forst and Wellford (1981). The model shall be used to deduce a sentence response to characteristics associated with individual offenders, with the community in which the court functions, and with the costs of imposing sanctions.

The basic structure of the model may be described by the following seven propositions.⁶ A graphic representation of the model appears in the four panels of Figure 1.

- (1) A crime (C) reduces societal wellbeing (W). (Figure 1a)
- (2) W is defined to exclude the wellbeing of the offender population.
- (3) The sanction of incarceration (S) has both incapacitative (I) and deterrent (D) effects. D includes both specific and general effects. (Rehabilitation is also possible. However, because

⁶The description excludes a number of details essential for mathematical rigor but dispensable if one is willing to forego logical purity. Some of this detail is implicitly incorporated into Figure 1 by virtue of the manner in which the curves in that figure have been drawn.

FIGURE 1



rehabilitative effects are analytically equivalent to specific deterrence, separate consideration is not required.)

- (4) The severity of S is a function of time incarcerated (t).
- (5) Both I and D increase as t increases. (Figure 1b).
- (6) S requires the expenditure of economic resources, R . R increases as t increases. (Figure 1c).
- (7) R is scarce. An increase in R devoted to S implies a diminution in the provision of other public and private goods. Thus, ceteris paribus, an increase in R reduces W . (Figure 1d).

Under appropriate and not unreasonable conditions, the four functional relations depicted in Figure 1 form a complete system from which a unique, equilibrium set of W , C , t , and R values may be derived. In Figure 1, assuming that the solid curves represent the four relations of the model, an equilibrium solution may be obtained by forming a rectangle whose four corners just touch the four curves. The solution indicated in the figure consists of the values W^* , C^* , t^* , and R^* . A heuristic example will show why the solution is unique. Suppose we elect to spend $R^{**} < R^*$. We become better off in that W is now greater than W^* . But R^{**} implies shorter prison sentences and a higher crime rate. The higher crime rate, in turn, implies that W is less than W^* . Thus, we have a contradiction: W is both greater than and less than W^* .⁷

⁷The example does not prove that W^* is either unique or that it is a maximum. That proof requires a mathematical analysis which is beyond the scope of this paper. The complete mathematical model is available from the author upon request.

We now consider the effect of a change in the system's parameters on these equilibrium values.

Offense Seriousness

Assume:

- (8) There are two offense types, C_F and C_M .
- (9) C_F is defined to be more serious than C_M in the sense that a C_F event reduces W more than a C_M event. The dotted curve in Figure 1 depicts the manner in which the relation between W and the offense rate shifts as one moves from less to more serious offenses. (The common point on the abscissa of Figure 1a follows from the fact that the offense rate is zero at that point.)
- (10) S applied to $C_F(C_M)$ has its primary I and D effects on potential $C_F(C_M)$ offenses.

We now assume a shift toward more serious offenses. In Figure 1a this is represented by a shift from C_M to the dotted curve, C_F . The other relations are held constant. It should be clear that, when a rectangle is imposed on the configuration of functional forms in Figure 1, there will be a diminution in wellbeing and, probably, in the offense rate (!),⁸ while criminal justice expenditures will increase and prison sentences lengthen.

⁸The lower offense rate is consistent with the empirical fact that more serious offenses tend to occur less frequently.

Offender Characteristics

Assume:

- (11) The population may be dichotomized into persons having either high or low criminal propensities, measured in terms of their crime rate response to a given length of incarceration. In Figure 1b the crime rate response of the two populations is reflected by the C_H and C_L curves. We also assume that the dichotomization is designed such that the average offense rate for the aggregate population remains constant.
- (12) Sanctions imposed on offenders who are members of the one population primarily affect the members of that population.

Assuming that the other functions remain constant, the result of this conceptual differentiation is to raise (lower) the length of sentence imposed on the more (less) criminogenic population.

The General Offense Rate

Up to this point we have assumed either implicitly or explicitly that the overall crime rate is constant. We now relax that assumption. In Figure 1b we impose a shift from C_A to C_H with no compensating C_L shift. Because there are more offenders, and because we do not expect R to diminish, we can expect more offenders to be apprehended, convicted, and sent to prison. Hence, the cost of providing t^* will exceed R^* . That is, it is likely

that S_0 will shift to S_1 .⁹ Whether t increases or decreases cannot be predicted from the model without more knowledge about the values of the system's parameters. This much can be said: Given an increase in crime, the greater the loss in wellbeing from the consequent rise in expenditures to combat crime relative to the improvement due to its effect in countering that increase, the greater the increase in the number of offenders incarcerated, and the greater the increase in the average cost of incarceration, the less will be the increase in t . Indeed, if these differentials are sufficiently large, social optimization may require a reduction in t . The theory is essentially ambiguous. The effect on t will depend upon the environment within which the rise in crime occurred.

The Costs of Sanctions

A rise in the cost of sanctions is depicted by a shift in the S function, as shown in Figure 1c. A rise in the function leads to the unambiguous result that the length of incarceration will diminish and crime rates increase.

Alternative Sanctions Instruments

Suppose there are two time-dependent sanctions, S_0 and S_1 . Choosing between them involves two general considerations: their relative cost (Figure 1c) and their relative effectiveness

⁹At the limit the S function will not shift at all: the number of incarcerated offenders does not increase. In that event, it should be evident that t will increase.

(Figure 1b). Effectiveness, in turn, implies an overall shift in the I and D effect, resulting in an overall change in the offense rate, with consequent second-order effects on the costs of the sanction. Thus, the choice is complex and not readily depicted in Figure 1. Obviously, if S_1 costs more than S_0 and is also less effective, it would be rejected. But if, on the other hand, it is less effective, but cheaper, the decision comes down to a calculus that must balance cost savings against additional criminal victimization. Additional complexity is introduced if the two sanctions may be used complementarily rather than as substitutes. Suffice it to say that the rule that determines which sanction to use, or, if both, how much of each, is complex and analytically ambiguous. Its determination depends upon the model's empirical parameters.

III. EMPIRICAL EVALUATION: THE GEORGIA SAMPLE

We propose to estimate the parameters of the foregoing theoretical model using data drawn from the Georgia criminal justice system. The sample consists of all offenders newly incarcerated in 1978 for one or more UCR Part I Index offenses. The sample size is 3713, distributed across offenses as indicated in Table 2. The dependent variable is expected sentence length, defined as in Table 1. The independent variables consist of demographic indicators for race, sex, and age: NW (nonwhite=1; white=0), SEX (female=1; male=0), and AGE; two offense record indices (SCORE and PRIOR), which express the number and severity

Table 2
DETERMINANTS OF LENGTH OF PRISON SENTENCE:
GEORGIA, 1978

Dependent Variable	Independent Variables ^a								R ²
	NW	SEX	AGE	SCORE	PRIOR	PBTN	CRM	INC	
(1) Homicide (324)	-1.64 (3.59)	-1.65 (2.86)	-.033 (1.82)	.40 (6.22)	.03 (1.85)	-.70 (7.55)	-.13 (3.84)	-.04 (1.33)	.34
(2) Rape (91)	-.21 (.27)	- -	-.027 (.52)	.29 (2.45)	.10 (2.90)	-.45 (3.75)	-.28 (2.73)	-.07 (.65)	.25
(3) Assault (334)	-.26 (1.35)	-.40 (1.41)	-.001 (.16)	.70 (7.34)	.08 (3.23)	-.18 (4.09)	-.18 (3.21)	-.07 (1.59)	.23
(4) Robbery (685)	.29 (1.25)	-.99 (1.81)	.031 (1.68)	.23 (3.41)	.10 (6.48)	-.17 (3.96)	-.15 (3.91)	-.00 (.12)	.14
(5) Burglary (1457)	.11 (.94)	-.58 (1.21)	.008 (.81)	.57 (7.95)	.13 (7.11)	.007 (.28)	-.21 (3.81)	-.04 (.85)	.09
(6) Larceny (613)	-.07 (.66)	-.16 (1.20)	.022 (3.65)	.52 (8.41)	.03 (1.26)	-.13 (4.32)	-.39 (5.21)	-.17 (3.33)	.19
(7) Auto (209)	.05 (.35)	.76 (1.47)	.015 (1.47)	.86 (5.04)	.01 (.31)	-.29 (4.92)	-.25 (2.60)	-.14 (1.61)	.23

^aThe coefficients of these variables should be interpreted as follows: the value of coefficient, c, equals the percentage change in sentence length (s), given that SCORE, PRIOR, CRM, or INC increases by one percent. (The percentage is measured at the mean of s and the independent variable.) The value of c equals the number of changes in s given that AGE or PBTN increases by one year, or given that the defendant is non-white rather than white or female rather than male.

of offenses related, respectively, to the offender's instant incarceration and his past record;¹⁰ two alternative sanctions: the number of years of post-incarceration probation (PBTN) and the ratio of incarcerations to offenses (INC); and an indicator of the community's general criminal propensities (CRM). CRM and INC pertain to judicial districts (42 districts), the other variables to the individual offender.

The empirical model has been estimated using Ordinary Least Squares. The regression coefficients, with their accompanying t-statistics, are presented in Table 2. SCORE, PRIOR, CRM, and INC are expressed in elasticity units; the other variables in years. (See Table 2's explanatory footnote.)

The results reported in Table 2 indicate that the courts' sentencing response was both consistent and inconsistent with the utilitarian principle. Consistency is observed in the positive correlation between sentence length and the seriousness of the offense(s) resulting in the instant incarceration. We see that, within each UCR offense type, the coefficient of SCORE is positive and statistically significant.¹¹ Consistency is also observed with respect to the offender's prior criminal history. All coefficients are positive and four are statistically significant. The effect of prior convictions on sentence length is, however, smaller (and less variable) than the effect of the instant offense(s), as the sentencing variation

¹⁰The offenses are assigned the severity scores used by the Georgia Department of Offender Rehabilitation. See Orsagh (1981).

¹¹Recall that a positive relation also exists across offense types (Table 1).

literature leads one to expect. For example, a ten percent increase in offense seriousness is associated with a mean increase in sentence length, unweighted, of 5.1 percent with respect to the instant offense, but an increase of only 0.7 percent with respect to the prior offense.¹²

It is generally conceded that females are less criminogenic, and that both their offense and recidivism rates are substantially lower than that of males of similar age, race, and socioeconomic status -- excepting, of course, offenses particular to the female gender, such as prostitution and infanticide. Accordingly, one would expect a rational court to hand down shorter sentences for female offenders. The evidence of Table 2 inclines us to accept the rationality hypothesis. Five of the six gender coefficients are negative. While homicide has the only statistically significant coefficient, the overall pattern of the coefficients promotes a stronger, more comprehensive conclusion. Specifically, the combined mean of the six coefficients, obtained by weighting each UCR coefficient by the number of observations for that offense, is itself statistically significant at the 0.025 level.¹³ Thus, it is highly likely that, on the average, female UCR offenders received differentially favorable treatment from the Georgia courts. In one instance, the differential treatment was substantial: on the average, homicidal females served 20 months (+ 13 months) less than their male counterparts, after correcting for age, race, etc. ($p=0.95$). These data are, of course,

¹²The Mann-Whitney U test shows the difference in means to be significant at $p < .005$, one tail.

¹³The statistic is based on a pooled variance of the six coefficients, and is tested against the one-tailed, null hypothesis with five degrees of freedom.

consistent with an alternative hypothesis, advanced by Pollak (1950), that the favorable differential reflects the chivalrous effect of a male-dominated judiciary. Unfortunately, the data available to this research do not allow separate appraisal of these alternative interpretations of the evidence.

Without question, black UCR offense rates exceed white rates by substantial margins. The differential is real, and not simply an artifact of processing bias within the criminal justice system (Monahan, 1981: 104-110). Black recidivism rates for major new convictions are also higher (Hindelang, et al., 1980: 519). Accordingly, if the courts were motivated to maximize societal wellbeing, they would have treated blacks more harshly. Did the Georgia courts do so? Apparently not. Table 2 provides three positive and four negative coefficients. Moreover, one of negative coefficients is statistically significant. Thus, it would appear that, with respect to homicide, the courts actually treated blacks more leniently, evidently eschewing both utilitarian and egalitarian sentencing principles.¹⁴

How would the court have treated the older offender, were it inclined to maximize societal wellbeing? The peak age of criminality, based on arrest data (Hindelang, et al., 1980: 336-340), may be assumed to have been less than eighteen for robbery, burglary, larceny, and motor vehicle theft; and approximately twenty-one for homicide, rape, and assault. The mean age of inmates entering

¹⁴Our race variable was dichotomized as white/nonwhite. Since, in the Georgia sample, the overwhelming proportion of nonwhites were blacks, we have, with no loss in accuracy and some gain in specificity, used a white/black dichotomy.

the Georgia prison system in 1978 varied between 23 and 27 years for the first four offenses; between 26 and 32 for the second. Based on these data, we may infer that relatively few inmates were younger than their cohort's peak age of criminality. Hence, the variable AGE provides an acceptably accurate index of deviation from the cohort's mean age of criminality. And, accordingly, if a utilitarian philosophy were pursued, we should find that the Georgia courts treated older inmates more leniently. In fact, they did not. The signs of the coefficients are mixed, and six of the seven are consistent with the pursuit of an egalitarian policy. However, one coefficient, larceny's, is statistically significant and perverse, suggesting that the court violated both principles in its treatment of larcenists.

Utilitarian theory cannot predict, a priori, how the judiciary will choose among alternative sanctions nor how it will respond to a rise in the crime rate. If there is a systematic response, it will be environment-specific. Table 2 shows that, in fact, there was a systematic response, and that the two sanctions, PBTN and INC, and the offense rate are related to sentence length. Consider, first, the PBTN relation. Post-prison probation was a sentencing variant heavily used by the Georgia court.¹⁵ With the exception of burglary, the coefficients of PBTN are negative and statistically significant, indicating

¹⁵Approximately one-third of our sample received a split sentence, or special probation as it is often called.

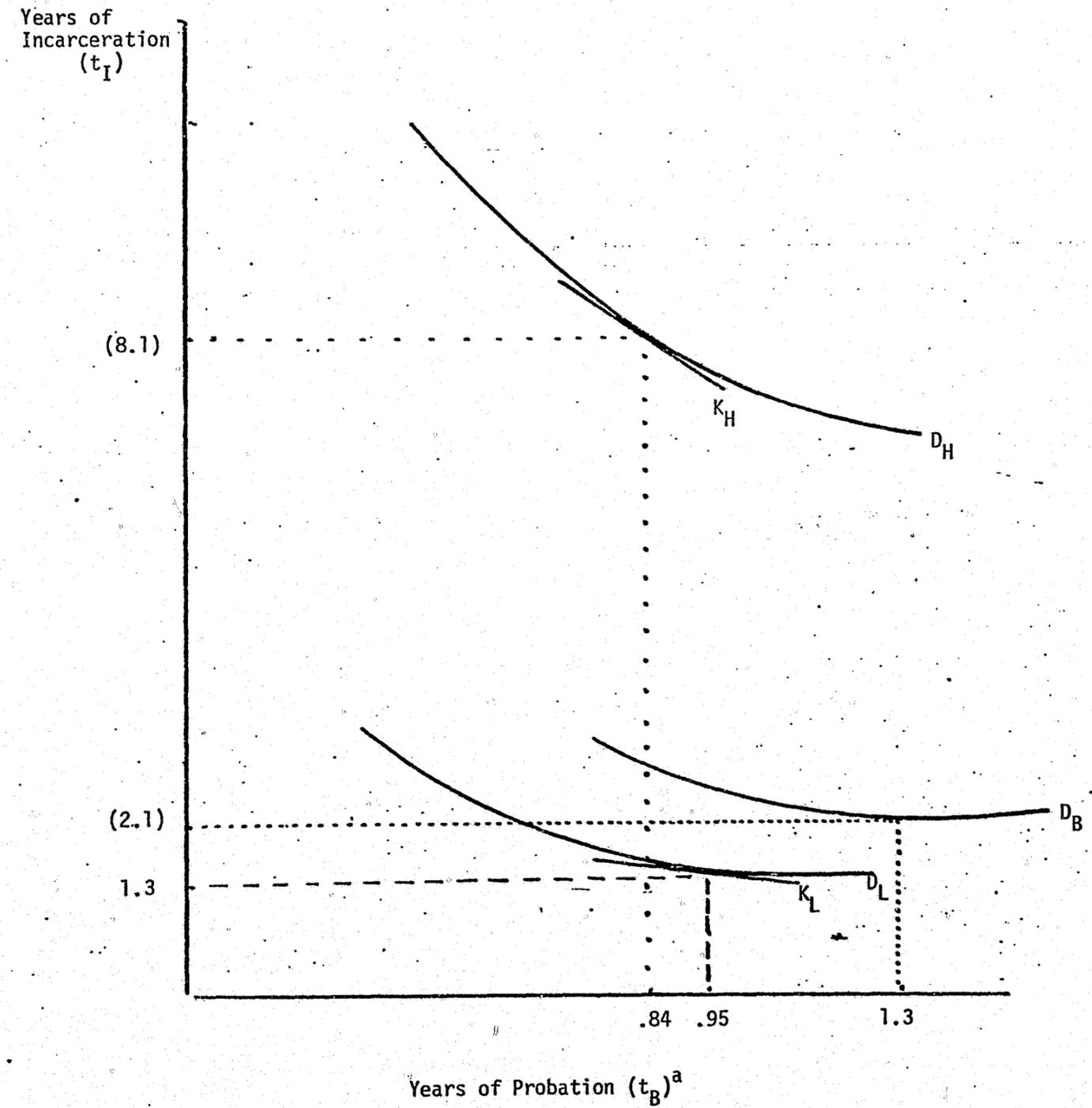
that the court treated length of incarceration and probation as substitutes. We also note that the coefficients differ significantly across offenses, apparently in proportion to the severity of the offense. For example, a year of probation equates to 0.7 years of incarceration for homicide, but only 0.13 years for larceny.¹⁶ Utilitarian theory provides an explanation for this pattern. The explanation is built upon two theoretical relations: the one concerns the deterrent and rehabilitative effects of incarceration and probation, the other the relative costs associated with these two sanctions, including the foregone value of the incapacitative effect. The first functional relation consists of all combinations of years of imprisonment, t_I , and years of probation, t_B , that yield a given, constant level of deterrence. In Figure 2, curves D_H , D_B , and D_L depict the relation for homicide, burglary, and larceny, respectively. Their convexity follows from the assumption of diminishing returns to sanction severity.¹⁷ We focus on D_H and

¹⁶The rank correlation coefficient between the Sellin-Wolfgang severity index of Table 1 and PBTN's coefficients is -0.83 ($p < .025$) with burglary excluded, and -0.40 otherwise.

¹⁷Let the deterrent and rehabilitative effects of incarceration (I) and probation (B) be related to length of sentence: $I=I(t_I)$ and $B=B(t_B)$. Assume the effect increases with length of sentence (e.g., $\frac{\partial I}{\partial t_I} > 0$), but by decreasing amounts (e.g., $\frac{\partial^2 B}{\partial t_B^2} < 0$).

Thus, in Figure 2, we have $D_H=I+B$, suppressing subscripts where convenient, and, by definition, $dD_H = \frac{\partial I}{\partial t_I} dt_I + \frac{\partial B}{\partial t_B} dt_B = 0$. The slope of D_H is, therefore, $\frac{dt_I}{dt_B} = -(\frac{\partial B}{\partial t_B})/(\frac{\partial I}{\partial t_I}) < 0$, with curvature $\frac{d^2 t_I}{dt_B^2} = -(\frac{\partial^2 B}{\partial t_B^2} \cdot \frac{\partial I}{\partial t_I})/(\frac{\partial B}{\partial t_B})^2 > 0$. Q.E.D.

FIGURE 2
PROBATION/INCARCERATION TRADEOFFS



^aProbation scale is ten times that of incarceration.

D_L , which pass through points A and B to reflect the prevailing mean values of t_I and t_B for these two offenses.

The second relation is a loss function. Through point A we posit a function expressing all combinations of t_I and t_B yielding the same cost, $K_H \cdot K_H$ includes normal criminal justice operating costs associated with imprisonment and probation, plus expected costs imposed on society through recidivistic acts by the incarcerated or probationed offender. A similar function, K_L , applies to larceny. Assuming an equilibrium is established, the D and K functions will pass through a common point of tangency, with an expected slope of $-.70$ for homicide and $-.13$ for larceny. In the context of Figure 2, the meaning of the pattern of PBTN's coefficients becomes clearer: a person committing a serious offense such as homicide will pose a more serious threat to society through release to probation than would, say, a larcenist. Hence, the relative cost of probation is higher for more serious offenses. Note, also, that, with the exception of burglary, the slope of PBTN is always significantly greater than -1.0 . Evidently, the court viewed the deterrent and rehabilitative effects derived from a year of probation as being less than the corresponding effects derived from incarceration.¹⁸

¹⁸We can offer no explanation for the aberrant behavior of the burglary coefficient. As Figure 2 shows, probation was an important component of the total sentence received by burglars. What is puzzling is that the court apparently determined the amount of probation time with no regard for the amount of active time meted out to defendants.

The court also appears to have treated the risk of incarceration as a substitute for the severity of that sanction. All seven of the INC coefficients are negative, and that for larceny is statistically significant.

Do higher crime rates induce a "get tough" social policy? The CRM coefficients, all of which are negative and statistically significant, convey the opposite impression: the social response was one of active acquiescence in the higher crime rates. We believe the response to be entirely rational and easily explained. If a community sustains an exogenous increase in offense rates, and if it adopts a neutral response, defined as maintaining the probability and length of incarceration at existing levels, the number of persons processed by the court and entering the prisons would increase, requiring more intensive utilization of existing resources and, ultimately, the allocation of more resources to the judiciary and corrections. A "get tough" policy, entailing an actual increase in the per offense sanction -- i.e., the product of INC and sentence length -- would, of course, raise costs even more. If, however, the incremental resource costs required for an aggressive response are deemed to impose too heavy a burden, the community might avail itself of one or another instrument for their avoidance or minimization. The plea bargain, for example, is eminently suited for, if not created for, that result. It lightens the judiciary's case load burden; and, because its effect is accomplished through a reduced sentence, it produces an indirect, but just as efficacious, reduction in the demand for prison resources, either through diversion from prison, or by shortening

the inmate's tenure within the institution.

However it was effected, the social response to higher crime rates was substantial. In the regression model, the inclusion of INC among the regressors holds the probability of incarceration constant. Hence, the CRM coefficients reflect the pure sentence length response to variations in the crime rate. The strong inverse relation displayed by CRM inclines us to believe that those communities in Georgia that experienced a higher crime rate chose to endure that higher level of criminal victimization rather than incur the higher unit costs required to counter that increase. More than that, because these communities actually opted to reduce the level of sanctions, they have chosen, in effect, not a neutral policy, but the very opposite of a "get tough" policy.

IV. CONCLUSION

Forst and Wellford (1981) show that the decision-makers within the judiciary strive for simultaneous achievement of diverse goals.¹⁹ A strong consensus asserts the dominance of deterrence, incapacitation, and rehabilitation as sentencing objectives. Does a general, unifying philosophy underlie these objectives? We tested the hypothesis that utilitarianism provides that unifying principle. We showed that a behavioral theory derived from that principle correctly predicts the judiciary's well-established, general response to

¹⁹Their study refers to the federal system, but extension of their conclusions to state systems may be presumed.

present and past offender behavior. Moreover, the theory is consistent with, and helps to explain, the court's leniency toward females, its use of alternative sentencing options, and its reaction to variations in the overall crime rate. However, the theory fails to explain and is, indeed, inconsistent with judicial behavior vis a vis blacks and younger persons. Utilitarian theory argues for more severe sanctions for persons possessing these demographic characteristics; yet, if our appraisal of the sentencing variation literature is at all accurate, the courts have, quite generally, repudiated such a policy. Moreover, in the Georgia sample, clear, though isolated, bias favorable to blacks and the young was discovered.

For the idealist, wishing to discover a general principle guiding social behavior, these results must contain a measure of frustration, though not necessarily because of the judiciary's tendency to be, by turns, either utilitarian or impartial. After all, a social scientist ought to be comfortable with a composite rule much as: Vary the sanction according to the offender's instant offense and his criminal record so as to maximize societal wellbeing, but otherwise be impartial. What must trouble the idealist is that the courts have rejected this dual principle in favor of one which is more complex, one which imposes the egalitarian rule for some offender attributes, but rejects that same rule when the attribute is gender.

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