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FINAL REPORT

Socio-Economic and Demographic Characteristics of Offender Population

FOREWORD

This study provides an investigation into the influence of socio-economic and demographic characteristics of adults arrested for Part I Offenses in the City and County of Honolulu on particular aspects of the criminal justice system. The systems utilized to collect and portray the information obtained in the study include both a manual system and the Offender-Based Transaction Statistics (OBTS) system.

The Offender-Based Transaction Statistics (OBTS) system is defined as: a system developed to collect data elements on defendants as they flow through the criminal justice system and to present summarized data for intelligent decision making in the criminal justice system.

Although there are many studies which investigate the effects of the socio-economic and demographic characteristics on the criminal justice system, most of the studies have used time-series aggregate data. This study is a unique cross-sectional examination of individual characteristics on the outcome at all sequential stages of the criminal justice system.

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I. INTRODUCTION

A. Objectives

This study is designed as a pilot investigation of the factors, demographic as well as socio-economic, which influence the types of crimes committed, the processing of the charges through the system and the final disposition of charges in the City and County of Honolulu. The data collected for this project, together with the methodology developed to analyze them, yield results which will serve as the foundation for the full utilization of the wealth of data available on the criminal justice system in Hawaii.

In pursuing this goal, we organized our study to investigate the progress of an arrested individual at each stage of the system and the factors influencing the dispositions. In particular, we investigated the following:

1. The effects of the individual's demographic and socio-economic characteristics on the type of crime he/she is charged with at the time of arrest.

2. The effects of the individual's characteristics and the arrest charge on the dispositions made at the law enforcement level.

3. The influence of the individual's characteristics and the arrest charge on the prosecutor's decisions on whether to prosecute and on what charges.

4. At the arraignment and plea stage in both the Circuit and District Courts, we study the factors which influence the probabilities of a "guilty" or "not guilty" plea.

5. For those whose plea is "not guilty," we examine the variables which determine the likelihood that the charges will be dismissed.

6. The influence of the individual's characteristics, the type of charge, the type of trial and the effect of legal counsel on the trial outcome in both the Circuit and District Courts.

7. The variables affecting the type of sentence for those whose plea was "guilty" and those who are found guilty at trial.

B. The Data

1. Raw Input Data

Four separate data files were available to us, each containing some of the information needed for the study. These files are described below.

a. The Demographic Data Files

The arrested individual's demographic characteristics were orginally obtained from the State of Hawaii, Offender-Based Transaction Statistics (OBTS) transmittal forms for the City and County of Honolulu. All data captured were for adults arrested.

Offender tracking is accomplished in the Hawaii OBTS system through the use of an offender

tracking number which is assigned and controlled by means of an offender tracking transmittal form. The transmittal form serves two purposes. First, it is used to assign and communicate among criminal justice agencies, the tracking number that identifies an individual offender while he/she is being processed by the criminal justice system. Second, the form serves as the principle data collection vehicle for OBTS.

The information included the individual's sex, age, race, education, marital status, employment status, occupation, place of residence, citizenship, length of residence in Hawaii, the arrest charge and the time of arrest. Only Part I arrest charges were selected for the scope of this study. Seven offenses were chosen in the Uniform Crime Reports (UCR) Program because of their seriousness and frequency of occurrence as indicators of crime in the United States--these are known as Part I Crimes. Because not all crimes come to the attention of the police, the International Association of Chiefs of Police (IACP) limited the reporting of offenses known as Part I Crimes to the following crime classifications because these are assumed to be the crimes which are most likely to be reported and which occur with sufficient frequency to provide an adequate basis

for comparison. They are also serious crimes by nature and/or volume. The chosen offenses are:

1. Criminal Homicide; Negligent Manslaughter
2. Forcible Rape
3. Robbery
4. Aggravated Assault
5. Burglary
6. Larceny-Theft
7. Motor Vehicle Theft

These data were available for only the period September, 1979 to December, 1980. The information from the arrest forms was coded, keypunched and stored on disk as ten separate files: REGJOB1.DATA - REGJOB10.DATA. The software package Statistical Analysis System (SAS) was then used to verify and edit the files. The ten files were merged into one file, OBTSDEMO.DATA.

b. OBTS Final Disposition File

This file contained important court and prosecution data: type of counsel, type of trial, plea, prosecutor charge, arraignment dates, and sentencing information. The final disposition of any charge made at any one of the criminal justice system levels: the police, the prosecutor, the courts, and the grand jury were available in the OBTS file. Individuals with multiple charges appeared in the file under the same tracking number.

Only charges for which a final disposition was available were included in this file.

c. The In-Process File

The In-Process file contained information on individuals whose status in the system had not yet terminated because either no final disposition had yet been made or the individual was still serving a sentence.

d. The Summary Criminal History File

This file was obtained from the Offender-Based Transaction Statistics/Computerized Criminal History (OBTS/CCH) data base which contains the individual's criminal history. Individuals were identified in this file by their State Identification Number. Two important variables were extracted from this file: the number of prior arrests and prior convictions.

2. Data Selection and Organization

From the raw input data files described above, a new data file which combined the relevant information from each of the files was created.

The master data set OBTSDEMO.DATA contained a number of variables (sex, employment status and citizenship) which were recorded in alphanumeric characters. We first used SAS to extract from the file only those variables which were necessary. The resulting data set, DEMOGRAPH.DATA, contained information on 6,747

arrest charges. The data were collected on each of the individuals arrested and included thirteen demographic and socio-economic variables. Those variables expressed in alpha characters were transformed into numeric codes and the resulting data set, DEMO1.DATA, was stored on disk.

The information in the Final Disposition file and the Summary History file were combined by matching records from both files. The merged file was then stored on a magnetic tape, AG.HCJDC.STSTS1. The merging of the records on the two files was performed by matching the State Identification Number of the individual records. The Summary History file was also searched for matching In-Process records with missing data on prior arrests and convictions. As we found a negligible number of these cases, they were ignored, thus obviating the need for the In-Process file. The merged Final Disposition/History file contained over 42,000 records. This file was reduced to 9,600 records by extracting only the Part I arrest charges (murder, rape, assault, robbery, burglary, larceny, and motor vehicle theft) and was placed on a magnetic tape, AG.HCJDC.STATS2.

The two files, AG.HCJDC.STSTS1 and AG.HCJDC.STSTS2, were then merged. The matching of the records from the two files was performed by sorting by State Identification Number and then by tracking number. The resulting data set, NK.TRFMMERG, included all the required information

on the charge, the offender, his past history and his/her progress through the criminal justice system and contained 5,226 records.

3. Data Transformation

As many of the variables were entered as code numbers (the arrest and final charges were entered as the Penal Code Number, race was entered as a two digit code, marital status as a single digit code, and similarly, employment status, occupation and residence), new dichotomous variables (0,1 variables) were created for each of the classifications. We also aggregated the classifications of marital status to married and single; the place of residence to Honolulu and elsewhere. For individuals with education data missing, we assumed that the number of school years completed was equal to the average for the sample.

C. An Overview of the System

A schematic representation of the criminal justice system in Hawaii is given in Figure 1. This flowchart summarizes the distribution of the data available to us at each stage of the system.

A total of 6,747 adult arrest records in which the crime at the time of arrest was a Part I offense were analyzed. The effect of offender characteristics on the type of crime committed was studied. In order to examine the decisions made by each criminal justice agency, the dispositions from the

OVERVIEW OF OBTS DISPOSITION/DEMOGRAPHIC
RECORDS FALLOUT BY CRIMINAL JUSTICE AGENCY

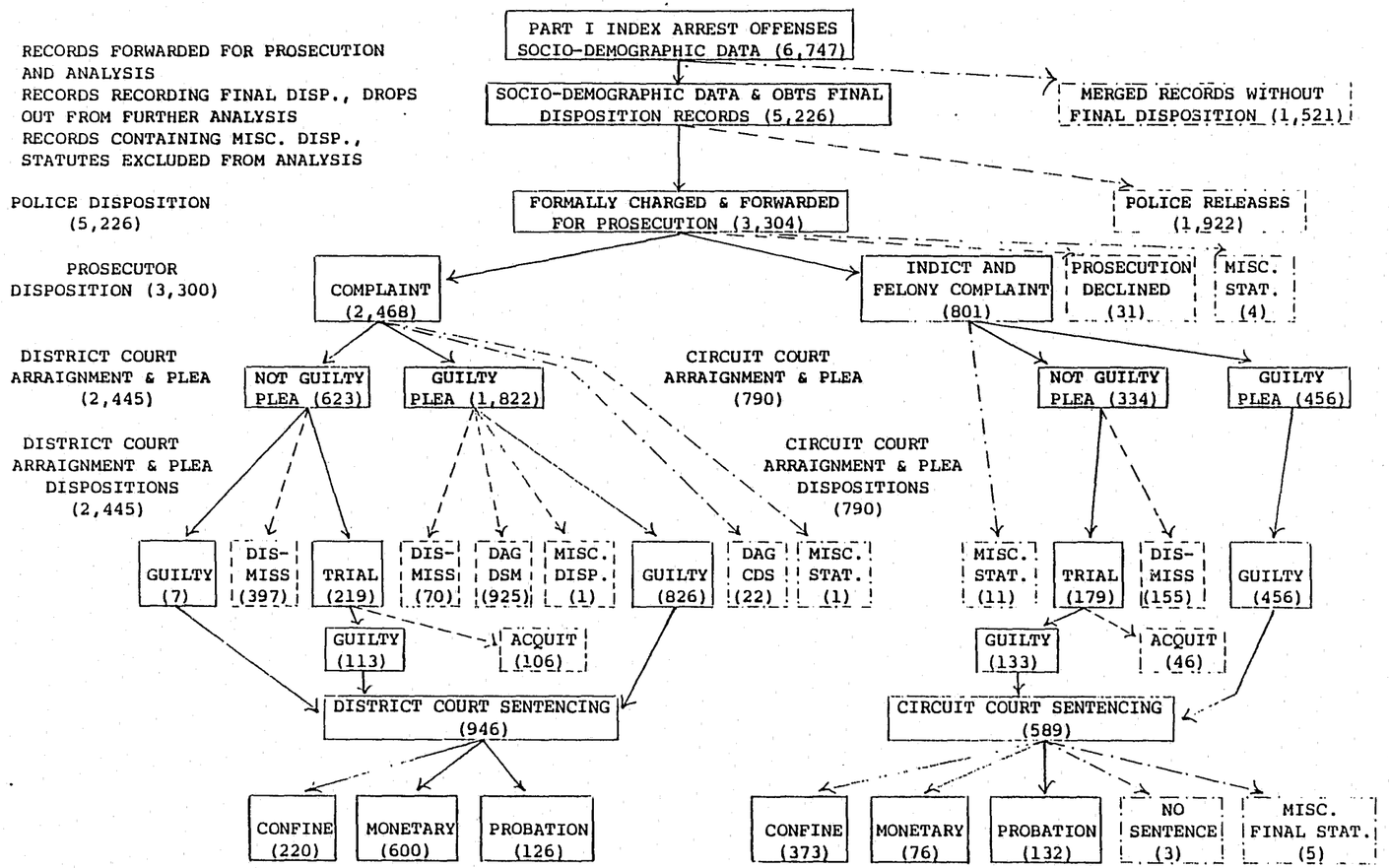

FIGURE 1

OBTS file were merged with the 6,747 records. The merged file produced 5,226 records with final dispositions; 1,521 records with no final dispositions were omitted from further analysis.

The police recorded dispositions on all of the 5,226 records: 1,922 were released and 3,304 were formally charged.

At the prosecutor level, 4 records were omitted due to a change in the original arrest charge to a non-Part I offense charge. Of the remaining 3,300 records, the prosecutor decided to prosecute a total of 3,269 cases by filing 2,468 complaints to be arraigned in District Court and 801 felony indictments to be arraigned in Circuit Court; 31 cases were dismissed.

Of the 2,468 complaints filed by the prosecutor, 22 records containing District Court dispositions of 'deferred acceptance of guilty plea', 'conditional discharge,' and 1 record that did not involve a Part I offense at final charge were dropped from the analysis reducing the District Court sample size to 2,445.

The distribution of pleas at District Court was as follows: 1,822 defendants entered 'guilty' pleas and 623 entered 'not guilty' pleas. The dispositions accompanying the 623 'not guilty' pleas consisted of 219 forwarded to District Court trial, 397 dismissed, and 7 found guilty. The dispositions accompanying the 1,822 'guilty' pleas consisted of 826 found guilty, 70 dismissed, 925 cases in

which a DAG previously granted was dismissed, and 1 miscellaneous disposition which was excluded.

The prosecutor originally filed 801 indictments or felony complaints. This total was reduced to 790 after excluding 11 records containing non-Part I offenses at final charge. At the Circuit Arraignment and Plea, there were 334 'not guilty' pleas, of these 179 were forwarded to Circuit Court trial and 155 were dismissed; 456 'guilty' pleas were forwarded for sentencing.

Of the 219 cases examined in District Court trial, 113 were found guilty and 106 were acquitted. The District Court sentencing segment examined 946 records. The sentencing analysis found 220 cases where a period of confinement was set, 600 monetary sentences and 126 probations.

Of the 179 cases in the Circuit Court trial segment, 133 were found guilty and 46 were acquitted. The number of sentencing records at Circuit Court totaled 589. A total of 8 records were excluded: 5 records were non-Part I offenses at final charge and 3 records contained no sentence. In the analysis 373 cases received sentences of confinement, 76 were given monetary sentences and 132 were granted periods of probation.

D. Methodology

As decision makers, individuals differ in characteristics: economic, cultural, social and personal. Thus, given a set of circumstances, the rational choice made by an individual will

differ from that made by another, as their characteristics differ. The set of options open to an individual may also differ with the differences in the attributes of the individual. The differences in options facing an individual at a point in time as well as the differences in the rational choice of an option from that set are ignored when aggregate data are used, and homogeneity of individuals is assumed, [Sjoquist (1973), Ehrlich (1973]. Yet, as Manski (1978) notes. "..., in the absence of considerable homogeneity in the decision rules and circumstances of individual criminals, the aggregation of individual criminal behavior over the population implies no simple macro function adequately capturing the behavior of that population. That individual criminals are homogeneous enough in their behaviors to justify the existence of a macro crime function of the type commonly assumed in the literature is a priori unlikely and, at any rate, can be verified only through individual-level analysis." (pp. 402-3)

We start with the assumption that at a point in time the individual is faced with a discrete number of mutually exclusive options in the allocation of his time. The set of options includes all the legitimate acitivities as well as all possible illegal activities. The individual must choose a specific option from those open to him. The choice of none of the options is permitted by including leisure as one of the alternatives. The choice of more than one option, which would violate the mutual exclusivity assumption, is precluded by defining the unit of time to be allocated so that no more

than one option is feasible. Each option, "i" is characterized by a vector of attributes, x_i, whose elements contain the gains to be realized, both pecuniary and psychic, and the costs associated with that option. The evaluation of gains and costs of each option is subjective and is assumed to depend on the individual's characteristics, which for individual "k" are contained in the vector of characteristics, z_k. A rational individual will choose that option which maximizes some index of his welfare, where that index increases with the gains and decreases with the costs of the option.

If both the options facing the individual and the attributes of each of those options as judged by him depend on the characteristics of the individual, the choice made will depend entirely on the individual's characteristics. This assumption is rather restrictive and one can drop it so that both the options' characteristics and the individual's attributes jointly determine the choice. The assumption is needed, however, for the purpose of the empirical work reported below, as data on the characteristics of options were not available to us.

Under this model a specific option will be chosen by all those who have identical characteristics. Not all of the characteristics are observable or measurable, however, and thus the individual evaluations of options' attributes may be stochastic. For these reasons, the observed choice of individuals with identical observable characteristics will differ. It is assumed that the individual's evaluation

of the welfare effects of an option includes a random component, u_{ik}. In this way the choice made is stochastic. The probability of randomly selecting an individual who prefers option "i" over option "j" will depend on his characteristics as well as on the two random components u_{ik} and u_{jk}.

Depending on the specification of the probability distribution of the random components u, this model of rational choice yields a Logit or a Probit type model. The Logit model is used if we assume that u has a Weibull distribution, while the Probit model uses the assumption of a normal distribution. This is the type of model described by Manski [1978, p. 417] as the conventional static random utility model.

Let P_{ik} be the probability that individual k will choose option "i". We define an index I_k, which translates the individual's characteristics Z_k into a probability which ranges from 0 to 1. In the Probit model, this index is defined through the transformation:

$$P_{ik} = F(I_k),$$

where F is the cumulative normal probability function. The value of the index I_k can range from $-\infty$ to $+\infty$ and the larger the value of the index the higher will be the probability of choosing option "i".

The index I_k is assumed to be a linear function of the individual's characteristics:

$$I_k = Z_k B,$$

where B is a vector of coefficients measuring the effect of the various characteristics on the index, and thus on the probability of choosing option "i". The Probit model is described in Appendix A.

In the empirical implementation of the model, we use the binary form of the model, whereby for each option an individual can either choose the option or not choose it. Application of a multinomial Probit model, where the individuals make simultaneous choices between the number of options, was not possible given the available programs. The Probit model is utilized at all stages of the criminal justice system in this study.

E. Summary of the Major Findings

In analyzing the effects of various socio-economic and demographic characteristics such as age, sex, race, education, unemployment, occupation, marital status, and residence, a Probit model was utilized throughout this study. In using this model, we note that each individual generally weighs the costs and benefits of his/her actions and that these choices will depend upon the characteristics of the individual. Because not all of the characteristics are observable or measurable, the observed choice of individuals with identical characteristics may differ.

Though not all the variables proved significant, we found that many did have significant effects on the probability of arrest on one or more of the charges, but not on others. Holding all other individual characteristics constant, six of

the arrestee characteristics were significant for all charges. Being male increased the probability of being charged with robbery, burglary, motor vehicle theft or a violent crime. It was also found that the older a person, the more likely it is that he/she is charged with larceny or a violent crime. Being employed, we found, significantly increased the probability that an individual was arrested on a charge of robbery.

Those persons who were unmarried at the time of arrest had higher probabilities of having been arrested on charges of burglary or auto theft. With increasing education, the less likely it is that he/she has been arrested on a violent crime charge.

For the effect of occupation, we found that, holding all other occupations constant with the exception of professionals, construction, sales, and no occupation, professionals had lower probabilities of being arrested for violent crimes as compared with the base group. Individuals with no occupation were more likely to be arrested for robbery or burglary and less likely to be arrested for larceny than the base group. Persons arrested who were in the construction occupations were found to have higher probabilities of being arrested for burglary.

Only two crimes appeared to be significantly affected by race--larceny and violent crimes. Holding all other variables constant, Whites and Chinese were more likely than the base group (comprised of all other races not individually listed)

and Hawaiians, Blacks and Samoans were less likely to be arrested for larceny. Whites, Chinese and Japanese were less likely to be arrested for violent crimes, while Samoans were more likely than the base group to be arrested for a violent crime.

At the law enforcement level, the dispositions can fall in one of five categories: transferred to other agencies, prosecution declined, released with no charge, released pending investigation and prosecute. The first two categories were aggregated as both do not reflect decisions made by the law enforcement agency. It was found that the arrest charge and the prior arrest and conviction record of the individual do significantly influence the probabilities of the various dispositions. Individuals arrested on charges of murder, robbery, burglary or larceny-theft are less likely to be released with no charge than those who have been arrested on charges of rape, aggravated assault or motor vehicle theft. It was also found that the probability of being released pending further investigation increases with the number of prior arrests but decreases with the number of prior convictions. Of the socio-economic variables considered, it was found that females are more likely to be prosecuted than males, given the arrest charge, prior history and the other personal characteristics. Married, employed and older individuals, are more likely to be prosecuted.

The prosecutor makes two decisions--whether to prosecute and on what charge. We found that in 99% of the cases

referred to the prosecutor's office, the decision was to prosecute. As to what charge, we found that for the three property crimes (burglary, larceny and motor vehicle theft), the arrest charge is the major determinant of the prosecutor's charge. There appears to be significant influences among the violent crimes. A person arrested on a charge of aggravated assault is more likely to be charged at the prosecutor's level with murder or robbery than an individual who has been arrested on other charges. Having an arrest charge of robbery increases the probability that the prosecutor's charge will be murder or rape. It was also found that arrest charges of murder, rape or robbery do not influence the likelihood of a prosecutor's charge of assault. This indicates that none of these three crimes is downgraded. Yet there is evidence of upgrading an arrest charge of assault to murder or robbery by the prosecutor.

Depending on the nature of the charge, the prosecutor files a complaint or indictment in either the Circuit or District Court. The data we have included 790 cases at the Circuit Court. At the arraignment and plea stage, 456 entered a plea of guilty; and for these cases, the next step in the process is sentencing. The remaining 334 cases have two intermediate steps, the court disposition and the trial disposition. Only those individuals pleading not guilty, whose charges were not dismissed and were subsequently found guilty at the trial, reach the final step of sentencing. It was found that the probability of a guilty plea depends on the crime the individual is charged with. Holding all

personal characteristics constant, those who are charged with burglary or larceny are considerably more likely to enter a plea of guilty than those charged with other crimes. The least likely to have a plea of guilty are those charged with rape. For a given charge, the likelihood of a guilty plea increases with the educational attainment of the individual, and with the number of prior convictions.

The Circuit Court dismissed the charges in 46% of the cases with a "not guilty" plea, and trial was set for the remaining 54% (179 cases). The results indicate that of all the demographic and socio-economic variables considered, only marital status had a significant influence on the likelihood that the charge would be dismissed, with single individuals having a higher probability of the charge being dismissed than married individuals charged with the same crime. It was also found that the type of charge influences the likelihood of dismissal. Those charged with murder are considerably less likely to have the charge dismissed, while those charged with larceny-theft are more likely to have the charge dismissed than individuals charged with other crimes. These probabilities are found to depend also on the individual's prior arrest and conviction record.

Only a quarter of those tried were acquitted (46 of the 179 cases). The probability of being convicted is not influenced by the type of crime the individual is charged with. It does depend, however, on the type of trial. The results indicate that the probability of conviction is

significantly higher in a jury trial than in a non-jury trial. The likelihood of being convicted was found to be higher for an employed person, and decreases with the level of education of the defendant. Prior arrests and convictions had significant influences on the likelihood of conviction.

The final step in the system for the 456 cases with a "guilty" plea and the 133 cases found guilty at trial is sentencing. Because of the large diversity of the types of sentences and the variation in severity of each and the small number of cases (589) available for analysis, we were unable to pursue detailed analyses. Instead, the sentences were classified into three broad categories: confinement, monetary (which includes fines, restitutions and community service) and probation (which includes suspended sentences). Our findings indicate that males are less likely to receive a sentence of probation than females. The probability of a monetary sentence increases with the age of the individual with a corresponding decrease in the probability of probation. We also found that employed individuals are less likely to be sentenced to confinement and more likely to be given a monetary sentence than unemployed persons. Prior arrests and convictions affect the probability of confinement and probation. An interesting finding is that those whose plea was "not guilty" but were found guilty at trial have significantly higher probabilities of confinement and lower probabilities of probation or monetary sentences than those whose plea was "guilty." The type of crime influenced the probability of

confinement but not the other two types of sentences. Those convicted of murder had probabilities of confinement ranging from 90% to 97%. While the coefficient for rape is quite large, it was not found to be statistically significant due to the small number of cases in the sample. Yet the size of the coefficient makes the probability of confinement for those found guilty of rape equal to unity.

Similar analyses were done for the District Court. The type of crime did not vary as all District Court cases in our sample were of the same crime group (larceny-theft). In addition, because not all defendants in the District Court had legal counsel, it was possible to study the effects of legal counsel which was not possible in the Circuit Court sample.

At the arraignment and plea stage of the District Court, a plea of "guilty" was entered by the defendant in 75% of the cases. It was found that the only demographic or socio-economic variable which influenced the likelihood of a guilty plea was sex. Males are less likely than females to enter a guilty plea, holding all the other personal characteristics equal. The prior arrests and convictions record of the defendant also had a significant effect on the likelihood of a guilty plea, with that likelihood increasing with the number of prior convictions, but decreasing with the number of prior arrests. It was also found that defendants who were represented by legal counsel were less likely to enter a guilty plea.

Of those who entered a plea of "not guilty," the charges were dismissed in 64% of the cases; only 36% of those pleading "not guilty" were sent to trial. Marital status seemed to be the only personal characteristic influencing the likelihood of the charges being dismissed; being single increased the likelihood of dismissal. It was also found that the prior criminal record of the individual influenced the probability of dismissal. An interesting finding was that the presence of legal counsel reduced the likelihood of dismissal. This may be the result of a reverse causal relationship; those whose charges are not likely to be dismissed chose to be represented by counsel.

At District Court trial, of 218 cases in the sample, 105 cases (48%) resulted in acquittal. The findings indicate that none of the demographic or socio-economic characteristics of the individual had any effect on the likelihood of acquittal, nor did the presence of legal counsel. The only factors influencing that likelihood were found to be the prior arrests and convictions of the defendant.

The District Court sentenced the 113 cases who were found guilty at trial together with the 833 cases in which the defendant entered a plea of guilty at the arraignment and plea stage. The sentences were again aggregated into three groups as in the analysis of the Circuit Court. It was found that the only demographic and socio-economic variables which influenced the type of sentence were age, employment status and marital status. The older the defendant, the more likely

it was that the sentence was monetary and less likely to be confinement. Employed individuals had a higher probability of being sentenced to a monetary punishment and a lower probability of confinement. Finally, married individuals were less likely to be sentenced to a monetary punishment. We also found that the prior arrest record of the individual increased the likelihood of confinement when found guilty. The presence of legal counsel did not seem to affect the likelihood of confinement, but rather reduced the likelihood of monetary punishment and increased that of probation.

II. ANALYSES OF ARREST DATA

A. Introduction

The aggregate data on the characteristics of persons arrested are generally presented in a tabulated form by age, sex and race. These classifications, used by officials throughout the United States through the Uniform Crime Reporting (UCR) program, are the most commonly quoted statistics on crime. The tabulations reported below, which are based on a sample of 6,747 arrests which we use for our analyses, are examples of classification by a single variable such as race, sex, or education (Table 1), or the charge at time of arrest (Table 2).

While the classification is useful for the distribution of arrests by type of offense, such as is reported in Table 2, it is misleading where the characteristics of the arrested individual are considered. In considering the distribution of arrests by race for example, one has to assume that either no characteristic other than race matters, or that all racial groups are identical with respect to all the other individual attributes. If for instance, age, education and employment status are relevant attributes and do differ in distribution among the various racial groups, it would be wrong to compare the percentages of the racial composition of arrested individuals reported in Table 1 to the ethnic distribution of the population and conclude that a particular racial group is over or under represented in arrests. This is so because a group which appears to be over

TABLE 1

Distribution of Arrests by Race, Sex and Education

	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
RACE				
White	2140	2140	31.718	31.718
Hawaiian	1120	3260	16.600	48.318
Chinese	213	3473	3.157	51.475
Filipino	557	4030	8.256	59.730
Japanese	529	4559	7.841	67.571
Puerto Rican	59	4618	0.874	68.445
Part Hawaiian	657	5275	9.738	78.183
Portuguese	96	5371	1.423	79.606
Black	357	5728	5.291	84.897
Samoan	418	6146	6.195	91.092
Korean	84	6230	1.245	92.337
Vietnamese	428	6658	6.344	98.681
Other	29	6687	0.430	99.111
Unknown	40	6727	0.593	99.704
Missing	20	6747	0.296	100.000
SEX				
Female	1841	1841	27.286	27.286
Male	4903	6744	72.669	99.956
Missing	3	6747	0.044	100.000
EDUCATION				
Missing	253	253	3.750	3.750
Elementary Ed.	152	405	2.253	6.003
Intermediate Ed.	236	641	3.498	9.501
High School Ed.	5088	5729	75.411	84.912
College	933	6662	13.828	98.740
Graduate School	85	6747	1.260	100.000

TABLE 2

Distribution of Arrests by Arrest Charge

CHARGE	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
Murder	79	79	1.171	1.171
Non-Neg Homicide	7	86	0.104	1.275
Assault 1	53	139	0.786	2.060
Assault 2	227	366	3.364	5.425
Rape 1	95	461	1.408	6.833
Rape 2	8	469	0.119	6.951
Rape 3	3	472	0.044	6.996
Burglary 1	532	1004	7.885	14.881
Burglary 2	166	1170	2.460	17.341
Theft 1	1051	2221	15.577	32.918
Theft 2	640	2861	9.486	42.404
Theft 3	2711	5572	40.181	82.585
Auto Theft	505	6077	7.485	90.070
Robbery 1	478	6555	7.085	97.154
Robbery 2	192	6747	2.846	100.000

represented in arrests may in fact be not different from, or even lower than the other groups, once the age composition, the distribution of educational attainment, and the distribution of employment status are accounted for.

For this reason, cross tabulations which classify the arrests by two or three characteristics are more useful. In Table 3 we report the distribution of the 6,747 arrests by race and sex. The classification is extended to three variables, age, race and sex in Table 4.

However, as the number of characteristics over which the classification is made increases, and as the number of groups within each of the characteristics increases, cross classification tables become intractable. Even if these tables were constructed, their use would still lead to erroneous conclusions as long as some relevant characteristics are not included in the classification.

The value of cross classification is limited, even when all attributes are accounted for, as the tabulations can at best tell us which characteristics are responsible for differences in arrest rates. The significance of the effect of each characteristic can be established by the use of the Analysis of Variance. There is no way, however, to estimate the magnitude of the impact of the particular characteristic on the arrest rate. To test for the significance of each of the individual attributes' effect on arrest rate and to estimate the magnitude of such effect, we turn to the Probit model described in the previous chapter and apply it to the sample data.

TABLE 3

Distribution of Arrests by Race and Sex

RACE	FEMALE		MALE		TOTAL %
	NUMBER	%	NUMBER	%	
White	645	9.56	1554	23.03	32.59
Hawaiian	420	6.22	1357	20.11	26.34
Chinese	95	1.41	118	1.75	3.16
Filipino	159	2.36	398	5.90	8.26
Japanese	149	2.21	380	5.63	7.84
Portuguese	17	.25	79	1.17	1.42
Black	76	11.13	281	4.16	5.29
Samoan	88	1.30	330	4.89	6.20
Korean	35	.52	49	.73	1.24
Other	160	2.37	357	5.29	7.66
Total	1844	27.33	4903	72.67	100

TABLE 4

Distribution of Arrests by Age, Race and Sex

RACE	FEMALE				MALE			
	AGE				AGE			
	20	30	40	50+	20	30	40	50+
White	20.66	6.67	3.15	4.50	22.50	5.02	1.90	2.28
Hawaiian	17.08	2.39	1.68	1.63	24.13	2.14	.92	.49
Chinese	2.60	.92	.76	.87	1.47	.35	.18	.41
Filipino	4.99	1.52	.65	1.46	5.67	.98	.41	1.06
Japanese	4.72	.76	.65	1.95	5.55	.59	.39	1.22
Portuguese	.76	.11	.00	.05	1.31	.16	.10	.04
Black	3.52	.38	.16	.05	4.39	1.12	.20	.02
Samoan	2.98	.92	.65	.22	6.04	.55	.02	.12
Korean	.81	.43	.16	.49	.59	.08	.10	.22
Other	5.30	2.49	.60	.27	6.12	.80	.18	.18
Total	63.45	16.59	8.46	11.50	77.75	11.79	4.41	7.28

B. Factors Influencing the Arrest Charge

Detailed breakdowns of those arrested are most often based on such characteristics as age, sex, and race because these are the most visible characteristics which can be identified. The FBI in their annual publication of "Crime in the United States" consistently describe persons arrested by their age, sex, and race. While these statistics support the general concept held by the public that most crimes are committed by younger persons, males, and non-whites, the exact significance of these characteristics on crime cannot be fully understood unless other socio-economic, demographic and cultural factors are also taken into consideration and these relationships studied in conjunction with the more visible characteristics. Past research has identified certain characteristics which appear to influence crime.

Bartel (1979) examined the factors of female participation in criminal behavior based on an economic model. Using data which showed during the time periods studied, that most of the females were charged with larceny-theft and that the number of females arrested grew at a faster rate than for males arrested in every category of property crime, she introduced marital status as a variable. Her results indicate that the marital status of females had an ambiguous effect on female participation in crime. Married women were more likely to commit property crimes than single women, however, marital status had no influence on personal crimes. Of

those married women who did commit a property crime, a larceny was more likely to be committed.

Other studies have used educational level as a variable in the explanation of crime. The mean number of school years has been used by Sjoquist (1973) to reflect cultural differences and differences in expectations of future income. Pressman and Carol (1971) found no relationship between educational level and crime with the qualification that the lack of relationship found can only be applied to the data utilized by them. Allison (1972) found that the community with the higher proportion of educated people will have the higher crime rate. However, he concluded that the rate of unemployment is a function of the educational level attained and that these two variables may be highly related. This is supported by other studies on the effect of education on crime which indicate that educational level and delinquency are highly related. Toby (1967) reported that there is fragmentary but consistent evidence from various industrialized countries that the longer a youngster stays in school the smaller the chances he will commit crimes, and Gibson found self reported delinquency to be related to educational level [see Hood and Sparks (1970), p. 59].

While the relationship between social class and crime has been the basis for many studies and theories about crime causation, social class is often operationalized by using occupation as an index. Braithwaite (1979) cites evidence that "Occupational status correlates more highly with alternative

indices of social class than does any other index" (p. 24). Erickson and Empey (1969) also used occupational status of the father or guardian for defining social class because "it has proven to be the most important single measure of class" (p. 407).

Employment status of the offender has also been studied. Ehrlich in his study of the participation of illegitimate activities (1973) found that the partial effect of the unemployment rate for the age group 14-24 was not significant but achieved better results when the unemployment rate for urban males in the age group 35-39 was utilized. The differences between the results were explained as variations in involuntary unemployment for the younger age groups and that variations in the probability of involuntary unemployment is reflected in the effect of income inequality. The close relationship between unemployment and education has also been pointed out by Ehrlich (1973), who states that involuntary unemployment is more likely to affect those with less education.

The characteristics of the individual affecting the arrest charge in our study are, therefore, taken to be: sex, age, race, employment status, martial status, education, profession and residence. Residence is expressed by a dichotomous variable reflecting whether the individual arrested resides in the city of Honolulu, or elsewhere. It is introduced to account

for any effect of urbanization on criminal activity (Fujii and Mak, 1980).[1]

C. The Empirical Findings

The empirical results of fitting the Probit model to the data on charges at the time of arrest are reported in Table 5. For all of the seven groups of charges, the fit provided by the model is significant, as indicated by the values reported in the last line. However, not all the variables used proved significant; many had significant effects on the probability of arrest on one or more of the charges but not on others. Furthermore, the magnitude of effect of a particular variable differed by charge.

The sex of the arrested individual is one variable which has a significant effect on the probability of being arrested for all groups of charges. Being a male increases the probability that the person arrested would be charged with robbery, burglary, automobile theft, or a violent crime (murder/rape). Females arrested have a higher probability of being charged with larceny/theft than males with identical socio-economic and ethnic characteristics.

The results also show that after accounting for sex, occupation, race, education, marital status, place of residence, and employment status, of all the arrested individuals the older the person, the less likely it is that the charge was

[1]The individual characteristics are self reported and as such, may be subject to error, as the information given by the individual at time of arrest is not verified.

TABLE 5: PROBIT ANALYSIS OF PERSONAL CHARACTERISTICS ON ARREST CHARGES

Characteristics	Robbery	Burglary	Larceny	Auto Theft	Violent Crimes			Sample
					Total	Murder/Rape	Assault	
	670	698	4402	505	472	192	280	Mean
Sex (Male)	.806*	.816*	-1.137*	.579*	.689*	.848*	.504*	.727
Age	-.023*	-.023*	.025*	-.028*	.006*	.008*	.004	27.437
Employment Status (Employed)	.106	-.124	.004	-.027	.089	.144	.010	.416
Marital Status (Single)	-.065	.199*	- .030	.179*	- .152*	-.027	-.205*	.811
Education	-.043*	-.050*	.057*	.002	- .034*	-.036*	-.024	11.615
Professional	.502*	.288*	- .558*	.012	.390*	.442	.288	.105
Sales	.380*	.301*	- .411*	.145	.132	.323	.003	.278
Forestry/Agricult.	.405*	.499*	- .585*	.255	.214	.348	.104	.023
Construction	.413*	.345*	- .531*	.376*	.132	.220	.081	.154
No Occupation	.649*	.357*	- .577*	.323*	- .075	-.049	-.073	.369
Retired	-.813	.377	- .206	.164	- .322	-.250	-.259	.020
Honolulu	.077	.032	- .045	-.062	.049	-.059	.106	.502
White	-.180*	.028	.198*	-.070	- .270*	-.316*	-.165	.340
Hawaiian	.132	.099	- .163*	.104	- .032	-.094	.031	.263
Chinese	-.360	.048	.404*	-.066	-1.007*	-.876*	-.915*	.032
Filipino	-.004	-.156	.045	.069	- .059	-.263	.097	.083
Japanese	.154	.035	.003	.120	- .464*	-.701*	-.236	.078
Black	.046	.241*	- .245*	.007	.217	.197	.147	.053
Samoan	.355*	-.110	- .396*	-.006	.413*	.020	.558*	.062
Korean	-.575	-.076	.213	-.659	.240	.320	.117	.012
Intercept	-1.404*	-1.294*	.529*	-1.632*	-1.778*	-2.509*	-1.896*	
χ^2	442.901*	395.129*	1410.538*	294.220*	304.143*	196.780*	155.697	

* Significant at the 5% level.

robbery, burglary or automobile theft and the more likely it is that the charge was larceny or a violent crime.

Whether an arrested individual is employed or unemployed, given all the other socio-economic characteristics, did not seem to influence the type of crime he/she was charged with, except for the charge of robbery. Being employed significantly increases the probability that an arrested individual has been arrested on a charge of robbery.

Those who are unmarried at the time of arrest had a higher probability of having been arrested on charges of burglary or automobile theft and a lower probability of the charge being a violent crime than arrested individuals with identical characteristics who are married at the time of arrest. This does not mean that married persons commit violent crimes more often, the sample we have of arrests includes 81% unmarried and 19% married. The result obtained simply means that of two identical individuals who have been arrested, the one who is married is more likely to be arrested for a violent crime.

With increasing education, holding all the other individual characteristics constant, there is a shift from robbery and burglary to larceny/theft. In addition, the higher the educational attainment of the arrested individual, the less likely it is that he/she has been arrested on a charge of a violent crime.

For the effect of occupation, we take all other occupations not listed in Table 5 as the base group. The coefficients

reported in the table indicate the differential effect of being in a particular group rather than the base group. Professionals seem to have a lower probability of being arrested for larceny or automobile theft, but a higher probability of being arrested for a violent crime than the base group. Those employed in sales and those who are retired do not differ in probability of being arrested for the various charges from the base group. Individuals with no occupation are more likely to be arrested for robbery or burglary and less likely to be arrested for larceny than the base group. Finally, arrested individuals who are in the construction occupations, or in forestry and agriculture differed from those in the base group only in the lower probability of being arrested for larceny and correspondingly higher probability of being arrested for burglary.

We found no evidence that the residence of the arrested individual, whether he/she resides in the City and County of Honolulu or elsewhere, had an influence on the likelihood of having been arrested for the various charges.

Race of the arrested individual seems to matter mainly for two charges: larceny/theft and violent crimes. The base group is composed of all the other races not individually listed in the table. Holding all other socio-economic characteristics constant, arrested Whites and Chinese were more likely than the base group, and Hawaiians, Blacks and Samoans were less likely than the base group to have been arrested for larceny/theft. On the other hand, Whites,

Chinese and Japanese were less likely to be arrested for a violent crime than the base group while Samoans were more likely than the base group to have been arrested on a violent crime charge.

The numbers reported in the table are not the changes in the probabilities of the various charges. Rather they measure the effect of a particular variable on the Index I, of which the probability is a function. The probabilities increase with the increase in the index and decrease with a decrease in the index. For this reason it was possible for us to discuss the effects of the various characteristics on the probabilities in a qualitative manner; more likely or less likely. We could not use these results to make quantitative statements about the changes in the probabilities because the probabilities are a non-linear function of the index. The change in the probabilities will depend not only on the size of the coefficients reported in the table, but also on the values of all the other characteristics held constant.

The quantitative effects of the various characteristics can be best seen by calculating the probabilities of an arrested individual being charged with the alternative crimes for individuals with differing sets of characteristics. We use the estimated model to calculate the probabilities reported in the following tables. As there are a large number of the combination of characteristics, we report only those for White individuals with 12 years of education and residing in the city of Honolulu. We change the sex, age, marital status, employment status, and

occupation to obtain the probabilities that different individuals have been arrested on the alternative charges.

1. Sex

To examine the effect of sex on the probability of being arrested on the alternative charges, we compare the figures reported in Table 6 for unemployed, married individuals; Table 7 for employed, married individuals; Table 8 for employed singles and Table 9 for unemployed singles. In all four categories of individuals, given age and occupation, females were more likely to be arrested on charges of larceny than males. The probability of arrest of an unemployed, married, 30 year old individual with no occupation on a charge of larceny is 94% if female and 65% if male. Had the same 30 year old individual been employed, the probability would have been 93% if female and 62% if male. If that 30 year old individual is single, the probability that the arrest charge is larceny is 64% for employed and 61% for unemployed males, compared to 93% for unemployed and 92% for employed females. Females of any age, occupation, marital status, and employment status have lower probabilities of being charged with any of the other crimes than do males with identical characteristics. The probability of being arrested on a charge of robbery, for example, is 5 to 9 times higher for males than females with the same characteristics. The probability of being arrested for a violent crime is 4 to 5 times higher for

TABLE 6

Estimated Probabilities of Arrest Charges: An Unemployed, Married, White Person with 12 Years of Education, Residing in and Arrested in Honolulu

OCCUPATION	MALE					FEMALE				
	Rob-bery	Burg-lary	Lar-ceny	Motor Vehicle Theft	Vio-lent	Rob-bery	Burg-lary	Lar-ceny	Motor Vehicle Theft	Vio-lent
Professional:										
Age 20	.1178	.1197	.5651	.0447	.1152	.0232	.0232	.9033	.0114	.0295
30	.0779	.0805	.6591	.0241	.1279	.0130	.0133	.9390	.0053	.0340
40	.0492	.0519	.7441	.0122	.1416	.0070	.0073	.9635	.0023	.0390
50	.0297	.0320	.8164	.0057	.1562	.0036	.0038	.9793	.0009	.0447
Sales:										
Age 20	.0954	.1223	.6219	.0587	.0724	.0173	.0239	.9261	.0160	.0159
30	.0616	.0824	.7110	.0327	.0815	.0095	.0137	.9548	.0077	.0186
40	.0380	.0532	.7888	.0171	.0915	.0049	.0075	.9738	.0035	.0217
50	.0223	.0329	.8528	.0083	.1023	.0024	.0040	.9856	.0015	.0252
No Occupation:										
Age 20	.1495	.1341	.5577	.0826	.0480	.0325	.0272	.9001	.0246	.0093
30	.1017	.0913	.6521	.0480	.0547	.0188	.0158	.9367	.0124	.0110
40	.0661	.0596	.7379	.0261	.0620	.0104	.0088	.9620	.0059	.0130
50	.0411	.0373	.81137	.0132	.0701	.0055	.0047	.9783	.0026	.0152
Construction:										
Age 20	.1012	.1314	.5758	.0910	.0724	.0187	.0265	.9079	.0278	.0159
30	.0658	.0893	.6690	.0535	.0816	.0103	.0154	.9422	.0142	.0186
40	.0408	.0582	.7527	.0295	.0915	.0054	.0085	.9656	.0068	.0217
50	.0242	.0363	.8235	.0152	.1023	.0027	.0045	.9806	.0030	.0252

NOTE: These probabilities should add to one for each line. In most cases, the results reported do not total one. We have tried all possible adjustments, the sum still differs from one. In this and all following tables of calculated probabilities, Age 20 refers to an individual who is exactly 20 years old, Age 30 to a 30 year old, etc.

TABLE 7

Estimated Probabilities of Arrest Charges: An Employed, Married, White Person with 12 Years of Education, Residing in and Arrested in Honolulu

OCCUPATION	MALE					FEMALE				
	Rob-bery	Burg-lary	Lar-ceny	Motor Vehicle Theft	Vio-lent	Rob-bery	Burg-lary	Lar-ceny	Motor Vehicle Theft	Vio-lent
Professional:										
Age 20	.1401	.0967	.5669	.0422	.1334	.0296	.0171	.9041	.0106	.0360
30	.0946	.0635	.6607	.0227	.1475	.0170	.0096	.9396	.0049	.0413
40	.0610	.0399	.7455	.0113	.1625	.0093	.0051	.9638	.0021	.0472
50	.0376	.0240	.8176	.0053	.1785	.0049	.0026	.9795	.0009	.0537
Sales:										
Age 20	.1147	.0988	.6235	.0557	.0855	.0223	.0177	.9267	.0150	.0198
30	.0756	.0651	.7125	.0308	.0958	.0125	.0099	.9552	.0072	.0230
40	.0476	.0410	.7901	.0160	.1070	.0067	.0053	.9740	.0032	.0267
50	.0286	.0248	.8538	.0077	.1191	.0034	.0027	.9857	.0013	.0309
No Occupation:										
Age 20	.1754	.1090	.5594	.0786	.0576	.0410	.0203	.9008	.0231	.0118
30	.1218	.0725	.6537	.0454	.0652	.0243	.0115	.9373	.0116	.0139
40	.0809	.0463	.7394	.0246	.0736	.0137	.0062	.9623	.0054	.0163
50	.0513	.0282	.8125	.0124	.0829	.0074	.0032	.9785	.0024	.0190
Construction:										
Age 20	.1212	.1068	.5775	.0867	.0855	.0241	.0197	.9086	.0262	.0198
30	.0804	.0709	.6705	.0507	.0958	.0136	.0112	.9427	.0133	.0231
40	.0510	.0451	.7541	.0277	.1070	.0073	.0060	.9659	.0063	.0267
50	.0308	.0274	.8247	.0142	.1191	.0037	.0031	.9808	.0028	.0309

NOTE: These probabilities should add to one for each line. In most cases, the results reported do not total one. We have tried all possible adjustments, the sum still differs from one.

TABLE 8

Estimated Probabilities of Arrest Charges: An Employed, Single, White Person with 12 Years of Education, Residing in and Arrested in Honolulu

OCCUPATION	MALE					FEMALE				
	Robbery	Burglary	Larceny	Motor Vehicle Theft	Violent	Robbery	Burglary	Larceny	Motor Vehicle Theft	Violent
Professional:										
Age 20	.1261	.1353	.5550	.0610	.1033	.0255	.0276	.8989	.0168	.0255
30	.0841	.0923	.6496	.0342	.1151	.0145	.0161	.9359	.0082	.0295
40	.0535	.0603	.7357	.0179	.1279	.0078	.0089	.9614	.0037	.0340
50	.0325	.0378	.8095	.0087	.1415	.0040	.0048	.9779	.0016	.0390
Sales:										
Age 20	.1025	.1381	.6121	.0788	.0641	.0191	.0284	.9224	.0232	.0136
30	.0667	.0944	.7022	.0455	.0724	.0105	.0166	.9523	.0116	.0159
40	.0415	.0619	.7813	.0246	.0815	.0055	.0926	.9722	.0055	.0186
50	.0246	.0388	.8468	.0124	.0915	.0028	.0049	.9846	.0024	.0217
No Occupation:										
Age 20	.1591	.1509	.5475	.1084	.0420	.0356	.0323	.8955	.0348	.0078
30	.1091	.1043	.6426	.0653	.0480	.0208	.0191	.9335	.0183	.0093
40	.0715	.0690	.7295	.0368	.0546	.0116	.0108	.9598	.0089	.0110
50	.0448	.0438	.8044	.0194	.0620	.0061	.0058	.9769	.0041	.0130
Construction:										
Age 20	.1086	.1481	.5657	.1186	.0641	.0207	.0314	.9036	.0391	.0136
30	.0711	.1021	.6596	.0723	.0724	.0115	.0185	.9392	.0208	.0160
40	.0445	.0674	.7445	.0413	.0815	.0061	.0104	.9636	.0103	.0186
50	.0266	.0427	.8168	.0221	.0915	.0031	.0056	.9793	.0047	.0218

NOTE: These probabilities should add to one for each line. In most cases, the results reported do not total one. We have tried all possible adjustments, the sum still differs from one.

TABLE 9

Estimated Probabilities of Arrest Charges: An Unemployed, Single, White Person with 12 Years of Education, Residing in and Arrested in Honolulu

OCCUPATION	MALE					FEMALE				
	Robbery	Burglary	Larceny	Motor Vehicle Theft	Violent	Robbery	Burglary	Larceny	Motor Vehicle Theft	Violent
Professional:										
Age 20	.1054	.1643	.5533	.0643	.0882	.0198	.0365	.8981	.0179	.0206
30	.0689	.1146	.6480	.0362	.0987	.0110	.0218	.9353	.0088	.0240
40	.0429	.0767	.7343	.0191	.1102	.0058	.0124	.9601	.0040	.0278
50	.0255	.0492	.8084	.0094	.1225	.0029	.0068	.9777	.0017	.0321
Sales:										
Age 20	.0849	.1674	.6104	.0828	.0537	.0147	.0375	.9218	.0247	.0108
30	.0541	.1171	.7007	.0481	.0609	.0079	.0225	.9519	.0125	.0127
40	.0329	.0785	.7800	.0262	.0689	.0048	.0128	.9719	.0059	.0149
50	.0191	.0505	.8457	.0133	.0777	.0020	.0070	.9844	.0026	.0175
No Occupation:										
Age 20	.1348	.1819	.5458	.1134	.0346	.0281	.0424	.8947	.0369	.0061
30	.0906	.1285	.6409	.0687	.0397	.0160	.0256	.9329	.0195	.0073
40	.0582	.0871	.7281	.0390	.0455	.0087	.0148	.9534	.0096	.0087
50	.0356	.0566	.8031	.0207	.0518	.0045	.0082	.9767	.0044	.0103
Construction:										
Age 20	.0901	.1787	.5640	.1239	.0537	.0159	.0413	.9028	.0414	.0108
30	.0578	.1260	.6580	.0760	.0609	.0087	.0249	.9387	.0221	.0127
40	.0354	.0852	.7431	.0437	.0689	.0045	.0144	.9633	.0111	.0149
50	.0207	.0553	.8156	.0235	.0777	.0022	.0079	.9791	.0052	.0175

NOTE: These probabilities should add to one for each line. In most cases, the results reported do not total one. We have tried all possible adjustments, the sum still differs from one.

males than for females of the same age, occupation, marital status and employment status.

2. Age

There is a pattern in the probabilities of being arrested on the various charges as the age of the arrested individual increases. The older the arrested individual, the higher the probability of being arrested on a charge of larceny or violent crime, but the lower the probability that the charge is robbery, burglary or motor vehicle theft. This pattern holds for both sexes, whether married or single, whether employed or not, and for all occupations. For example, an arrested sales person who is 20 years of age, married, and unemployed has a probability of being charged with larceny of 62% and with a violent crime of 7.2% if male, and 93% and 1.6%, respectively, if female. An individual who is 50 years old, with identical characteristics has probabilities of 85% and 10.2% if male and 98.6% and 2.5% if female, of having been arrested on charges of larceny or violent crimes, respectively. Had the individual been an employed sales person, married and 20 years of age, the probability that the arrest charge is larceny is 62.4% if male and 92.7% if female, and the probability that the charge is a violent crime is 8.55% for male and 2.0% if female. By contrast, had the individual been 50 years old, but identical to these in all other characteristics, the probabilities of the arrest charge being a larceny or

a violent crime are 85.4% and 11.9% respectively for males and 98.6% and 3.1% if female. The increase in the probabilities that the arrest charge is larceny or a violent crime as age increases are matched by the decrease in the probabilities of being arrested on the charges of robbery, burglary or motor vehicle theft.

3. Marital Status

To evaluate the effect of marital status on the arrest charge, we compare the probabilities reported in Table 6 with those of Table 9 for the unemployed, and Table 7 with Table 8 for the employed. Unemployed, married males have slightly higher probabilities of being arrested on charges of robbery, larceny and violent crimes than do single, unemployed males. The probabilities of being charged with burglary or motor vehicle theft are lower for married, unemployed males than for the single, unemployed males. This pattern also holds for employed males and for both employed and unemployed females.

4. Occupation

The effect of occupation can be seen by examining the probabilities of being arrested for the various charges for individuals in a particular category. The figures reported in Table 6, for example, show that an unemployed, married male of a given age and who has no occupation is more likely to be arrested for robbery or motor vehicle theft than a similar person who has an occupation. But he is less likely than the similar

unemployed male who has an occupation to be arrested for larceny or a violent crime. There seems to be little difference in the probability that the arrest charge is burglary between an unemployed male with no occupation and one who is in the construction occupation. The same patterns hold for all categories of individuals represented by the various tables.

It will be recalled that we have confined our attention to those arrested who are white, have 12 years of education and reside in Honolulu. Similar tables can be constructed for the other racial groups and for varying levels of education using the same estimated Probit functions reported in Table 5.

III. DISPOSITION AT THE LAW ENFORCEMENT LEVEL

A. Introduction

The step following the arrest of an individual in his/her progress through the criminal justice system is the decision made by the law enforcement agency. While for simplicity we shall refer to the decisions as if they were solely made by the police, it should be clear that in many instances the decision is a joint one made with the advice of the prosecutor, particularly in the case of decisions to release the offender pending further investigation and to prosecute the offender. Other decisions, such as transferring the offender to another agency or where the victim declines to prosecute are not made by the police.

One of five categories of decisions can be made following the arrest. The individual may have been arrested at the request of some other agencies, and his/her transfer to that agency thus terminates the case. The victim may decline to press charges against the offender, in which case the offender is released and the case also terminated. Alternatively, it may be decided that the evidence does not warrant the prosecution of the offender, and the offender is released with no charges filed with the prosecutor. In all three of these cases the decision terminates the progress of the arrested individual through the system. The fourth category, released pending further investigation, would also appear as a final disposition terminating the progress in the system. In many instances,

however, this is not the case. The individual may have been released at the advice of the prosecutor pending further review. The individual may, at a later time, be re-arrested following a Grand Jury indictment. When this occurs, the arrest data will indicate that an additional arrest has been made, and the disposition will indicate a decision to prosecute on this arrest charge. Only those for whom the decision at the law enforcement level is to prosecute will move on to the next stage of the system.

Of the 6,747 arrest observations (September 1979 - December 1980) which we have analyzed in the previous section, a total of 5,226 had final dispositions. We confine our analyses to these cases. In Table 10 the distribution of these cases among the five categories of decisions is reported:

TABLE 10: DISTRIBUTION OF DISPOSITIONS AT THE LAW ENFORCEMENT LEVEL

Disposition	Number	Percent
Transferred to other agencies	36	0.69
Released; prosecution declined	113	2.16
Released; no charge	410	7.85
Released; pending further investigation	1,363	26.08
Forwarded to Prosecutor	3,304	63.22

Because of the small number of cases which fall into the first two groups, and because the two decisions are similar in that neither is made at the discretion of the police, we aggregated the two groups, "transferred to other agencies" and "released, prosecution declined" into one category which included 2.85% of all the cases.

B. The Effects of Personal Characteristics

The question we address in this section is whether the socio-economic and demographic characteristics of an arrested individual affect the disposition at the law enforcement level. In addition to the characteristics examined earlier when the arrest charge was analyzed, we now include the individual's prior arrests and prior convictions. It was reasonable to ignore these two variables in the study of arrest charges, and ignoring them permitted us to increase the sample size by more than 1,500 records. However, when examining dispositions, it would be unreasonable to assume that the decisions are independent of the individual's past history. For the time being, however, we shall ignore the effects of the arrest charge on disposition, which will be examined in the next two sections. The racial groups were aggregated into white/non-white, with non-white being the base group, and the occupation and residence variables were dropped. The results obtained by disaggregation of the racial groups, and inclusion of occupation and residence are reported in Tables 1A - 4A of the Appendix.

The results of the Probit analysis of the dispositions at the law enforcement level are reported in Table 11.

The results indicate that race does not have any influence on the decision made. The probability of being released or prosecuted is not significantly influenced by whether the individual is white or non-white. For all four groups of dispositions, sex does matter. Males are more likely to fall in one of the first three dispositions and less likely to be prosecuted than females. This does not necessarily imply any discrimination in dispositions, for as we have seen, over 90% of females arrested are charged with larceny, and the result we have may be simply a reflection of the differences in the types of crimes males and females are charged with. We further investigate the effect of sex on dispositions in Section D, where we account for the arrest charge.

Age also has a significant effect on all but the first group of dispositions. It appears that the older the individual, the less likely it is that he/she will be released, and the more likely to be prosecuted. This result is also subject to the same qualification regarding the composition of charges as the effect of sex.

Being employed decreases the probability of being prosecuted and increases the probability of being released. The same effect is also found for marital status.

Of particular interest is the effect of the person's history. Prior arrests decrease the probability of prosecution and increase the probability of release. Prior convictions on the other hand

TABLE 11

PROBIT ANALYSIS OF PERSONAL CHARACTERISTICS
ON DISPOSITIONS AT THE LAW ENFORCEMENT LEVEL

VARIABLE	DISPOSITION			
	Transferred & Prosecution Declined	Released; No Charge	Released; Pending Investigation	Forwarded To Prosecutor
Sex (Male)	.340*	.201*	.542*	-.576*
Age	-.008	-.011*	-.028*	.028*
Employment Status (Employed)	.223*	.106*	.117*	-.187*
Marital Status (Single)	.257*	.247*	-.008	-.127*
Race (White)	.091	-.001	-.079	.053
No. of Prior Arrests	.028*	.027*	.024*	-.040*
No. of Prior Convictions	-.030	-.044*	-.041*	.064*
Intercept	-2.439*	-1.597*	-.410*	.301*
χ^2	62.33 *	83.68 *	453.72 *	679.29 *

*Significant at the 5% level

decrease the probability of release and increase that of being prosecuted. However, these results may also be a reflection of differences in the charges among individuals with differing prior arrests and convictions, and will be further examined below.

C. The Effects of Arrest Charges

We will now ignore the personal characteristics of those arrested, and assume that the disposition is based entirely on the type of arrest charge and prior record. The personal characteristics are assumed to affect the type of crime an individual is charged with, as we have done earlier, but not the disposition. The base group of arrest charges chosen for this analysis is motor vehicle theft, and thus the Probit coefficients reflect the differential effects of being charged with robbery, as an example, rather than with motor vehicle theft, on the probabilities of the various dispositions. The results are reported in Table 12.

Those arrested on a charge of murder are less likely to be released and more likely to be prosecuted than those arrested for motor vehicle theft. The same conclusion holds for those arrested of robbery or larceny. Individuals arrested on a charge of rape do not differ significantly from those charged with motor vehicle theft in the probabilities of being released pending investigation or no charge. However, they are more likely to be prosecuted, and those with arrest charges of burglary are less likely to be released with no charge and more

TABLE 12

PROBIT ANALYSIS OF ARREST CHARGES ON DISPOSITIONS AT THE LAW ENFORCEMENT LEVEL

VARIABLE	DISPOSITION			
	Transferred & Prosecution Declined	Released; No Charge	Released; Pending Investigation	Forwarded To Prosecutor
Murder	.0152	-.920*	-.492*	1.027*
Rape	.100	-.152	-.189	.382*
Robbery	.229	-.321*	-.394*	.670*
Aggravated Assault	.115	-.009	-.255*	.344*
Burglary	-.005	-.399*	-.089	.436*
Larceny	-.302*	-.860*	-1.439*	1.903*
No. of Prior Arrests	.027*	.023*	.017*	-.032*
No. of Prior Convictions	-.031	-.039*	-.037*	.058*
Intercept	-1.884*	-.902*	.237*	-.933*
χ^2	55.21 *	201.28 *	1061.89 *	1631.16

*Significant at the 5% level

likely to be prosecuted than individuals with an arrest charge of motor vehicle theft. Finally, while the increase in the number of prior arrests increases the likelihood of being released, the increase in the number of prior convictions reduces that likelihood and increases the probability of being prosecuted.

Comparing the values of the χ^2 statistics between Table 11 where the explanatory variables are the socio-economic and demographic characteristics and Table 12 where the explanatory variables are the arrest charges, we find that the arrest charges provide a better explanation for all but the first group. It should be recalled that the first group of dispositions, transferred to other agencies and released-prosecution declined, does not represent a decision made by the police. Thus, for explaining the pattern of dispositions made at the law enforcement level, the arrest charges are superior to the characteristics of the individual.

D. The Effects of Characteristics and Charges

These results do not preclude some influence of personal characteristics in addition to the arrest charges. To determine if the arrested individual's socio-economic and demographic characteristics affect dispositions given the arrest charge, we include both sets of variables as explanatory of dispositions. In doing this, we disaggregate the race to the various categories used in the analysis of the arrest data and introduce occupation and residence. The results are reported in Tables A1 - A4 of the Appendix. The only personal characteristics which had

consistently significant effects on the dispositions made at the law enforcement level were sex, age, employment status and marital status. We, therefore, re-estimated the model including these characteristics and aggregated race to white/non-white. The results are reported in Table 13. The base groups are: sex - female; employment status - unemployed; marital status - married; for race, non-white and for the arrest charge, motor vehicle theft. We shall confine our discussion to the three dispositions made by the law enforcement agency: released, no charge; released, pending investigation; and prosecute.

Comparing the results of Table 13 to those of Table 12, we find that adding the five demographic and socio-economic variables contributes significantly to the explanation of dispositions. The increases in the value of χ^2 all exceed the critical value of χ^2 with 5 degrees of freedom at the 95% level. Furthermore, the coefficients of the arrest charges and prior history do not change considerably between the two tables indicating that whatever effects the arrest charges and prior history had in Table 12 were not a reflection of the effects of personal characteristics.

Race does not have any influence in the determination of disposition when the arrest charge, prior history and the other demographic and socio-economic characteristics are taken into account. Age and employment status, on the other hand, have a significant influence on the disposition. The older the person, the more likely it is that the individual will be

TABLE 13

PROBIT ANALYSIS OF PERSONAL CHARACTERISTICS AND ARREST CHARGES ON DISPOSITIONS AT THE LAW ENFORCEMENT LEVEL

VARIABLE	DISPOSITION			
	Transferred & Prosecution Declined	Released; No Charge	Released; Pending Investigation	Forwarded To Prosecutor
Sex (Male)	.237*	-.002	.167*	-.155*
Age	-.005	-.007*	-.021*	.020*
Employment Status (Employed)	.233*	.119*	.154*	-.255*
Marital Status (Single)	.282*	.244*	-.026	-.134*
Race (White)	.124	.049	.000	-.054
Murder	.043	-.854*	-.372*	.918*
Rape	.061	-.132	.212	.418*
Robbery	.228	-.306*	-.406*	.675*
Aggravated Assault	.161	.047	-.185	.251*
Burglary	-.027	-.398*	-.090	.439*
Larceny	-.231	-.805*	-1.315*	1.780*
No. of Prior Arrests	.026*	.023*	.012*	-.027*
No. of Prior Convictions	-.026	-.036*	-.023*	.044*
Intercept	-2.377	-1.022*	.524*	-1.020*
χ^2	84.57 *	226.09 *	1174.76 *	1802.90

*Significant at the 5% level.

prosecuted, and those who are employed are more likely to be prosecuted, given the arrest charge, prior history and the other individual characteristics.

Marital status also has a significant influence. Single individuals are more likely to be released with no charge and less likely to be prosecuted than married individuals. Finally, males are more likely to be released pending investigation than females.

If one has to choose between demographic and socio-economic characteristics and the arrest charge as the variable influencing dispositions at the law enforcement level, the choice is clear. The arrest charge and prior history provide a much better explanation of dispositions than do personal characteristics of the individual. This can be seen by comparing the values of χ^2 in Tables 11 and 12. Yet, having accounted for the arrest charge and prior history, sex, age, marital status and employment status do influence dispositions.

As we have done in the analysis of arrest charges, we can evaluate the magnitudes of effects of the different variables on the probabilities of the various dispositions by using the results obtained, and reported in Table 13, to calculate the probabilities for a number of combinations of personal characteristics, arrest charges and prior history. These are reported in Tables 14 - 21.

To simplify the discussion, we shall focus on the probabilities of being prosecuted, presented in the last four columns of each table. For arrested single, white males (Table 14), an

individual who has been arrested on a charge of murder and who has no prior arrest or conviction record, has a probability of being prosecuted of 38.3% if his age is 20. The probability that he will be prosecuted increases with his age, reaching 62% for a 50 year old male. The probability also increases with the number of prior convictions to 41% for 20 year old males and 65% for those who are 50.

Had that arrested white male been married (Table 15), the probabilities of being prosecuted would have been much higher. A 20 year old would have had a probability of 43.5% if he has no prior record and 46.3% if he had four prior convictions. The corresponding probabilities for a 50 year old male are 67% and 69.5%.

Unemployed white males, whether single or married, have higher probabilities of being prosecuted. A single male, who is 20 years old and unemployed, and who has been arrested on a charge of murder, has a 48.3% probability of being prosecuted (Table 16) compared to an identical individual who is employed, (Table 14) who has a probability of 38.3%, where both have no prior record. Similarly, the probability of being prosecuted for a white, single male who is 50 years old and has had four prior convictions increases from 64.7% if employed to 73.6% if unemployed. For a white, married male who is 50 years old with no prior record who has been arrested on a charge of murder, the probability of being prosecuted is 71.3% if employed and 75.7% if unemployed.

Similar changes in probabilities with the change in age, employment status and marital status hold for those arrested on charges of rape. The probability of prosecution for those with no prior record increases from 21.3% to 42.4% as age increases from 20 to 50 years for employed singles and from 25.4% to 47.7% for employed, married individuals. Had the individual been unemployed, the probability of being prosecuted would have increased from 29.4% to 52.5% if single and from 34.2% to 57.8% if married as age increases from 20 to 50 years. The highest probability of being prosecuted for a white male arrested on a charge of rape reported in these tables is 60.5% and is that for a 50 year old who is married and unemployed.

The probabilities of the various dispositions were not calculated for females with arrest charges of murder or rape, as these are not common crimes for females. The effect of sex can be seen by comparing the probabilities of being prosecuted for males and females arrested on any of the other charges. While a white, single, employed male who is 50 years old and has no prior record has a probability of 52.6% of being prosecuted if arrested on a charge of robbery (Table 14), a female with the same characteristics faces a probability of 58.7% (Table 18). If married, that individual would have a probability of prosecution of 47.7% if male (Table 15) and 63.8% if female (Table 19). Comparing males and females with different sets of characteristics can be done in the same way and for the various arrest charges.

Comparisons of the probabilities of the alternative dispositions for the various charges holding the individual's characteristics constant can be accomplished by comparing the entries in any one of the tables. For example, a married, unemployed, white female with no prior record who is 35 years old has probabilities of being prosecuted of 62%, if arrested for robbery, 45% if arrested for assault, 92% if arrested for burglary, 35.6% if arrested for larceny and 53% if arrested for motor vehicle theft.

E. Conclusions

The analyses presented in this section indicate that the arrest charge and the prior history of the arrested individual have significant influences on the disposition made at the law enforcement level. The probability that an arrested individual will be prosecuted is significantly influenced by the type of crime he/she is charged with and the number of prior arrests and convictions the individual has.

Yet, it was also found that some personal characteristics of the individual: sex, age, marital status and employment status, do influence the chances that the individual will be prosecuted, after accounting for the arrest charge and prior history. Speculation on the reasons underlying this finding is beyond the scope of our analysis.

It should be pointed out that the figures reported in Tables 14-21 are not to be taken as exact estimates of probabilities. They are based on the estimated Probit coefficients

of Table 14, which do have standard deviations. Furthermore, the probabilities of the various dispositions should add up to unity for each line of each table, and the reported probabilities do not add up to exactly unity. They should be interpreted as estimates of the relative magnitudes of the effects exerted by the variables considered on the probabilities of the alternative dispositions.

TABLE 14: ESTIMATED PROBABILITIES OF ARREST CHARGES ON DISPOSITIONS AT THE LAW ENFORCEMENT LEVEL: AN EMPLOYED, SINGLE, WHITE MALE WITH 12 YEARS OF EDUCATION, RESIDING IN AND ARRESTED IN HONOLULU

POLICE DISPOSITION		TOT & RPC[1]				RNC[2]			
ARREST CHARGE	PRIOR ARRESTS, PRIOR CONVICT. / AGE	(0,0)	(4,0)	(4,2)	(4,4)	(0,0)	(4,0)	(4,2)	(4,4)
Murder	20	.0590	.0720	.0650	.0586	.0531	.0636	.0551	.0474
	35	.0503	.0618	.0556	.0500	.0421	.0508	.0437	.0374
	50	.0426	.0527	.0473	.0423	.0330	.0402	.0343	.0292
Rape	20	.0611	.0744	.0673	.0607	.1858	.2110	.1907	.1716
	35	.0521	.0639	.0576	.0518	.1575	.1802	.1618	.1447
	50	.0442	.0547	.0491	.0440	.1322	.1525	.1360	.1208
Robbery	20	.0839	.1008	.0919	.0835	.1428	.1641	.1468	.1308
	35	.0724	.0876	.0795	.0720	.1191	.1380	.1227	.1086
	50	.0622	.0757	.0685	.0618	.0984	.1149	.1015	.0892
Assault	20	.0742	.0897	.0814	.0738	.2375	.2663	.2430	.2210
	35	.0638	.0776	.0702	.0634	.2044	.2310	.2095	.1893
	50	.0545	.0667	.0602	.0542	.1743	.1985	.1789	.1606
Burglary	20	.0330	.0413	.0369	.0328	.0586	.0700	.0607	.0525
	35	.0276	.0348	.0309	.0275	.0467	.0562	.0485	.0416
	50	.0230	.0292	.0258	.0228	.0368	.0446	.0382	.0326
Larceny	20	.0541	.0663	.0598	.0538	.2231	.2510	.2285	.2072
	35	.0460	.0567	.0510	.0457	.1913	.2168	.1962	.1768
	50	.0388	.0483	.0432	.0386	.1624	.1856	.1668	.1494
Auto Theft	20	.0519	.0647	.0574	.0509	.2185	.2491	.2237	.1999
	35	.0407	.0513	.0453	.0398	.1790	.2063	.1836	.1626
	50	.0316	.0402	.0352	.0308	.1443	.1682	.1483	.1301

[1]TOT - Turned over to outside agency. RPC - Released; Prosecution Declined

[2]RNC - Released; No Charge

NOTE: See bottom of Table 15 for additional information.

TABLE 14 (Continued)

POLICE DISPOSITION		RPI[3]				FORWARDED TO PROSECUTOR			
ARREST CHARGE	PRIOR ARRESTS, PRIOR CONVICT. / AGE	(0,0)	(4,0)	(4,2)	(4,4)	(0,0)	(4,0)	(4,2)	(4,4)
Murder	20	.5107	.5305	.5120	.4935	.3834	.3426	.3757	.4099
	35	.3868	.4059	.3880	.3704	.5023	.4589	.4942	.5296
	50	.2735	.2903	.2746	.2593	.6209	.5789	.6132	.6467
Rape	20	.5744	.5938	.5757	.5574	.2129	.1827	.2071	.2334
	35	.4495	.4693	.4508	.4325	.3106	.2732	.3035	.3352
	50	.3295	.3476	.3306	.3140	.4239	.3818	.4160	.4509
Robbery	20	.4972	.5171	.4985	.4800	.2948	.2584	.2879	.3189
	35	.3739	.3929	.3751	.3577	.4063	.3646	.3985	.4331
	50	.2624	.2788	.2634	.2485	.5259	.4825	.5179	.5532
Assault	20	.5847	.6040	.5860	.5678	.1678	.1419	.1628	.1856
	35	.4600	.4797	.4612	.4428	.2544	.2208	.2480	.2769
	50	.3390	.3574	.3402	.3234	.3600	.3201	.3525	.3860
Burglary	20	.1800	.1933	.1808	.1688	.7143	.6762	.7074	.7372
	35	.1093	.1189	.1099	.1015	.8074	.7762	.8018	.8256
	50	.0612	.0675	.0616	.0562	.8791	.8558	.8750	.8923
Larceny	20	.6552	.6733	.6564	.6391	.1123	.0929	.1085	.1260
	35	.5338	.5535	.5351	.5166	.1809	.1537	.1756	.1995
	50	.4091	.4285	.4104	.3924	.2710	.2362	.2644	.2942
Auto Theft	20	.6382	.6702	.6431	.6151	.1267	.0990	.1206	.1454
	35	.4859	.5206	.4911	.4617	.2236	.1828	.2149	.2501
	50	.3357	.3660	.3405	.3138	.3528	.3006	.3419	.3852

[3]RPI - Released; Pending Investigation

TABLE 15: ESTIMATED PROBABILITIES OF ARREST CHARGES ON DISPOSITIONS AT THE LAW ENFORCEMENT LEVEL: AN EMPLOYED, MARRIED, WHITE MALE WITH 12 YEARS OF EDUCATION, RESIDING IN AND ARRESTED IN HONOLULU

POLICE DISPOSITION		TOT & RPC				RNC			
ARREST CHARGE	PRIOR ARRESTS, PRIOR CONVICT. / AGE	(0,0)	(4,0)	(4,2)	(4,4)	(0,0)	(4,0)	(4,2)	(4,4)
Murder	20	.0325	.0407	.0363	.0323	.0315	.0384	.0328	.0278
	35	.0272	.0342	.0304	.0270	.0244	.0300	.0254	.0214
	50	.0226	.0287	.0254	.0224	.0187	.0232	.0195	.0163
Rape	20	.0338	.0422	.0377	.0336	.1278	.1476	.1315	.1167
	35	.0283	.0356	.0317	.0281	.1059	.1234	.1092	.0963
	50	.0236	.0298	.0265	.0234	.0869	.1021	.0898	.0786
Robbery	20	.0484	.0596	.0536	.0481	.0948	.1110	.0978	.0859
	35	.0410	.0508	.0455	.0407	.0773	.0913	.0800	.0697
	50	.0345	.0431	.0385	.0343	.0624	.0743	.0646	.0560
Assault	20	.0421	.0521	.0468	.0418	.1690	.1927	.1735	.1556
	35	.0355	.0442	.0395	.0353	.1424	.1637	.1464	.1305
	50	.0297	.0373	.0333	.0295	.1188	.1377	.1224	.1083
Burglary	20	.0170	.0218	.0192	.0169	.0351	.0427	.0365	.0311
	35	.0140	.0180	.0158	.0139	.0273	.0335	.0285	.0241
	50	.0114	.0148	.0130	.0113	.0210	.0260	.0219	.0184
Larceny	20	.0295	.0370	.0330	.0293	.1573	.1800	.1617	.1446
	35	.0246	.0311	.0276	.0244	.1320	.1523	.1359	.1207
	50	.0204	.0260	.0229	.0202	.1096	.1275	.1130	.0997
Auto Theft	20	.0300	.0382	.0335	.0293	.1583	.1837	.1627	.1432
	35	.0229	.0296	.0257	.0224	.1265	.1484	.1302	.1135
	50	.0173	.0226	.0195	.0169	.0993	.1180	.1025	.0885

NOTE: In Table 14 and all following tables of calculated probabilities, Arrest History and Conviction History of, for example, (4,2) refers to an individual with exactly four prior arrests and exactly two prior convictions.

TABLE 15 (Continued)

POLICE DISPOSITION		RPI				FORWARDED TO PROSECUTOR			
ARREST CHARGE	PRIOR ARRESTS, PRIOR CONVICT. / AGE	(0,0)	(4,0)	(4,2)	(4,4)	(0,0)	(4,0)	(4,2)	(4,4)
Murder	20	.5212	.5409	.5225	.5040	.4354	.3930	.4275	.4626
	35	.3969	.4162	.3981	.3803	.5555	.5123	.5476	.5825
	50	.2823	.2994	.2834	.2679	.6707	.6304	.6634	.6951
Rape	20	.5847	.6040	.5860	.5678	.2539	.2203	.2475	.2764
	35	.4599	.4797	.4612	.4428	.3594	.3195	.3519	.3853
	50	.3390	.3574	.3402	.3234	.4769	.4338	.4689	.5043
Robbery	20	.5077	.5275	.5090	.4905	.3426	.3035	.3352	.3682
	35	.3839	.4030	.3852	.3675	.4589	.4160	.4509	.4862
	50	.2710	.2877	.2721	.2569	.5789	.5359	.5710	.6055
Assault	20	.5949	.6141	.5962	.5781	.2036	.1742	.1980	.2236
	35	.4704	.4902	.4717	.4532	.2992	.2626	.2923	.3235
	50	.3487	.3672	.3499	.3328	.4112	.3695	.4034	.4381
Burglary	20	.1869	.2006	.1878	.1755	.7581	.7228	.7517	.7790
	35	.1143	.1242	.1150	.1062	.8419	.8142	.8370	.8579
	50	.0645	.0710	.0649	.0592	.9040	.8841	.9005	.9151
Larceny	20	.6648	.6827	.6660	.6489	.1400	.1172	.1356	.1559
	35	.5442	.5638	.5455	.5270	.2183	.1876	.2124	.2391
	50	.4194	.4389	.4206	.4026	.3171	.2794	.3100	.3419
Auto Theft	20	.6496	.6812	.6544	.6268	.1489	.1178	.1422	.1697
	35	.4981	.5328	.5033	.4739	.2550	.2108	.2457	.2834
	50	.3469	.3795	.3518	.3247	.3911	.3368	.3798	.4244

TABLE 16: ESTIMATED PROBABILITIES OF ARREST CHARGES ON DISPOSITIONS AT THE LAW ENFORCEMENT LEVEL: AN UNEMPLOYED, SINGLE, WHITE MALE WITH 12 YEARS OF EDUCATION, RESIDING IN AND ARRESTED IN HONOLULU

POLICE DISPOSITION		TOT & RPC				RNC			
ARREST CHARGE	PRIOR ARRESTS, PRIOR CONVICT. / AGE	(0,0)	(4,0)	(4,2)	(4,4)	(0,0)	(4,0)	(4,2)	(4,4)
Murder	20	.0362	.0451	.0403	.0360	.0414	.0501	.0430	.0368
	35	.0304	.0381	.0340	.0302	.0325	.0396	.0338	.0287
	50	.0253	.0320	.0284	.0252	.0252	.0310	.0262	.0221
Rape	20	.0376	.0468	.0419	.0374	.1558	.1784	.1601	.1431
	35	.0316	.0396	.0353	.0314	.1306	.1508	.1345	.1194
	50	.0264	.0333	.0296	.0262	.1084	.1262	.1118	.0986
Robbery	20	.0535	.0656	.0591	.0532	.1177	.1365	.1213	.1073
	35	.0454	.0561	.0504	.0452	.0971	.1136	.1002	.0881
	50	.0384	.0477	.0427	.0382	.0793	.0935	.0820	.0716
Assault	20	.0467	.0575	.0517	.0464	.2024	.2288	.2075	.1874
	35	.0395	.0490	.0439	.0392	.1724	.1965	.1770	.1589
	50	.0332	.0415	.0370	.0330	.1455	.1671	.1496	.1334
Burglary	20	.0192	.0245	.0216	.0191	.0460	.0554	.0477	.0410
	35	.0158	.0203	.0179	.0157	.0362	.0440	.0376	.0321
	50	.0129	.0167	.0147	.0128	.0282	.0345	.0294	.0248
Larceny	20	.0329	.0412	.0367	.0327	.1893	.2147	.1942	.1749
	35	.0275	.0347	.0308	.0274	.1606	.1837	.1650	.1477
	50	.0229	.0290	.0257	.0227	.1349	.1555	.1389	.1235
Auto Theft	20	.0320	.0407	.0358	.0313	.1843	.2121	.1890	.1675
	35	.0245	.0316	.0276	.0240	.1489	.1733	.1530	.1344
	50	.0186	.0242	.0210	.0181	.1183	.1394	.1219	.1060

TABLE 16 (Continued)

POLICE DISPOSITION		RPI				FORWARDED TO PROSECUTOR			
ARREST CHARGE	PRIOR ARRESTS, PRIOR CONVICT. / AGE	(0,0)	(4,0)	(4,2)	(4,4)	(0,0)	(4,0)	(4,2)	(4,4)
Murder	20	.4494	.4691	.4507	.4323	.4834	.4402	.4754	.5108
	35	.3293	.3475	.3305	.3138	.6028	.5603	.5950	.6290
	50	.2247	.2399	.2257	.2120	.7132	.6750	.7063	.7361
Rape	20	.5134	.5332	.5147	.4962	.2941	.2577	.2872	.3182
	35	.3894	.4086	.3906	.3729	.4055	.3639	.3977	.4323
	50	.2758	.2926	.2768	.2615	.5251	.4817	.5171	.5523
Robbery	20	.4360	.4557	.4373	.4191	.3880	.3470	.3803	.4146
	35	.3172	.3351	.3183	.3020	.5071	.4637	.4990	.5344
	50	.2147	.2295	.2157	.2023	.6255	.5836	.6178	.6512
Assault	20	.5239	.5436	.5252	.5067	.2395	.2070	.2333	.2613
	35	.3995	.4188	.4007	.3829	.3425	.3034	.3351	.3680
	50	.2846	.3017	.2857	.2701	.4588	.4159	.4508	.4861
Burglary	20	.1424	.1539	.1431	.1329	.7942	.7618	.7884	.8132
	35	.0831	.0910	.0836	.0767	.8693	.8448	.8650	.8833
	50	.0447	.0496	.0450	.0408	.9230	.9060	.9200	.9324
Larceny	20	.5969	.6160	.5981	.5800	.1687	.1427	.1637	.1866
	35	.4724	.4922	.4737	.4552	.2556	.2218	.2491	.2781
	50	.3505	.3691	.3517	.3347	.3613	.3214	.3538	.3873
Auto Theft	20	.5849	.6184	.5900	.5610	.1782	.1430	.1706	.2015
	35	.4307	.4651	.4359	.4070	.2946	.2468	.2845	.3249
	50	.2866	.3169	.2910	.2662	.4374	.3812	.4258	.4714

TABLE 17: ESTIMATED PROBABILITIES OF ARREST CHARGES ON DISPOSITIONS AT THE LAW ENFORCEMENT LEVEL: AN UNEMPLOYED, MARRIED, WHITE MALE WITH 12 YEARS OF EDUCATION, RESIDING IN AND ARRESTED IN HONOLULU

POLICE DISPOSITION		TOT & RPC				RNC			
ARREST CHARGE	PRIOR ARRESTS, PRIOR CONVICT. / AGE	(0,0)	(4,0)	(4,2)	(4,4)	(0,0)	(4,0)	(4,2)	(4,4)
Murder	20	.0188	.0241	.0213	.0187	.0240	.0295	.0250	.0210
	35	.0155	.0199	.0175	.0154	.0183	.0228	.0191	.0160
	50	.0127	.0164	.0144	.0126	.0139	.0174	.0145	.0120
Rape	20	.0197	.0251	.0222	.0195	.1046	.1219	.1079	.0950
	35	.0162	.0208	.0183	.0161	.0858	.1008	.0886	.0775
	50	.0133	.0172	.0151	.0132	.0696	.0825	.0720	.0626
Robbery	20	.0291	.0366	.0326	.0289	.0763	.0901	.0789	.0688
	35	.0243	.0307	.0272	.0241	.0615	.0733	.0637	.0552
	50	.0201	.0256	.0227	.0200	.0491	.0590	.0510	.0438
Assault	20	.0250	.0316	.0281	.0248	.1408	.1619	.1448	.1289
	35	.0207	.0264	.0233	.0206	.1174	.1361	.1209	.1070
	50	.0171	.0219	.0193	.0170	.0968	.1132	.0999	.0878
Burglary	20	.0093	.0122	.0106	.0092	.0269	.0330	.0280	.0237
	35	.0075	.0099	.0086	.0075	.0207	.0256	.0216	.0181
	50	.0060	.0080	.0069	.0060	.0157	.0196	.0164	.0137
Larceny	20	.0169	.0217	.0192	.0168	.1305	.1506	.1343	.1193
	35	.0139	.0180	.0158	.0138	.1083	.1260	.1117	.0985
	50	.0113	.0147	.0129	.0112	.0890	.1044	.0919	.0805
Auto Theft	20	.0176	.0229	.0199	.0172	.1307	.1531	.1345	.1174
	35	.0131	.0173	.0149	.0128	.1029	.1220	.1061	.0918
	50	.0097	.0129	.0111	.0094	.0797	.0956	.0823	.0705

TABLE 17 (Continued)

POLICE DISPOSITION		RPI				FORWARDED TO PROSECUTOR			
ARREST CHARGE	PRIOR ARRESTS, PRIOR CONVICT. / AGE	(0,0)	(4,0)	(4,2)	(4,4)	(0,0)	(4,0)	(4,2)	(4,4)
Murder	20	.4598	.4796	.4611	.4427	.5368	.4934	.5288	.5640
	35	.3389	.3572	.3401	.3232	.6534	.6124	.6460	.6784
	50	.2327	.2481	.2337	.2197	.7570	.7217	.7507	.7780
Rape	20	.5239	.5436	.5252	.5066	.3419	.3028	.3345	.3674
	35	.3995	.4188	.4007	.3829	.4581	.4152	.4501	.4854
	50	.2846	.3017	.2857	.2701	.5781	.5351	.5702	.6047
Robbery	20	.4464	.4661	.4477	.4294	.4402	.3977	.4323	.4674
	35	.3266	.3447	.3278	.3112	.5603	.5171	.5524	.5872
	50	.2225	.2376	.2234	.2098	.6751	.6350	.6678	.6994
Assault	20	.5343	.5540	.5356	.5171	.2830	.2474	.2762	.3067
	35	.4097	.4291	.4109	.3930	.3929	.3518	.3852	.4195
	50	.2936	.3109	.2947	.2789	.5122	.4688	.5041	.5395
Burglary	20	.1484	.1602	.1491	.1386	.8302	.8012	.8251	.8470
	35	.0872	.0954	.0878	.0806	.8957	.8746	.8920	.9075
	50	.0472	.0523	.0475	.0431	.9406	.9265	.9381	.9482
Larceny	20	.6070	.6260	.6082	.5903	.2046	.1751	.1989	.2246
	35	.4828	.5026	.4841	.4656	.3005	.2637	.2935	.3248
	50	.3603	.3791	.3615	.3443	.4126	.3708	.4048	.4395
Auto Theft	20	.5967	.6300	.6018	.5730	.2059	.1671	.1976	.2312
	35	.4428	.4773	.4479	.4189	.3305	.2798	.3199	.3621
	50	.2971	.3278	.3016	.2764	.4775	.4203	.4658	.5118

TABLE 18: ESTIMATED PROBABILITIES OF ARREST CHARGES ON DISPOSITIONS AT THE LAW ENFORCEMENT LEVEL: AN EMPLOYED, SINGLE, WHITE FEMALE WITH 12 YEARS OF EDUCATION, RESIDING IN AND ARRESTED IN HONOLULU

POLICE DISPOSITION		TOT & RPC				RNC			
ARREST CHARGE	PRIOR ARRESTS, PRIOR CONVICT. / AGE	(0,0)	(4,0)	(4,2)	(4,4)	(0,0)	(4,0)	(4,2)	(4,4)
Robbery	20	.0531	.0651	.0587	.0528	.1432	.1646	.1473	.1313
	35	.0451	.0556	.0500	.0448	.1195	.1385	.1231	.1090
	50	.0381	.0473	.0424	.0378	.0987	.1154	.1019	.0896
Assault	20	.0463	.0571	.0513	.0460	.2381	.2670	.2437	.2216
	35	.0391	.0486	.0435	.0389	.2050	.2316	.2101	.1899
	50	.0329	.0411	.0367	.0327	.1748	.1991	.1795	.1611
Burglary	20	.0190	.0243	.0214	.0189	.0589	.0702	.0610	.0527
	35	.0156	.0201	.0177	.0155	.0469	.0564	.0487	.0418
	50	.0128	.0166	.0145	.0127	.0369	.0448	.0384	.0327
Larceny	20	.0326	.0408	.0364	.0324	.2237	.2517	.2291	.2078
	35	.0273	.0344	.0306	.0271	.1919	.2175	.1968	.1773
	50	.0227	.0288	.0255	.0225	.1629	.1861	.1674	.1498
Auto Theft	20	.0249	.0320	.0279	.0243	.1745	.2015	.1791	.1584
	35	.0188	.0245	.0212	.0184	.1404	.1639	.1444	.1265
	50	.0141	.0185	.0160	.0137	.1111	.1313	.1145	.0994

TABLE 18 (Continued)

POLICE DISPOSITION		RPI				FORWARDED TO PROSECUTOR			
ARREST CHARGE	PRIOR ARRESTS, PRIOR CONVICT. / AGE	(0,0)	(4,0)	(4,2)	(4,4)	(0,0)	(4,0)	(4,2)	(4,4)
Robbery	20	.4310	.4506	.4322	.4141	.3502	.3108	.3428	.3759
	35	.3126	.3304	.3138	.2975	.4671	.4241	.4591	.4944
	50	.2110	.2256	.2119	.1987	.5869	.5441	.5791	.6134
Assault	20	.5187	.5385	.5200	.5015	.2095	.1795	.2037	.2298
	35	.3945	.4138	.3958	.3780	.3064	.2693	.2994	.3309
	50	.2803	.2972	.2813	.2659	.4192	.3772	.4114	.4462
Burglary	20	.1395	.1508	.1402	.1301	.7644	.7296	.7582	.7850
	35	.0812	.0889	.0817	.0749	.8468	.8196	.8420	.8625
	50	.0435	.0483	.0438	.0396	.9074	.8880	.9040	.9183
Larceny	20	.5919	.6110	.5931	.5750	.1447	.1213	.1401	.1608
	35	.4672	.4870	.4685	.4501	.2244	.1932	.2184	.2455
	50	.3458	.3643	.3470	.3300	.3245	.2863	.3173	.3495
Auto Theft	20	.4426	.4771	.4477	.4187	.2674	.2220	.2578	.2964
	35	.2969	.3276	.3014	.2762	.4058	.3508	.3944	.4394
	50	.1782	.2018	.1816	.1628	.5572	.4996	.5455	.5908

TABLE 19: ESTIMATED PROBABILITIES OF ARREST CHARGES ON DISPOSITIONS AT THE LAW ENFORCEMENT LEVEL: AN EMPLOYED, MARRIED, WHITE FEMALE WITH 12 YEARS OF EDUCATION, RESIDING IN AND ARRESTED IN HONOLULU

POLICE DISPOSITION		TOT & RPC				RNC			
ARREST CHARGE	PRIOR ARRESTS, PRIOR CONVICT. / AGE	(0,0)	(4,0)	(4,2)	(4,4)	(0,0)	(4,0)	(4,2)	(4,4)
Robbery	20	.0289	.0363	.0323	.0287	.0952	.1114	.0982	.0862
	35	.0240	.0304	.0270	.0239	.0776	.0916	.0803	.0700
	50	.0199	.0254	.0224	.0198	.0627	.0746	.0649	.0562
Assault	20	.0248	.0313	.0278	.0246	.1695	.1933	.1741	.1561
	35	.0205	.0262	.0231	.0204	.1429	.1642	.1469	.1309
	50	.0169	.0217	.0191	.0168	.1192	.1381	.1228	.1087
Burglary	20	.0092	.0121	.0105	.0092	.0353	.0429	.0367	.0313
	35	.0074	.0098	.0085	.0074	.0275	.0337	.0286	.0242
	50	.0060	.0079	.0069	.0059	.0211	.0261	.0220	.0185
Larceny	20	.0168	.0215	.0190	.0167	.1578	.1806	.1622	.1450
	35	.0138	.0178	.0156	.0137	.1325	.1528	.1363	.1211
	50	.0112	.0146	.0128	.0111	.1100	.1280	.1134	.1001
Auto Theft	20	.0133	.0175	.0151	.0130	.1229	.1445	.1266	.1103
	35	.0098	.0131	.0112	.0096	.0964	.1146	.0994	.0858
	50	.0072	.0097	.0082	.0070	.0743	.0894	.0768	.0656

TABLE 19 (Continued)

POLICE DISPOSITION		RPI				FORWARDED TO PROSECUTOR			
ARREST CHARGE	PRIOR ARRESTS, PRIOR CONVICT. / AGE	(0,0)	(4,0)	(4,2)	(4,4)	(0,0)	(4,0)	(4,2)	(4,4)
Robbery	20	.4413	.4610	.4426	.4243	.4010	.3596	.3932	.4277
	35	.3220	.3400	.3231	.3066	.5205	.4771	.5125	.5478
	50	.2187	.2336	.2196	.2061	.6382	.5967	.6306	.6636
Assault	20	.5292	.5489	.5305	.5120	.2501	.2168	.2437	.2724
	35	.4047	.4240	.4059	.3880	.3549	.3153	.3475	.3808
	50	.2892	.3064	.2903	.2746	.4722	.4291	.4642	.4995
Burglary	20	.1454	.1571	.1462	.1358	.8036	.7721	.7980	.8221
	35	.0852	.0932	.0857	.0787	.8763	.8527	.8722	.8898
	50	.0460	.0510	.0463	.0419	.9277	.9115	.9249	.9367
Larceny	20	.6020	.6211	.6033	.5853	.1773	.1505	.1721	.1957
	35	.4777	.4975	.4790	.4605	.2665	.2320	.2599	.2895
	50	.3555	.3742	.3567	.3395	.3740	.3336	.3664	.4003
Auto Theft	20	.4546	.4892	.4598	.4306	.3017	.2533	.2915	.3323
	35	.3075	.3388	.3122	.2865	.4455	.3890	.4339	.4796
	50	.1863	.2105	.1898	.1704	.5968	.5400	.5854	.6297

TABLE 20: ESTIMATED PROBABILITIES OF ARREST CHARGES ON DISPOSITIONS AT THE LAW ENFORCEMENT LEVEL: AN UNEMPLOYED, SINGLE, WHITE FEMALE WITH 12 YEARS OF EDUCATION, RESIDING IN AND ARRESTED IN HONOLULU

POLICE DISPOSITION		TOT & RPC				RNC			
ARREST CHARGE	PRIOR ARRESTS, PRIOR CONVICT. / AGE	(0,0)	(4,0)	(4,2)	(4,4)	(0,0)	(4,0)	(4,2)	(4,4)
Robbery	20	.0322	.0404	.0360	.0320	.1181	.1369	.1217	.1077
	35	.0269	.0340	.0302	.0268	.0975	.1140	.1006	.0884
	50	.0224	.0284	.0252	.0222	.0796	.0939	.0823	.0719
Assault	20	.0277	.0349	.0311	.0276	.2030	.2294	.2081	.1879
	35	.0231	.0293	.0259	.0229	.1730	.1971	.1776	.1594
	50	.0191	.0244	.0215	.0190	.1460	.1676	.1501	.1338
Burglary	20	.0105	.0137	.0120	.0104	.0462	.0556	.0479	.0411
	35	.0085	.0112	.0097	.0084	.0364	.0442	.0378	.0322
	50	.0068	.0091	.0079	.0068	.0283	.0347	.0295	.0250
Larceny	20	.0189	.0242	.0213	.0188	.1899	.2154	.1948	.1755
	35	.0156	.0200	.0176	.0155	.1612	.1842	.1656	.1482
	50	.0127	.0165	.0145	.0126	.1354	.1560	.1393	.1239
Auto Theft	20	.0144	.0189	.0163	.0140	.1449	.1690	.1490	.1307
	35	.0106	.0141	.0121	.0103	.1150	.1356	.1185	.1029
	50	.0078	.0104	.0089	.0075	.0897	.1071	.0926	.0797

TABLE 20 (Continued)

POLICE DISPOSITION		RPI				FORWARDED TO PROSECUTOR			
ARREST CHARGE	PRIOR ARRESTS, PRIOR CONVICT. / AGE	(0,0)	(4,0)	(4,2)	(4,4)	(0,0)	(4,0)	(4,2)	(4,4)
Robbery	20	.3715	.3904	.3727	.3552	.4483	.4056	.4404	.4756
	35	.2603	.2766	.2613	.2464	.5684	.5253	.5605	.5952
	50	.1693	.1821	.1701	.1586	.6824	.6427	.6752	.7065
Assault	20	.4574	.4771	.4586	.4403	.2900	.2539	.2832	.3139
	35	.3366	.3550	.3378	.3210	.4009	.3594	.3931	.4276
	50	.2308	.2462	.2318	.2179	.5204	.4770	.5123	.5476
Burglary	20	.1081	.1176	.1087	.1003	.8354	.8069	.8303	.8518
	35	.0604	.0666	.0608	.0554	.8993	.8788	.8957	.9109
	50	.0310	.0347	.0313	.0281	.9429	.9294	.9406	.9504
Larceny	20	.5312	.5509	.5325	.5140	.2105	.1805	.2047	.2308
	35	.4066	.4260	.4079	.3899	.3077	.2705	.3006	.3322
	50	.2909	.3081	.2920	.2762	.4206	.3786	.4128	.4476
Auto Theft	20	.3883	.4220	.3933	.3652	.3444	.2928	.3336	.3765
	35	.2506	.2791	.2548	.2317	.4927	.4352	.4810	.5269
	50	.1442	.1649	.1472	.1309	.6421	.5868	.6310	.6736

TABLE 21: ESTIMATED PROBABILITIES OF ARREST CHARGES ON DISPOSITIONS AT THE LAW ENFORCEMENT LEVEL: AN UNEMPLOYED, MARRIED, WHITE FEMALE WITH 12 YEARS OF EDUCATION, RESIDING IN AND ARRESTED IN HONOLULU

POLICE DISPOSITION		TOT & RPC				RNC			
ARREST CHARGE	PRIOR ARRESTS, PRIOR CONVICT. / AGE	(0,0)	(4,0)	(4,2)	(4,4)	(0,0)	(4,0)	(4,2)	(4,4)
Robbery	20	.0166	.0213	.0187	.0164	.0766	.0904	.0792	.0691
	35	.0136	.0175	.0154	.0135	.0618	.0736	.0640	.0554
	50	.0111	.0144	.0126	.0110	.0493	.0593	.0512	.0440
Assault	20	.0140	.0181	.0159	.0139	.1412	.1624	.1453	.1294
	35	.0114	.0149	.0130	.0114	.1178	.1366	.1213	.1073
	50	.0093	.0122	.0106	.0092	.0972	.1136	.1003	.0881
Burglary	20	.0048	.0064	.0055	.0048	.0270	.0331	.0281	.0238
	35	.0038	.0051	.0044	.0038	.0208	.0257	.0217	.0182
	50	.0030	.0041	.0035	.0030	.0158	.0197	.0165	.0138
Larceny	20	.0092	.0120	.0105	.0092	.1309	.1511	.1348	.1197
	35	.0074	.0098	.0085	.0073	.1087	.1265	.1121	.0989
	50	.0059	.0079	.0068	.0059	.0893	.1048	.0922	.0808
Auto Theft	20	.0073	.0098	.0084	.0071	.0999	.1186	.1030	.0890
	35	.0053	.0072	.0061	.0051	.0772	.0927	.0798	.0682
	50	.0037	.0052	.0043	.0036	.0586	.0713	.0607	.0514

TABLE 21 (Continued)

POLICE DISPOSITION		RPI				FORWARDED TO PROSECUTOR			
ARREST CHARGE	PRIOR ARRESTS, PRIOR CONVICT. / AGE	(0,0)	(4,0)	(4,2)	(4,4)	(0,0)	(4,0)	(4,2)	(4,4)
Robbery	20	.3814	.4005	.3827	.3651	.5017	.4583	.4936	.5290
	35	.2689	.2855	.2699	.2548	.6203	.5783	.6126	.6462
	50	.1760	.1891	.1768	.1650	.7286	.6913	.7219	.7509
Assault	20	.4678	.4876	.4691	.4506	.3375	.2987	.3302	.3629
	35	.3463	.3648	.3475	.3305	.4534	.4106	.4454	.4807
	50	.2389	.2546	.2399	.2257	.5734	.5304	.5655	.6001
Burglary	20	.1131	.1229	.1137	.1050	.8664	.8415	.8620	.8806
	35	.0636	.0701	.0640	.0584	.9210	.9037	.9180	.9306
	50	.0329	.0367	.0332	.0299	.9567	.9458	.9549	.9627
Larceny	20	.5416	.5613	.5429	.5244	.2512	.2178	.2448	.2736
	35	.4168	.4363	.4181	.4000	.3563	.3166	.3488	.3821
	50	.2999	.3174	.3011	.2851	.4736	.4305	.4656	.5009
Auto Theft	20	.4001	.4340	.4051	.3768	.3824	.3285	.3712	.4155
	35	.2604	.2894	.2647	.2411	.5331	.4754	.5214	.5671
	50	.1513	.1726	.1544	.1375	.6791	.6257	.6685	.7092

IV. THE PROSECUTOR'S DECISIONS

A. Introduction

Of the 5,226 arrests for which we have data on final disposition, 3,304 were referred to the prosecutor's office. As we have pointed out earlier, the decisions made at the law enforcement level, particularly the decision to release pending investigation and the decision to prosecute, incorporate the advise and thus partly reflect the decision of the prosecutor's office. As such, one would expect that all those who are referred for prosecution will be prosecuted. However, as the prosecutor examines the evidence, he may decline to prosecute some of the charges. This may be particularly the case where an individual is arrested on multiple charges and thus appears as more than one referral to the prosecutor.

In four cases, the entry which indicated that the decision was to prosecute or decline was "other"; these four cases were dropped leaving 3,300 cases. The prosecutor's decision was to prosecute 3,269 of the 3,300 cases (or 99.1%) and to decline 31 cases.

B. The Prosecutor's Decisions

We used the Probit model to examine the factors which determine the probability that the prosecutor will decide to prosecute. As to be expected, none of the individual's demographic or socio-economic characteristics had any influence.

Prior arrests and convictions were found to be significant. However, we do not report these results, but rather continue our analysis under the assumption that all those who are referred are prosecuted, which is a reflection of the finding that less than 1% were declined.

The prosecutor's office must also decide on which offenses they will press charges. The prosecutor's charges may be identical to the arrest charges or they may differ. The charges will differ from those at time of arrest if the prosecutor decides that the evidence warrants a change. The likelihood of being charged with a specific crime by the prosecutor's office depends on the type of charge at arrest. To examine the extent of changes in the charges, we study the effects of the various arrest charges on the probability that the individual will be charged with a specific crime at the prosecutor's office.

We could not include all the arrest charges as explanatory variables in each of the Probit equations since the charges are represented by binary variables and if all were included in addition to an intercept, estimation would not be possible. For crimes against persons (murder, robbery, aggravated assault and rape), we treated the property arrest charges as the base, and for property crime charges (burglary, larceny and motor vehicle theft), we treated crimes against persons as the base group. The results are reported in Table 22.

If there are no changes in the charges between the arrest and the prosecutor, the only significant determinant of a

TABLE 22

PROBIT ANALYSIS OF ARREST CHARGES ON PROSECUTOR CHARGES

	Arrest \ Prosecutor	Murder	Rape	Robbery	Aggrav. Assault	Burglary	Larceny	Motor Vehicle Theft
Base is All Property Crimes	Murder	4.89*	-.95	1.35*	.00			
	Rape	-.85	4.57*	1.12*	.00			
	Robbery	1.35*	.88*	4.23*	2.02			
	Aggravated Assault	3.05*	-.95	1.49*	4.66*			
Base is All Viol. Crimes	Burglary					3.67*	.55*	-.14
	Larceny					-.50*	4.77*	-.85*
	Motor Veh. Theft					.08	.37	3.63*
	Intercept	-3.40*	-3.21*	-2.83*	-4.59*	-2.22*	-2.22*	-2.33*
	χ^2	390.98*	224.73*	1231.55*	253.05*	979.97*	2568.38*	497.57*

*Significant at the 5% level.

prosecutor's charge of murder, for example, would be an arrest charge of murder. Such is the case for aggravated assault. The probability that an individual will be charged with aggravated assault at the prosecutor's level is determined only by having an arrest charge of aggravated assault. Similar results hold for burglary, larceny and motor vehicle theft, where the major determinant of the probability of a prosecutor's charge of burglary is an arrest charge of burglary; of larceny as an arrest charge of larceny, and of motor vehicle theft as an arrest charge of motor vehicle theft. This can be seen from the size and the significance of the reported coefficients. However, for these three property crimes, other arrest charges do matter. Having an arrest charge of larceny, rather than a crime against person, slightly reduces the probability that the prosecutor's charge is burglary or motor vehicle theft, while an arrest charge of burglary increases the probability that the prosecutor's charge is larceny.

The major changes in charges at the prosecutor's level appear in the three crimes against persons: murder, rape and robbery. The major determinant of the prosecutor's charge of a specific crime is still an arrest charge for that crime, as can be seen by the size and significance of the coefficients in the diagonal cells. Yet, a person arrested for robbery has a higher probability of being charged by the prosecutor for murder or rape than a person whose arrest charge is a property crime. Those who were arrested on a charge of

aggravated assault are more likely to be charged at the prosecutor's level with murder and robbery then those arrested on other charges. Finally, an arrest charge of murder increases the probability that the individual will be charged with robbery at the prosecutor's level.

It is interesting to note that an arrest charge of murder, rape or robbery would not influence the probability of a prosecutor's charge of aggravated assault. This would indicate that there is no downgrading of any of those charges to assault. Yet, a person arrested on an aggravated assault charge has a higher probability of being charged with murder or robbery by the prosecutor. The switch from an arrest charge of assault to murder may be due to the inclusion of attempted murder in the category "murder" or to the death of the assault victim after the filing of the arrest charge. The change from assault to robbery is possible if evidence obtained after arrest indicates that the assault was also accompanied by a robbery. What is puzzling, however, is the increase of the probability of being charged with robbery if the arrest charge was rape. It could be that failure to obtain sufficient evidence on rape or the unwillingness of the victim to testify, may lead the prosecutor to charge the offender with robbery rather than rape.

Having determined the charge, the prosecutor's decision on whether to file a complaint in the District or the Circuit Court is straightforward, except for the charge of larceny. All charges except larceny lead to indictment and the filing

of a felony complaint in the Circuit Court. For larceny, the complaint may be filed in the District Court or an indictment is sought in the Circuit Court depending on severity. Of the 3,269 charges made by the prosecutor, 801 (or 25%) were at the Circuit Court and 2,468 (or 75%) at the District Court.

CONTINUED

1 OF 2

V. THE CIRCUIT COURT

A. Introduction

Of 801 felony complaints filed by the prosecutor at the Circuit Court, 11 miscellaneous statute/charges were found which did not fit into the seven categories of crimes analyzed in this study. Rather than add another category with only 11 observations (and thus not amenable to statistical analysis), we dropped those 11 cases, leaving us with 790 cases.

B. Arraignment and Plea

At the Circuit Court arraignment and plea, the arrested individual can plead either "guilty" or "not guilty" (we have included pleas of no contest in the guilty category).[2] Those charges for which a guilty plea was filed numbered 456 of the 790 cases, with the remaining 334 pleas being "not guilty."

The effects of the personal characteristics and the prosecutor's charge on the probability of pleading "guilty" are estimated by the Probit model and the results reported in Table 23. As the probability of pleading "not guilty" is one minus the probability of a guilty plea, we do not report the results of a Probit analysis for the not guilty plea, as the coefficients would simply be identical to those of Table 23 but of opposite signs. Of the personal characteristics, only

[2]The reported plea may, in some observations, reflect the initial or the final plea due to the continual updates to the data entry in the arraignment segment.

TABLE 23

PROBIT ANALYSIS OF PERSONAL CHARACTERISTICS AND PROSECUTOR CHARGES ON PLEA OF GUILTY AT CIRCUIT COURT ARRAIGNMENT AND PLEA

VARIABLE	COEFFICIENT
Sex (Male)	.021
Race (White)	-.129
Age	-.008
Employment Status (Employed)	-.026
Marital Status (Single)	.069
Education	.063*
No. of Prior Arrests	-.046*
No. of Prior Convictions	.077*
Prosecutor's Charge:	
Murder	-.613*
Rape	-1.815*
Robbery	-.260
Aggravated Assault	-.748*
Burglary	.301
Larceny/Theft	.170
Counsel	-2.916
Intercept	2.73
χ^2	88.15*

*Significant at the 5% level.

education and prior history have significant effects on the probability of a guilty plea. The higher the education level, the higher the probability of pleading "guilty." The probability of pleading "guilty" decreases with the number of prior arrests but increases with the number of prior convictions.

As for the effect of charges, those charged with murder, rape, or aggravated assault are less likely to have a guilty plea. The presence of legal counsel at Circuit Court arraignment and plea seems to decrease the probability of a guilty plea, but the coefficient is not significant. The insignificance of this variable is probably due to the fact that of the cases in which the plea was "guilty," 99% had counsel, while everyone who had a plea of "not guilty" had counsel. As almost all cases had counsel, regardless of plea, it is not surprising to find that the presence of counsel has no significant effect on plea.

In Table 24, we report the probability that a person arraigned at the Circuit Court will plead "guilty," for various combinations of education, prior arrests and convictions, and the type of prosecution charge. The probabilities are estimated for a white, single, employed male who is 24 years old. They can be calculated for any other combination of personal characteristics using the Probit results of Table 23.

Regardless of prior history, the highest probability of a guilty plea is where the individual is charged with burglary, ranging from 75.4% with four prior arrests but no convictions to 84% for a person with four prior arrests and four prior

TABLE 24

ESTIMATED PROBABILITIES OF PLEA AT CIRCUIT COURT ARRAIGNMENT AND PLEA: AN EMPLOYED, SINGLE, 24 YEAR OLD, WHITE MALE

		GUILTY PLEA				NOT GUILTY PLEA			
Prosecutor Charge Statute	Education \ Prior Arrests, Prior Convict.	(0,0)	(4,0)	(4,2)	(4,4)	(0,0)	(4,0)	(4,2)	(4,4)
Murder	9	.3138	.2520	.3033	.3588	.6862	.7480	.6967	.6412
	12	.3833	.3157	.3720	.4312	.6167	.6843	.6280	.5688
	16	.4818	.4096	.4699	.5310	.5182	.5904	.5301	.4690
Rape	9	.1453	.1075	.1386	.1753	.8547	.8925	.8614	.8247
	12	.1926	.1465	.1845	.2281	.8074	.8535	.8155	.7719
	16	.2685	.2118	.2588	.3107	.7315	.7882	.7412	.6893
Robbery	9	.4474	.3763	.4357	.4965	.5526	.6237	.5643	.5035
	12	.5224	.4495	.5105	.5713	.4776	.5505	.4895	.4287
	16	.6207	.5495	.6093	.6667	.3793	.4505	.3907	.3333
Assault	9	.2561	.2009	.2466	.2974	.7439	.7991	.7534	.7026
	12	.3202	.2578	.3097	.3656	.6798	.7422	.6903	.6344
	16	.4145	.3450	.4030	.4632	.5855	.6550	.5970	.5368
Burglary	9	.6661	.5973	.6553	.7098	.3339	.4027	.3447	.2902
	12	.7316	.6681	.7217	.7707	.2684	.3319	.2783	.2293
	16	.8075	.7536	.7993	.8395	.1925	.2464	.2007	.1605
Larceny	9	.6173	.5459	.6059	.6634	.3827	.4541	.3941	.3366
	12	.6868	.6193	.6761	.7291	.3132	.3807	.3239	.2709
	16	.7697	.7105	.7606	.8055	.2303	.2895	.2394	.1945
Auto Theft	9	.4569	.4056	.4567	.5085	.5431	.5944	.5433	.4902
	12	.5639	.5121	.5637	.6143	.4361	.4879	.4363	.3857
	16	.6984	.6515	.6983	.7420	.3016	.3485	.3017	.2580

convictions. The lowest probability of a guilty plea is where the charge is rape, ranging from 10.8% for a person with four prior arrests but no convictions to 17.5% for an individual with four prior arrests and four prior convictions. It is clear from the table that the type of charge greatly influences the probability of a guilty plea. Furthermore, the influence of prior history on the probability of a guilty plea depends on the charge. The effect of four prior convictions is to increase the probability of a guilty plea by more than 60% (from 10.8% to 17.5%) if the current charge is rape, but only by 6% (from 75.4% to 84%) if the charge is burglary.

The probabilities of a plea of "not guilty" are reported in the right-hand side of the Table. As the plea must be either "guilty" or "not guilty," the probability of one plea is simply one minus the probability of the other.

C. Pre-Trial Dispositions

The 456 charges for which the plea was "guilty" go directly to the sentencing stage. With respect to the 334 charges in which the plea was "not guilty," the Circuit Court has a decision to make: either dismiss the charge, or send it to trial. Of the 334 charges with a not guilty plea, 155 were dismissed (46%) and 179 were sent to trial.

The decision to dismiss the charge or to send it to trial when the plea is "not guilty" was found to depend on marital status and the type of charge. Single persons whose

plea is "not guilty" have a higher probability of having the charge dismissed than those who are married. When the charge is murder, the probability of being tried rather than dismissed increases, while the probability of a dismissal increases when the charge is larceny. The Probit analysis results are reported in Table 25, and the calculated probabilities in Table 26.

Because martial status affects the probability of the various dispositions, we now break the table into two parts, one for married and the other for single individual. The characteristics of the individual are the same as those used in calculating the probability of a guilty plea except for education which is held constant at 11 years (the mean of the sample).

The highest probability of having the charges dismissed with a plea of "not guilty" is for an individual who has no prior arrests or convictions, and who is charged with larceny. If that individual is single, the probability that the charge will be dismissed is almost 74%. For a married individual, the probability of dismissal is almost 53%. The lowest probability of dismissal is 1.5% for a married individual with four prior arrests and four prior convictions, who is charged with murder. If that individual is single, the probability of dismissal would be 5.5%. Murder is followed, in the order of lowest probability of dismissal, by assault and rape. The probability of dismissing a charge of rape against a married individual who has no prior arrests

TABLE 25

PROBIT ANALYSIS OF PERSONAL CHARACTERISTICS AND PROSECUTOR CHARGES ON DISMISSAL OF CHARGES AT CIRCUIT COURT ARRAIGNMENT AND PLEA

VARIABLE	COEFFICIENT
Sex (Male)	.220
Race (White)	-.146
Age	-.017
Employment Status (Employed)	-.164
Marital Status (Single)	.576*
Education	.056
No. of Prior Arrests	.012
No. of Prior Convictions	-.041
Prosecutor's Charge:	
Murder	-1.039*
Rape	-.378
Robbery	.039
Aggravated Assault	-.629
Burglary	.426
Larceny/Theft	1.089*
Intercept	-1.128
χ^2	98.59

*Significant at the 5% level.

TABLE 26

ESTIMATED PROBABILITIES OF DISPOSITIONS AT CIRCUIT COURT ARRAIGNMENT AND PLEA: AN EMPLOYED, 25 YEAR OLD, WHITE MALE WITH 11 YEARS EDUCATION

SINGLE

CIRCUIT COURT DISPOSITION	DISMISSED				TO TRIAL (CIRCUIT COURT)			
Prosecutor Charge Statute \ Prior Arrests, Prior Convict.	(0,0)	(4,0)	(4,2)	(4,4)	(0,0)	(4,0)	(4,2)	(4,4)
Murder	.0687	.0755	.0644	.0547	.9313	.9245	.9356	.9453
Rape	.2046	.2190	.1954	.1734	.7954	.7810	.8046	.8266
Robbery	.3415	.3599	.3295	.3003	.6585	.6401	.6705	.6997
Assault	.1410	.1524	.1338	.1168	.8590	.8476	.8662	.8832
Burglary	.4918	.5116	.4787	.4459	.5082	.4884	.5213	.5541
Larceny	.7396	.7554	.7288	.7008	.2604	.2446	.2712	.2992
Auto Theft	.2440	.2907	.2433	.2005	.7560	.7093	.7567	.7995

MARRIED

CIRCUIT COURT DISPOSITION	DISMISSED				TO TRIAL (CIRCUIT COURT)			
Prosecutor Charge Statute \ Prior Arrests, Prior Convict.	(0,0)	(4,0)	(4,2)	(4,4)	(0,0)	(4,0)	(4,2)	(4,4)
Murder	.0196	.0221	.0181	.0147	.9804	.9780	.9819	.9853
Rape	.0805	.0882	.0757	.0646	.9195	.9118	.9243	.9354
Robbery	.1624	.1749	.1545	.1357	.8376	.8251	.8455	.8643
Assault	.0492	.0545	.0460	.0386	.9508	.9455	.9540	.9614
Burglary	.2753	.2921	.2644	.2381	.7247	.7079	.7356	.7619
Larceny	.5262	.5459	.5131	.4802	.4738	.4541	.4869	.5198
Auto Theft	.5535	.1259	.0985	.0757	.4465	.8741	.9015	.9243

TABLE 25

PROBIT ANALYSIS OF PERSONAL CHARACTERISTICS AND PROSECUTOR CHARGES ON DISMISSAL OF CHARGES AT CIRCUIT COURT ARRAIGNMENT AND PLEA

VARIABLE	COEFFICIENT
Sex (Male)	.220
Race (White)	-.146
Age	-.017
Employment Status (Employed)	-.164
Marital Status (Single)	.576*
Education	.056
No. of Prior Arrests	.012
No. of Prior Convictions	-.041
Prosecutor's Charge:	
Murder	-1.039*
Rape	-.378
Robbery	.039
Aggravated Assault	-.629
Burglary	.426
Larceny/Theft	1.089*
Intercept	-1.128
χ^2	98.59

*Significant at the 5% level.

TABLE 26

ESTIMATED PROBABILITIES OF DISPOSITIONS AT CIRCUIT COURT ARRAIGNMENT AND PLEA: AN EMPLOYED, 25 YEAR OLD, WHITE MALE WITH 11 YEARS EDUCATION

SINGLE

CIRCUIT COURT DISPOSITION	DISMISSED				TO TRIAL (CIRCUIT COURT)			
Prosecutor Charge Statute \ Prior Arrests, Prior Convict.	(0,0)	(4,0)	(4,2)	(4,4)	(0,0)	(4,0)	(4,2)	(4,4)
Murder	.0687	.0755	.0644	.0547	.9313	.9245	.9356	.9453
Rape	.2046	.2190	.1954	.1734	.7954	.7810	.8046	.8266
Robbery	.3415	.3599	.3295	.3003	.6585	.6401	.6705	.6997
Assault	.1410	.1524	.1338	.1168	.8590	.8476	.8662	.8832
Burglary	.4918	.5116	.4787	.4459	.5082	.4884	.5213	.5541
Larceny	.7396	.7554	.7288	.7008	.2604	.2446	.2712	.2992
Auto Theft	.2440	.2907	.2433	.2005	.7560	.7093	.7567	.7995

MARRIED

CIRCUIT COURT DISPOSITION	DISMISSED				TO TRIAL (CIRCUIT COURT)			
Prosecutor Charge Statute \ Prior Arrests, Prior Convict.	(0,0)	(4,0)	(4,2)	(4,4)	(0,0)	(4,0)	(4,2)	(4,4)
Murder	.0196	.0221	.0181	.0147	.9804	.9780	.9819	.9853
Rape	.0805	.0882	.0757	.0646	.9195	.9118	.9243	.9354
Robbery	.1624	.1749	.1545	.1357	.8376	.8251	.8455	.8643
Assault	.0492	.0545	.0460	.0386	.9508	.9455	.9540	.9614
Burglary	.2753	.2921	.2644	.2381	.7247	.7079	.7356	.7619
Larceny	.5262	.5459	.5131	.4802	.4738	.4541	.4869	.5198
Auto Theft	.5535	.1259	.0985	.0757	.4465	.8741	.9015	.9243

or convictions is 8%, and is 20.5% for a single individual with no prior arrests or convictions. These probabilities of dismissal decrease to 6.5% and 17.3% respectively as the numbers of prior arrests and convictions increase to four.

The effect of marital status on the probabilities of dismissal depends on the type of charge. Single individuals are almost three and a half times as likely to have a charge of murder dismissed as do married individuals; but their probability of dismissal is only two-fifths larger than married individuals if the charge is larceny.

D. Trial Outcomes

At the Circuit Court trial, a defendant can be either acquitted of the charge or be found guilty. Of the 179 charges tried at the Circuit Court, the defendants were acquitted of 46, or 25.7% of the charges, and found guilty of the remaining 133, or 74.3% of the charges.

In Table 27, we report the results pertaining to the effect of the various variables on the probability of being found guilty. We found that two of the defendant's personal characteristics (employment status and education) significantly influence the probability of conviction. Defendants who are employed have a higher probability of being convicted than those with identical characteristics and identical charges who are unemployed. The probability of being convicted decreases with the level of education of the defendant.

TABLE 27

PROBIT ANALYSIS OF PERSONAL CHARACTERISTICS AND PROSECUTOR CHARGES ON CONVICTION AT CIRCUIT COURT TRIAL

VARIABLE	COEFFICIENT
Sex (Male)	.052
Race (White)	-.007
Age	-.005
Employment Status (Employed)	.545*
Marital Status (Single)	-.342
Education	-.129*
No. of Prior Arrests	-.061*
No. of Prior Convictions	.126*
Prosecutor's Charge:	
Murder	-.449
Rape	-.568
Robbery	.168
Aggravated Assault	-.008
Burglary	-.323
Larceny/Theft	.660
Jury Trial	.564*
Intercept	1.960
χ^2	29.23*

*Significant at the 5% level.

Past history of the defendant also affects the probability of conviction. The higher the number of prior arrests, given the number of prior convictions, the lower the probability of conviction. On the other hand, the higher the number of prior convictions, given the number of prior arrests, the higher the probability of conviction on the current charge.

The type of charge does not seem to influence the outcome of the trial, but the type of trial does. For a defendant with a given set of characteristics who has been charged with a specific crime, the probability of being convicted increases if the trial at the Circuit Court is a jury trial. It was not possible to analyze the effect of legal counsel on the trial outcome because all those who were brought to trial had legal counsel.

The calculated probabilities of conviction are reported in Tables 28 and 29. In Tables 28 and 29, we report only the calculated probability for a trial disposition of guilty, since the probability of acquittal can be easily obtained as one minus the probability of a guilty disposition. The individual for whom the probabilities are calculated is a white, male, single, who is 26 years of age. Because employment status matters, the Table is broken into two parts: for employed and unemployed persons. In each of the parts, the effect of the type of trial (jury or non-jury) can be seen by comparing the right-hand side with the left-hand side of the table.

TABLE 28

ESTIMATED PROBABILITIES OF GUILTY DISPOSITIONS AT CIRCUIT COURT TRIAL: AN EMPLOYED, SINGLE, WHITE MALE

		JURY TRIAL				NON-JURY TRIAL			
Offense	Education \ Prior Arrests, Prior Convict.	(0,0)	(4,0)	(4,2)	(4,4)	(0,0)	(4,0)	(4,2)	(4,4)
Murder	9	.8499	.7855	.8516	.9024	.6816	.5899	.6843	.7679
	12	.7421	.6572	.7445	.8185	.5343	.4369	.5373	.6353
	16	.5537	.4562	.5566	.6535	.3341	.2503	.3368	.4330
Rape	9	.8204	.7491	.8223	.8803	.6380	.5431	.6408	.7301
	12	.7022	.6124	.7047	.7854	.4869	.3906	.4898	.5898
	16	.5063	.4094	.5093	.6086	.2920	.2140	.2945	.3867
Robbery	9	.9508	.9204	.9515	.9721	.8619	.8006	.8635	.9113
	12	.8973	.8465	.8986	.9365	.7589	.6765	.7612	.8321
	16	.7739	.6938	.7761	.8441	.5746	.4773	.5775	.6729
Assault	9	.9301	.8909	.9310	.9587	.8193	.7478	.8212	.8795
	12	.8622	.8010	.8638	.9115	.7008	.6109	.7033	.7842
	16	.7175	.6294	.7200	.7982	.5047	.4078	.5077	.6070
Burglary	9	.8773	.8203	.8788	.9224	.7251	.6380	.7276	.8045
	12	.7810	.7021	.7832	.8498	.5840	.4869	.5869	.6815
	16	.6029	.5063	.6057	.6987	.3811	.2920	.3839	.4829
Larceny	9	.9840	.9713	.9843	.9919	.9431	.9092	.9439	.9672
	12	.9607	.9349	.9613	.9782	.8840	.8289	.8854	.9271
	16	.8932	.8410	.9337	.9337	.7518	.6683	.7542	.8264
Auto Theft	9	.8867	.8303	.8938	.9380	.7958	.7167	.8064	.8762
	12	.8189	.7446	.8287	.8927	.7016	.6085	.7146	.8047
	16	.6965	.6028	.7096	.8007	.5526	.4516	.5675	.6779

TABLE 29

ESTIMATED PROBABILITIES OF GUILTY DISPOSITIONS AT CIRCUIT COURT TRIAL: AN UNEMPLOYED, SINGLE, WHITE MALE

		JURY TRIAL				NON-JURY TRIAL			
Offense	Prior Arrests, Prior Convict. / Education	(0,0)	(4,0)	(4,2)	(4,4)	(0,0)	(4,0)	(4,2)	(4,4)
Murder	9	.6881	.5969	.6907	.7734	.4708	.3752	.4738	.5740
	12	.5415	.4441	.5445	.6421	.3230	.2407	.3257	.4210
	16	.3407	.2561	.3435	.4401	.1650	.1114	.1669	.2376
Rape	9	.6448	.5502	.6475	.7360	.4238	.3310	.4267	.5269
	12	.4941	.3975	.4971	.5968	.2815	.2052	.2840	.3751
	16	.2982	.2193	.2193	.3937	.1372	.0904	.1388	.2024
Robbery	9	.8659	.8057	.8674	.9142	.7066	.6173	.7091	.7891
	12	.7645	.6829	.7668	.8366	.5625	.4651	.5655	.6617
	16	.5817	.4845	.5333	.6794	.3604	.2735	.3632	.4612
Assault	9	.8240	.7536	.8259	.8831	.6433	.5486	.6460	.7347
	12	.7070	.6178	.7096	.7894	.4925	.3960	.4954	.5952
	16	.5119	.4149	.4631	.6140	.2968	.2181	.2994	.3921
Burglary	9	.7311	.6448	.7336	.8095	.5210	.4238	.5240	.6227
	12	.5910	.4941	.5939	.6379	.3694	.2815	.3722	.4707
	16	.3880	.2982	.3908	.4901	.1982	.1372	.2003	.2782
Larceny	9	.9451	.9122	.9459	.9685	.8498	.7854	.8515	.9024
	12	.8875	.8335	.8889	.9296	.7420	.6571	.7444	.8184
	16	.7575	.6748	.7598	.8310	.5536	.4561	.5565	.6534
Auto Theft	9	.7903	.7101	.8010	.8722	.6646	.5681	.6784	.7748
	12	.6949	.6010	.7080	.7993	.5507	.4498	.5657	.6762
	16	.5449	.4440	.5599	.6709	.3938	.3004	.4085	.5240

It is interesting to note that the probability of being found guilty is consistently higher, regardless of crime, education, prior arrests and convictions, when it is a jury trial than when it is non-jury trial. This holds for both employed and unemployed individuals. A person who has 12 years of education, with no prior history, and is employed, who is charged with murder has a 74% probability of being found guilty if the trial was jury trial, but only 53% if the trial is non-jury. Had that person been unemployed, his probability of being found guilty is 54% with a jury trial and 32% with a non-jury trial. No conclusion should be drawn from this comparison, however, since it is possible that the direction of causality may be bidirectional. It is possible that a person's selection of the type of trial is based on his estimation of the probability of being found guilty. We have not investigated this possibility, as the Probit programs available do not allow for simultaneity.

For both types of trial, the probability of being found guilty decreases with the number of years of education. The most drastic decline is observed in rape, where the trial is non-jury. A person with 9 years of education with no prior history who is employed and is charged with rape has a probability of 63.8% of being found guilty in a non-jury trial. With 16 years of education, the probability of being found guilty would decline to only 29.2%. For an unemployed person, the probability declines from 42.4% to 13.7% as the number of years of education increases from 9 to 16.

Finally, the probability of being found guilty increases dramatically, in both types of trials with the increase in the number of prior convictions. An unemployed person with 9 years of education and four prior arrests but no prior convictions, whose charge is murder, has a probability of 59.7% being found guilty in a jury trial and 47.1% in a non-jury trial. With four prior convictions, the probabilities would have increased to 77.3% and 57.4% in jury and non-jury trials, respectively.

E. Sentencing

Those whose plea was "guilty" (456) and those who were found guilty at the trial (133) are then sentenced. There is a large number of diverse sentences which are given by the Circuit Court. Given the number of cases, 589, it is not possible to analyze each of the sentences, as each will have too few cases to permit any serious investigation. We decided, therefore, to aggregate the sentences into three broad groups: confinement, monetary, and suspended.

The results of the Probit analysis indicated that the type of crime (final charge at time of sentencing) affects only the probability of confinement. We, therefore, report in Table 30 the results obtained by using the type of crime for the analysis of confinement but drop it for the analysis of the determinants of the probabilities of fine or probation. Below each type of sentence is the number of cases receiving

TABLE 30

PROBIT ANALYSIS OF PERSONAL CHARACTERISTICS AND PROSECUTOR CHARGES ON THE TYPE OF SENTENCE AT THE CIRCUIT COURT

VARIABLE \ SENTENCE	CONFINE 373	MONETARY 76	PROBATION 132
Sex (Male)	.207	.139	-.533*
Race (White)	-.101	.121	.014
Age	-.002	.022*	-.023*
Employment Status (Employed)	-.411*	.304*	.256
Marital Status (Single)	-.077	-.083	.176
Education	-.058	.045	.075
No. of Prior Arrests	.073*	-.035	-.045*
No. of Prior Convictions	-.085*	.023	.065*
Plea (Not Guilty)	.335*	-.392*	-.526*
Type of Crime:			
Murder	1.682*		
Rape	5.864		
Robbery	.480		
Assault	.681		
Burglary	-.019		
Larceny	-.239		
Intercept	.672	-2.145*	-.598
χ^2	130.74*	38.96*	54.61*

*Significant at the 5% level.

that sentence. Five cases which were found to be miscellaneous charges were dropped at this point for a total of 581 cases.

Males are less likely to receive probation or a suspended sentence than females. As age increases, there is a decrease of the probability of probation and a corresponding increase in the probability of a monetary sentence (fine, restitution or community service). A defendant who is employed is less likely to be sentenced to confinement and more likely to receive a monetary sentence.

What is surprising in the results is the opposing influences exerted by prior arrests and prior convictions. As the number of prior arrests increases, so will the probability of confinement, with a decrease in the probability of probation. The larger the number of prior convictions, however, the smaller is the probability of confinement and the higher is that of probation.

A strong influence of the type of plea is found. Those whose plea was "not guilty" at the arraignment and plea stage are more likely to be sentenced to confinement when found guilty at the trial. Similarly, those who had entered a plea of "guilty" are more likely to receive a monetary sentence or probation.

Finally, the only type of crime which significantly affects the probability of confinement is murder. Those who are convicted of murder have a much higher probability (as high as 99% as we shall report below) of being sentenced to confinement. The coefficient for rape is quite high but is not

significant, probably because of the small number of cases in the sample. It does make the probability of confinement equal to unity for anyone convicted of rape.

The calculated probabilities of the various types of sentences are reported in Tables 31-33.

Although it may appear puzzling that those convicted of murder have a probability of confinement less than unity, this is so because of our aggregation of manslaughter and murder in the murder group. The probability of confinement is lower, though the difference is small, for those who had a plea of "not guilty" than for those with a guilty plea. Again, this may be due to the aggregation of manslaughter and murder.

For a person convicted of rape, the probability of confinement is 100%, whether the plea was "guilty" or "not guilty", and regardless of employment status or prior arrests and convictions. It will be recalled, however, that the probability of conviction with rape was not independent of prior history and employment status. Thus a person charged with rape is certain to be sentenced to confinement if his plea is "guilty."

If the plea is "not guilty," with 12 years of education and no prior arrests or convictions, an individual faces lower probabilities. If he is employed, he will be found guilty 70% of the time in jury trial and 48.6% of the time in a non-jury trial. If he is unemployed, he will be found guilty 49.4% of the time in a jury trial and only 28.15% of the time in a non-jury trial.

TABLE 31

ESTIMATED PROBABILITIES OF CONFINEMENT AT CIRCUIT COURT SENTENCING: A SINGLE, 24 YEAR OLD, WHITE MALE WITH 11 YEARS OF EDUCATION

GUILTY PLEA

	EMPLOYED				UNEMPLOYED			
Prior Arrests, Prior Convict. / Offense	(0,0)	(4,0)	(4,2)	(4,4)	(0,0)	(4,0)	(4,2)	(4,4)
Murder	.9474	.9720	.9591	.9418	.9789	.9899	.9843	.9763
Rape	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Robbery	.6620	.7609	.7050	.6437	.7965	.8687	.8290	.7822
Assault	.7321	.8187	.7703	.7155	.8486	.9068	.8752	.8367
Burglary	.4679	.5834	.5160	.4482	.6296	.7330	.6742	.6107
Larceny	.3815	.4959	.4283	.3628	.5437	.6558	.5912	.5240
Auto Theft	.6322	.7301	.6742	.6141	.7647	.8406	.7983	.7498

NOT GUILTY PLEA

	EMPLOYED				UNEMPLOYED			
Prior Arrests, Prior Convict. / Offense	(0,0)	(4,0)	(4,2)	(4,4)	(0,0)	(4,0)	(4,2)	(4,4)
Murder	.9007	.9425	.9202	.8917	.9551	.9766	.9654	.9502
Rape	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Robbery	.5332	.6460	.5809	.5135	.6896	.7840	.7309	.6719
Assault	.6120	.7176	.6573	.5928	.7567	.8382	.7929	.7409
Burglary	.3390	.4506	.3842	.3210	.4984	.6130	.5465	.4786
Larceny	.2623	.3650	.3031	.2463	.4110	.5264	.4585	.3919
Auto Theft	.3699	.4775	.4137	.3521	.5206	.6283	.5658	.5016

TABLE 32.

ESTIMATED PROBABILITIES OF MONETARY SENTENCE AT CIRCUIT COURT SENTENCING: A SINGLE, WHITE MALE WITH 11 YEARS OF EDUCATION AND NO PRIOR ARRESTS OR CONVICTIONS

	AGE	GUILTY PLEA	NOT GUILTY PLEA
Employed	20	.1325	.0780
	30	.1866	.1161
	40	.2525	.1658
	50	.3291	.2276
Unemployed	20	.2348	.1521
	30	.3089	.2109
	40	.3917	.2812
	50	.4797	.3613

TABLE 33

ESTIMATED PROBABILITIES OF PROBATION
AT CIRCUIT COURT SENTENCING: AN EMPLOYED,
SINGLE, WHITE PERSON WITH 11 YEARS OF EDUCATION

		GUILTY				NOT GUILTY PLEA			
	Prior Arrests, Prior Conv. / AGE	(0,0)	(4,0)	(4,2)	(4,4)	(0,0)	(4,0)	(4,2)	(4,4)
MALE	20	.2018	.1546	.1875	.2244	.3786	.3117	.3589	.4085
	30	.1439	.1066	.1324	.1623	.2957	.2361	.2779	.3230
	40	.0984	.0704	.0897	.1126	.2222	.1719	.2070	.2461
	50	.0645	.0445	.0582	.0749	.1605	.1201	.1481	.1802
FEMALE	20	.3777	.3108	.3581	.4076	.5849	.5129	.5645	.6149
	30	.2949	.2354	.2772	.3222	.4947	.4226	.4739	.5257
	40	.2116	.1714	.2064	.2454	.4048	.3362	.3847	.4351
	50	.1600	.1197	.1477	.1796	.3196	.2576	.3012	.3479

The probabilities of being sentenced to confinement when a person is convicted of larceny-theft are higher than those in the District Court. This should not be viewed as differential treatment between the two courts, but rather as a reflection of the difference in the severity of the charge. Those charged with larceny-theft are arraigned in the District Court only if the charge is second or third degree larceny-theft.

The type of crime had no significant influence on the distribution of those who have not been sentenced to confinement or between probation and monetary sentences. The probabilities of probation vary only with sex, age, plea and prior history. Females are at least twice as likely to receive probation as males. It is also interesting to note that those whose plea was "not guilty" but were found guilty at trial have considerably higher probabilities of probation than those who had a plea of "guilty." This should be used in conjunction with the earlier results in which a "not guilty" plea resulted in various probabilities of being acquitted. The corresponding effects on the probability of a monetary sentence are shown in Table 33, with lower probabilities for those whose plea is "not guilty." It will also be noted that unemployed persons have considerably higher probabilities of a monetary sentence (fine, restitution, or community service) than those who are employed.

VI. THE DISTRICT COURT

A. Arraignment and Plea

Since 99.9% of the complaints were for a charge of larceny-theft, it is quite reasonable to assume that all cases in our sample which were handled by the District Court were larceny-theft crimes. Of the 2,445 complaints filed by the prosecutor at the District Court, the defendant entered a plea of guilty in 1,822 cases (or 74.5%). The effects of the person's characteristics and prior history on plea are reported in Table 34. It is possible now to investigate the effect of legal counsel, since in 57% of the cases the defendant was represented by counsel and in 43% no counsel was present. The effect of the presence of legal counsel is also reported in the table.

In many cases, at the District Court level, an offender may be granted a "Deferred Acceptance of a Guilty Plea" (DAGP). In this situation, an offender must plead guilty to a charge; the judge will then place the defendant on a DAGP status, which is similar to probation.[3] If the defendant complies with the terms and conditions of the DAGP, all charges will be dismissed. This procedure is normally reserved for first time offenders, young persons, and is made prior to the beginning of trial.

[3]The DAGP is a procedure generally reserved for young, first-time offenders. Such a plea must be made prior to the commencement of a trial.

TABLE 34

PROBIT ANALYSIS OF PERSONAL CHARACTERISTICS AND LEGAL COUNSEL ON PLEA OF GUILTY AT DISTRICT COURT ARRAIGNMENT AND PLEA

VARIABLE	COEFFICIENT
Sex (Male)	-.262*
Race (White)	-.052
Age	-.002
Employment Status (Employed)	.004
Marital Status (Single)	-.033
Education	.008
No. of Prior Arrests	-.086*
No. of Prior Convictions	.138*
Represented by Counsel	-.950*
Intercept	1.542*
χ^2	374.53*

*Significant at the 5% level.

In our study at the District Court level, of the 1,822 cases in which the defendant entered a plea of guilty, 925 or 50.8 percent were granted DAGP dismissals. Of the remaining 897 cases, 71 were true dismissals. One of those dismissals was for a charge not included in our study and was therefore excluded from the analysis. A total of 833 cases were forwarded for sentencing. These cases included 826 with pleas of "guilty" and an additional 7 cases which were originally pleas of "not guilty."

From the results reported, it is found that the only personal characteristic which influences the probability of entering a guilty plea at the District Court arraignment is sex. Males are less likely than females to enter a guilty plea.

As was the case in the analysis of the pleas in Circuit Court, prior history has a significant influence on the probability of pleading "guilty." The likelihood of a guilty plea increases with the number of prior convictions, holding the number of prior arrests constant and decreases with the number of prior arrests, holding the number of prior convictions constant.

Finally, the presence of legal counsel reduces the probability of a guilty plea.[4] It is not possible to determine from the data whether the legal counsel affects the plea or whether

[4]It is unclear from the data at which point in the process the defendant was represented by legal counsel. In addition, due to an inconsistent definition of type of counsel, we have chosen to classify all those with legal counsel in one group, and those without legal counsel in the other group.

the observed relationship is a reflection of a reverse causality, where those who decide to plead "guilty" are less likely to seek legal counsel.

The Probit analysis results of Table 34 are used to calculate the probability that a white, single, employed person who is 31 years of age (the average for this sample) and with 12 years of education (the average for this sample) will enter a plea of guilty at arraignment in the District Court on a charge of larceny-theft. The probabilities are calculated for various combinations of sex, the number of prior arrests and convictions, and whether legal counsel was present. These are reported in Table 35.

The magnitudes of the differentials in the probability of a guilty plea between males and females are large. The probability that a male with no prior arrests or convictions and with legal counsel will enter a guilty plea is 61.4% compared to a probability of 71% for a female who is identical in all other respects to the male. The probability that a guilty plea will be entered by that male is 13.5% less than that of a female. Similar large effects on the probability of a guilty plea are found for the number of prior arrests: a male with four prior arrests and no convictions, who is represented by counsel has a 47.9% probability of pleading "guilty," compared to the 61.4% for a male with no prior arrests, who is represented by counsel: a decline of 22%. The effect of prior arrests is not as large when no legal counsel is present, the probability decreases by 10%, from 89.2% to 81.5%.

TABLE 35

ESTIMATED PROBABILITIES OF A PLEA OF GUILTY
AT DISTRICT COURT ARRAIGNMENT AND PLEA:
AN EMPLOYED, SINGLE, 31 YEAR OLD, WHITE PERSON WITH
12 YEARS OF EDUCATION

		PRIOR ARRESTS & CONVICTIONS			
		0,0	4,0	4,2	4,4
MALE	With Counsel	.614	.479	.588	.691
	Without Counsel	.892	.815	.879	.926
FEMALE	With Counsel	.710	.582	.686	.776
	Without Counsel	.933	.876	.924	.956

Prior convictions increase the probability of a guilty plea, particularly when legal counsel is present. For a male with legal counsel and with four prior arrests, the probability of a guilty plea increases from 47.9% with nor prior convictions, to 58.8% with two prior convictions, and to 69.1% with four prior convictions. The increases in probabilities are not as large when no legal counsel is present. It also appears that the females' probabilities of pleading "guilty" do not increase as dramatically as males with increasing numbers of prior convictions.

The effect of legal counsel on the probability of a guilty plea is large. A male with no prior arrests or convictions has a probability of 89.2% if he has no counsel, but only 61.4% if he has legal counsel. Similarly, without counsel, a female with no prior arrests or convictions will enter a guilty plea 93.3% of the time, while with counsel the plea is "guilty" only 71% of the time.

B. Pre-trial Dispositions

The District Court can either dismiss the charges or send to trial, those whose plea was "not guilty." However, we found seven out of 623 cases in which the plea was "not guilty" but had a court disposition of guilty at the arraignment and plea stage. This was deemed as either a change of plea which was recorded or as data error. Of the remaining 616 cases, the District Court dismissed 397 cases, or 64.4% of the charges, and sent the remaining 219 (or 35.6%) to

trial. Ignoring the seven cases, we examined the effects of personal characteristics of the defendant, his/her prior history and the effect of counsel on the probability of having the charge dismissed when the defendant enters a not guilty plea. The results are reported in Table 36. The results for factors influencing the probability of trial are identical to those of Table 36 but with the signs of the coefficients reversed, as being sent to trial is the complement of dismissal.

The only personal characteristic which significantly influences the probability of dismissal is marital status. The results indicate that single individuals who plead "not guilty" are more likely to have the charges against them dismissed than married individuals. While prior arrests increase the probability of dismissal, the effect of prior convictions works in the opposite direction and is larger, decreasing the probability of dismissal.

Again the direction of causality with respect to legal counsel representation may be open to doubt. The results indicate that the presence of legal counsel significantly reduces the probability of dismissal. But it could also be that those who are likely to be sent to trial rather than dismissed, are more likely to seek legal counsel representation at the arraignment and plea stage.

In Table 37 the probabilities that the charge will be dismissed at the District Court arraignment and plea level for various combinations of marital status, prior history and legal counsel representation are reported. For a white

TABLE 36

PROBIT ANALYSIS OF PERSONAL CHARACTERISTICS AND LEGAL COUNSEL ON DISMISSAL OF CHARGES AT DISTRICT COURT ARRAIGNMENT AND PLEA

VARIABLE	COEFFICIENT
Sex (Male)	.005
Race (White)	-.031
Age	-.007
Employment Status (Employed)	.114
Marital Status (Single)	.282*
Education	.006
No. of Prior Arrests	.052*
No. of Prior Convictions	-.117*
Represented by Counsel	-.637*
Intercept	.781*
χ^2	247.09*

*Significant at the 5% level.

TABLE 37

ESTIMATED PROBABILITIES OF DISPOSITIONS AT DISTRICT COURT ARRAIGNMENT AND PLEA: AN EMPLOYED, 31 YEAR OLD, WHITE MALE WITH 12 YEARS OF EDUCATION AND A PLEA OF NOT GUILTY

	TO TRIAL				DISMISSED			
	Arrests and Convictions							
	0,0	4,0	4,2	4,4	0,0	4,0	4,2	4,4
SINGLE								
w/ Counsel	.332	.270	.344	.424	.647	.721	.637	.546
w/o Counsel	.152	.114	.160	.217	.844	.889	.838	.774
MARRIED								
w/ Counsel	.428	.360	.441	.525	.537	.619	.527	.434
w/o Counsel	.220	.171	.230	.299	.767	.826	.759	.681

male, who is 31 years old (mean of the sample), employed and charged with larceny-theft at the District Court, who entered a plea of "not guilty" and was represented by counsel, the probability that the charge will be dismissed is 64.7% if he is single and 53.7% if married. If he was not represented by counsel, the probability of dismissal would have been 84.4% if single and 76.7% if married. Again it is quite possible that the causal relationship between the probability of dismissal and the presence of legal counsel is reversed. In all cases the probability of dismissal is higher for single than it is for married individuals.

Comparing a person with four prior arrests and no convictions to one with four prior arrests and four prior convictions, both of whom entering a plea of "not guilty," the probability of dismissal declines from 72.1% to 54.6% for a single individual, who is represented by counsel. The probability declines equally dramatically for a married individual represented by counsel, from 61.9% to 43.4%. Without the presence of legal counsel, the probabilities of dismissal also decline with the increase in the number of prior convictions, but the decline is not as large as was the case with legal counsel.

C. Trial Outcome

One of the 219 charges sent to trial by District Court did not fall in the category of crimes we are analyzing, and we decided to confine the analysis to the remaining 218 charges. Of these, the defendants were acquitted in 105, or 47.9%

of the cases. The result of the trial was a finding of guilty in the remaining 113 cases. Again, as the probability of a guilty verdict is the complement of the probability of acquittal, we report the findings for the factors influencing the probability of acquittal only in Table 38. None of the defendant's personal characteristics had an influence on the outcome of the trial, nor did the presence of counsel. The lack of influence of counsel may be due to the fact that in 92% of the cases, the defendant was represented by legal counsel.

Only the defendant's prior history of arrests and convictions had a significant influence on the trial outcome. The larger the number of prior arrests, given the number of prior convictions, the higher the probability of acquittal and, thus, the lower the probability of conviction. On the other hand, the higher the number of prior convictions, given the number of prior arrests, the more likely is the person to be convicted and the less likely is he to be acquitted.

Using the results reported in Table 39, we calculated the probability, that a trial in the District Court will result in an acquittal for a white male who is 31 years old, has 12 years of education, is employed and represented by legal counsel as 63.9% if he had no record of prior arrests or convictions. For a person with the same characteristics but with four prior arrests and two prior convictions, the probability of acquittal would be reduced to 56.3%, and it would decrease further to 24.4% with four convictions rather than two.

TABLE 38

PROBIT ANALYSIS OF PERSONAL CHARACTERISTICS AND LEGAL COUNSEL ON ACQUITTAL AT DISTRICT COURT TRIAL

VARIABLE	COEFFICIENT
Sex (Male)	-.002
Race (White)	.294
Age	-.007
Employment Status (Employed)	.118
Marital Status (Single)	-.200
Education	-.008
No. of Prior Arrests	.164*
No. of Prior Convictions	-.426*
Represented by Counsel	.095
Intercept	.357
χ^2	56.70*

*Significant at the 5% level.

TABLE 39

PROBIT ANALYSIS OF PERSONAL CHARACTERISTICS AND LEGAL COUNSEL ON TYPE OF SENTENCE AT THE DISTRICT COURT

VARIABLE \ SENTENCE	CONFINE 220	MONETARY 600	PROBATION 126
Sex (Male)	.133	-.068	-.046
Race (White)	-.092	.017	.086
Age	-.012*	.008*	.002
Employment Status (Employed)	-.359*	.392*	-.197
Marital Status (Single)	.102	-.321*	.266
Education	.023	-.009	-.015
No. of Prior Arrests	.034*	-.022	-.020
No. of Prior Convictions	.012	-.031	.033
Represented by Counsel	-.002	-.197*	.336*
Plea (Guilty)	-.042	.153	-.162
Intercept	-.867*	.516	-1.196*
χ^2	109.32*	122.20*	24.61*

*Significant at the 5% level.

D. Sentencing

The 113 defendants who were found guilty at trial in the District Court, together with the 833 who entered a plea of "guilty" at the arraignment and plea stage are then sentenced. There are five types of sentences: confinement, probation, fine, restitution, and community service. However, for a given charge, a defendant may be sentenced to one type (or a combination of), two types (such as confinement and fine), three types (such as confinement, fine and probation) or even four types (one case had a sentence of confinement, fine, community service and probation). As the majority of the sentences were of a single type, 652 of the 946 cases, we treated all cases as single type sentence, choosing the most severe sentence for defendants with more than one type of sentence. Thus a defendant who had a sentence of confinement, fine and probation was classified as being sentenced to confinement.

The small number of sentences, 946, necessitated ignoring the severity of the sentence. This can be analyzed only with a much larger sample so that when the cases are classified by type and severity there would be sufficient number of observations in each category. Furthermore, the small number of cases necessitated also that we aggregate the five types of sentences into three: confinement, (which also includes confinement as a condition of probation); monetary (which includes fine, restitution and community service); and probation (which also includes suspended sentence). The distribution of

sentences among these three aggregate categories is given in Table 39 by the numbers entered below each type.

In Table 39 we report on the variables affecting the type of sentence. The charge does not appear as all those cases were larceny-theft. From these results, it appears that the older the person, the less likely is the sentence to be confinement and the more likely it is to be monetary. The same effect is noted for employment status; employed persons are less likely to be sentenced to confinement and more likely to be sentenced to a monetary punishment. The effect of marital status is not so clear cut. While being single does reduce the probability of a monetary sentence significantly, the increase in the probability of receiving other types of sentences is not concentrated on a particular type. Thus, while the effect of being single on the probabilities of monetary punishment or probation are both positive, neither is significant.

The same type of result is obtained for the effect of the number of prior arrests. While the probability of confinement definitely increases with the number of prior arrests, the corresponding decreases in the probabilities of monetary punishment and of probation are not significant.

Being represented by counsel has no significant influence on the probability of confinement. However, those who are represented by legal counsel are more likely to have probation and less likely to be sentenced to a monetary punishment.

Finally, it is interesting to note that those who entered a plea of "guilty" at the arraignment and plea stage have sentences indistinguishable from those who entered a not guilty plea but were found guilty at trial. The probability of being sentenced to any of the three types of sentences does not depend on the plea.

The probabilities calculated using the results reported are displayed in Tables 40 and 41. For each category of sentences, we vary only those variables which have significant effects on the probabilities. As for probation, only the presence of legal counsel matters, increasing the probability of probation from 8.4% to 14.8%.

It can be seen from Table 40 that with no prior arrest record, an employed person who is 20 years old is twice as likely to be sentenced to confinement as a 50 year old. It is also clear that being unemployed significantly increases the probability of confinement, by 60% for a 20 year old and by 100% for a fifty year old.

The probability of being given a monetary sentence (fine, restitution or community service) is reduced for those who are represented by a legal counsel. For a single, employed person, the probability declines from 85.5% with no counsel to 80.5% with legal counsel, as can be seen in Table 41. Married, unemployed individuals with no prior arrests or convictions have the lowest probability of a monetary sentence, 59.4% with counsel and 66.8% without counsel; while the single, employed have the highest probabilities.

TABLE 40

ESTIMATED PROBABILITIES OF CONFINEMENT AT DISTRICT COURT SENTENCING: A SINGLE, WHITE MALE WITH 12 YEARS OF EDUCATION, WITH COUNSEL, A GUILTY PLEA, AND NO PRIOR CONVICTIONS

	AGE	PRIOR ARRESTS		
		0	2	4
EMPLOYED	20	.134	.150	.166
	30	.109	.123	.136
	40	.088	.099	.111
	50	.065	.079	.089
UNEMPLOYED	20	.228	.249	.270
	30	.192	.211	.230
	40	.160	.177	.194
	50	.131	.146	.162

TABLE 41

ESTIMATED PROBABILITIES OF MONETARY SENTENCE AT DISTRICT COURT SENTENCING: A WHITE MALE, WITH 12 YEARS OF EDUCATION, A GUILTY PLEA, AND NO PRIOR ARRESTS OR CONVICTIONS

	AGE			
	20	30	40	50
WITH COUNSEL				
Single, Employed	.805	.826	.845	.863
Single, Unemployed	.680	.707	.734	.759
Married, Employed	.736	.761	.784	.806
Married, Unemployed	.594	.624	.653	.681
WITHOUT COUNSEL				
Single, Employed	.855	.872	.888	.902
Single, Unemployed	.747	.772	.795	.816
Married, Employed	.796	.817	.837	.856
Married, Unemployed	.668	.696	.723	.748

APPENDIX

A - THE PROBIT ANALYSIS

B - CRIMINAL JUSTICE AGENCY DISPOSITIONS AND OTHER ELEMENTS ATTRIBUTING TO SYSTEM FLOW AND FALLOUT

DISPOSITIONS AT THE LAW ENFORCEMENT LEVEL: Probit Analysis Results with Disaggregated Racial Groups and Including Occupation and Place of Residence

APPENDIX A

THE PROBIT ANALYSIS

In many instances in the empirical studies, the variable under study is qualitative rather than quantitative. Its value can fall into one of a number of categories. For example, at the arraignment and plea stage of the criminal justice system, an arrested individual can enter a plea of "guilty" or "not guilty." Such a dichotomous variable can be represented by a binary variable which takes on a value of zero for one of the alternatives and unity for the other. Had there been more than two alternatives, they could have been represented by a sequence of binary variables. Note that the value the binary variable assumes simply indicates the presence or the absence of a certain condition. It is a "yes" or "no" type of representation, rather than a quantitative measurement of a response. For each individual the plea, represented by a binary variable, will be either a zero or a unity. It cannot be any value within that range or outside that range.

The plea entered by an individual may depend on that individual's socio-economic characteristics, on his (her) past criminal record, on the type of charge, and on whether a legal counsel is representing him (her). One may wish to determine which variables influence the plea and evaluate the magnitute of impact of each variable, or one may simply wish to estimate the probability that a particular individual will enter a guilty plea. Suppose we symbolize the binary variable by Y_i,

where Y_i=1 if the plea is "guilty" and Y_i=0 if the plea is "not guilty" for individual "i." We symbolize the set of variables which influences the plea by X_i. If we estimate a multiple regression of Y_i on X_i, it will be of the form:

$$Y_i = \beta X_i + E_i \qquad (1)$$

where β is a set of fixed coefficients and E_i is a random variable.

Unfortunately, the use of regression analysis for estimating the coefficients of this model is inappropriate. First, the calculated values of Y_i from the estimated regression will be meaningless as they are continuous: to estimate Y_i=.83 or Y_i=.42, cannot be accepted as Y is defined for only two values: 0 or 1. Second, it is possible to obtain estimates of Y_i which exceed 1, or are negative; and in both these cases the same problem of interpreting the results arises. Third, the common methods of estimating multiple regression are inappropriate as the nature of the random variable E_i violates the underlying assumptions of the method.

It is possible to perform empirical analysis with qualitative dependent variables. First, one can interpret the model in a probability sense. The probability of a "guilty" plea can be written as a function of the individual's characteristics, past history, type of charge and whether legal counsel is present. In this way, the dependent variable, the probability, is now a continuous variable, rather than a dichotomous variable. We are still faced, however, with the limitation on the range of the dependent variable: it must still lie in the interval of

zero to one. To account for this limitation, we create a new variable I_i which can be written as a linear function of the explanatory variables X_i:

$$I_i = \beta X_i \qquad (2)$$

Note that data on the variable I_i are not available, so that equation (2) cannot be estimated directly. However, because I_i can be written as a function of X_i, estimation of β is possible; once we have the estimates of β, we can calculate the value of the Index I for any combination of characteristics X_i. The calculated value of I would then be translated into probabilities through the use of the cumulative normal distribution table.

Next, we write the probability of a "guilty" plea, P_i, as a function of the variable I_i:

$$P_i = F(I_i) \qquad (3)$$

where F is the cumulative probability function of the normal distribution. Thus while I_i can take on any value, positive or negative, from minus infinity to infinity, the corresponding value of P_i will always be in the range zero to one. Nonlinear estimation methods are then used to estimate the values of the coefficients β. This is known as the Probit Model.

As an example, we can write the results of the Probit analysis of factors influencing a "guilty" plea reported in Table 23, dropping all coefficients which were not significant, as:

$$I_i = .063\ (\text{Education}) - .046\ (\text{Prior Arrests}) + .077\ (\text{Prior Convictions}) - .613\ (\text{Murder}) - 1.815\ (\text{Rape}) - .748\ (\text{Aggravated Assault})$$

For an individual who had 10 years of education, four prior arrests, one prior conviction and is charged with aggravated assault, the value of I_i is:

$$I_i = (.063 \times 10) - (.046 \times 4) + (.077 \times 1) - (.748 \times 1) = -.125$$

The corresponding probability of a guilty plea (obtained from the tables of the cumulative normal distribution) is: .51. Had the person been charged with rape, the value of I_i would have been -.942 and the probability that he will enter a guilty plea would have been .174.

APPENDIX B

CRIMINAL JUSTICE AGENCY DISPOSITIONS AND OTHER ELEMENTS ATTRIBUTING TO SYSTEM FLOW AND FALLOUT

I. POLICE ARREST DISPOSITIONS

A. Dispositions which forward the case for prosecution
   1. Released on Bail
   2. Turn over to Intake Service Center (ISC)
   3. Released own Recognizance
   4. Other

B. Dispositions which release the case
   1. Released - Pending Investigation
   2. Turn Over to Outside Agency
   3. Released - No Charge
   4. Released - Prosecution Declined

II. PROSECUTOR FILING/TYPE DISPOSITION

A. Dispositions which forward the case to District Court
   1. Complaint
   2. Complaint, Career Criminal

B. Dispositions which forward the case to Circuit Court
   1. Indict
   2. Indict, Career Criminal
   3. Complaint, Felony

C. Disposition which dismisses the case from further prosecution: Decline

D. Records containing miscellaneous prosecutor charges and non-Part I Index offenses which were omitted from analysis:

1. '249-0011' Fraudulent Use of License Plates
2. '707-0713' Reckless Endangering
3. '707-0736' Sex Abuse

III. DISTRICT COURT ARRAIGNMENT AND PLEA

A. Types of Guilty Pleas:

1. Guilty
2. Nolo Contendere
3. Other plea when the disposition was guilty
4. Unknown plea when the disposition was guilty

B. Types of Not Guilty Pleas:

1. Not Guilty
2. Not Guilty by Reason of Insanity
3. Other plea when the disposition was to dismiss or found not guilty
4. Unknown plea when the disposition was to dismiss or found not guilty

IV. DISTRICT COURT ARRAIGNMENT AND PLEA DISPOSITIONS

A. Dispositions which forward the case to District Court trial:

1. Remand to District Court Trial
2. Set Bail
3. No Bail

B. Dispositions which forward the case to District Court Sentencing:

1. Guilty
2. Bail Forfeiture

C. Dispositions which dismiss the case from further prosecution:

1. Nolle Prosequi
2. Dismissed
3. Discharged
4. Extradited
5. No Action
6. Case Stricken

D. Disposition which indicates that the record is subsequently dismissed:

Dismissed disposition and 'DAGP' return indicator field is '1' and 'DAGP' return date field is a valid date.

E. Dispositions for records which were omitted from analysis:

1. Deferred Acceptance of Guilty Plea (DAGP)
2. Conditional Discharge (CDS)

F. Records containing miscellaneous final charge statutes and non-Part I Index offenses which were omitted from analysis:

1. '346-0034' Welfare Fraud
2. '707-0713' Reckless Endangering 1
3. '707-0714' Reckless Endangering 2

4. '707-0736' Sex Abuse 1
5. '708-0813' Trespass 1
6. '708-0814' Trespass 2
7. '708-0823' Property Damage 4
8. '710-1029' Hindering Prosecution 1
9. '711-1101' Disorderly Conduct
10. '711-1106' Harassment

V. CIRCUIT COURT ARRAIGNMENT DISPOSITIONS

A. Dispositions which forward the case to Circuit Court trial:
   1. Sent to Circuit Court Trial
   2. Set Bail
   3. No Bail

B. Dispositions which forward the case to Circuit Court Sentencing:
   1. Bail Forfeiture
   2. Guilty

C. Dispositions which dismiss the case from further prosecution:
   1. Nolle Prosequi
   2. Dismissed
   3. Discharged
   4. Extradited

D. Records containing miscellaneous final charge statutes and non-Part I Index Offenses which were omitted from analysis:
   1. '346-0034' Welfare Fraud
   2. '707-0713' Reckless Endangering 1
   3. '707-0714' Reckless Endangering 2
   4. '707-0736' Sex Abuse 1
   5. '708-0813' Trespass 1
   6. '708-0814' Trespass 2
   7. '708-0823' Property Damage 4
   8. '710-1029' Hindering Prosecution 1
   9. '711-1101' Disorderly Conduct
   10. '711-1106' Harassment

VI. DISTRICT COURT TRIAL

A. A Guilty Disposition forwards the case for District Court Sentencing

B. Dispositions which dismiss or acquit the case from further prosecution:
   1. Nolle Prosequi
   2. Dismissed
   3. Discharged
   4. Acquitted
   5. Acquitted, Reason of Insanity
   6. Not Guilty

C. Miscellaneous disposition which omitted the record from analysis

Contained a miscellaneous trial disposition which was neither guilty or acquitted/ dismissed

VII. DISTRICT COURT SENTENCING

A. Confinement

B. Fine

1. Fine Amount
2. Restitution
3. Suspended Fine
4. Community Service Hours

C. Probation

1. Probation
2. Suspended Sentence

VIII. CIRCUIT COURT TRIAL

A. A Guilty Disposition forwards the case to Circuit Court Trial

B. Dispositions which dismiss or acquit the case from further prosecution:

1. Nolle Prosequi
2. Dismissed
3. Discharged
4. Acquitted
5. Acquitted, Reason of Insanity
6. Not Guilty

IX. CIRCUIT COURT SENTENCING

A. Confinement

B. Fine

1. Fine Amount

2. Restitution

3. Suspended Fine

4. Community Service Hours

C. Probation

1. Probation

2. Suspended Sentence

D. Records containing miscellaneous final charge statutes omitted from analysis:

'707-0712' Simple Assault 3

E. Records with no type of sentence:

The fields for confinement, fine, suspended fine, suspended sentence, probation, community service hours, and restitution were all blank.

TABLE A-1

DISPOSITION AT THE LAW ENFORCEMENT LEVEL: TRANSFERRED TO OTHER AGENCIES AND RELEASED, PROSECUTION DECLINED

	MAXIMUM LIKELIHOOD ESTIMATES	STANDARD ERROR	COEFFICIENT/ STANDARD ERROR
SEX	.263*	.115	2.292
AGE	-.006	.005	-1.295
EMPLOYED	.291*	.102	2.845
MARITAL STATUS	.252*	.127	1.976
EDUCATION	.027	.022	1.220
PROFESSIONAL	-.044	.145	-.307
SALES	-.109	.114	-.957
FORESTRY	.073	.239	.304
STUDENT	-.195	.226	-.862
CONSTRUCTION	-.283	.147	-1.919
RETIRED	-.027	.424	-.062
HONOLULU	.123	.077	1.596
MURDER	.056	.344	.162
RAPE	.040	.262	.151
ROBBERY	.210	.144	1.454
AGG. ASSAULT	.168	.191	.883
BURGLARY	-.020	.153	-.133
LARCENY	-.250	.132	-1.892
WHITE	.313	.179	1.751
HAWAIIAN	.192	.182	1.055
CHINESE	.382	.276	1.385
FILIPINO	.106	.227	.468
JAPANESE	.109	.224	.488
BLACK	.405	.214	1.888
SAMOAN	.243	.217	1.120
KOREAN	.041	.438	.092
PRIOR ARRESTS	.024*	.009	2.668
PRIOR CONVICTIONS	-.023	.017	-1.343
CONSTANT	-2.857*	.378	-7.568

(-2.0) Times Log of Likelihood Ratio 100.359
* Significant at the 5% level

TABLE A-2

DISPOSITION AT THE LAW ENFORCEMENT LEVEL:
RELEASED; NO CHARGE

	MAXIMUM LIKELIHOOD ESTIMATES	STANDARD ERROR	COEFFICIENT/ STANDARD ERROR
SEX	.023	.075	.311
AGE	-.008*	.003	-2.190
EMPLOYED	.087	.073	1.183
MARITAL STATUS	.246*	.086	2.848
EDUCATION	-.015	.015	-.954
PROFESSIONAL	.005	.113	.040
SALES	.070	.079	.882
FORESTRY	.170	.182	.934
STUDENT	-.486*	.187	-2.598
CONSTRUCTION	-.051	.102	-.502
RETIRED	-.557	.427	-1.307
HONOLULU	.261*	.057	4.625
MURDER	-.853*	.327	-2.609
RAPE	-.204	.181	-1.126
ROBBERY	-.375*	.101	-3.716
AGG. ASSAULT	-.019	.126	-.151
BURGLARY	-.412*	.102	-4.018
LARCENY	-.813*	.086	-9.500
WHITE	.080	.111	.721
HAWAIIAN	-.031	.114	-.275
CHINESE	-.435	.265	-1.641
FILIPINO	-.226	.153	-1.478
JAPANESE	.074	.141	.524
BLACK	.274	.144	1.906
SAMOAN	.353*	.135	2.615
KOREAN	-.371	.340	-1.090
PRIOR ARRESTS	.019*	.007	2.538
PRIOR CONVICTIONS	-.034*	.014	-2.372
CONSTANT	-.981*	.250	-3.923

(-2.0) Times Log of Likelihood Ratio 296.297
* Significant at the 5% level

TABLE A-3

DISPOSITION AT THE LAW ENFORCEMENT LEVEL:
RELEASED; PENDING INVESTIGATION

	MAXIMUM LIKELIHOOD ESTIMATES	STANDARD ERROR	COEFFICIENT/ STANDARD ERROR
SEX	.135*	.057	2.357
AGE	-.020*	.003	-7.054
EMPLOYED	.165*	.056	2.918
MARITAL STATUS	-.014	.062	-.233
EDUCATION	-.002	.012	-.160
PROFESSIONAL	.021	.086	.248
SALES	-.088	.062	-1.433
FORESTRY	-.087	.148	-.585
STUDENT	-.075	.105	-.715
CONSTRUCTION	.015	.076	.196
RETIRED	.033	.243	.137
HONOLULU	-.177*	.043	-4.146
MURDER	-.337	.186	-1.818
RAPE	-.221	.151	-1.462
ROBBERY	-.365*	.084	-4.715
AGG. ASSAULT	-.180	.109	-1.650
BURGLARY	-.083	.084	-.993
LARCENY	-1.304*	.072	-18.166
WHITE	-.128	.086	-1.532
HAWAIIAN	-.148	.084	-1.753
CHINESE	-.143	.154	-.925
FILIPINO	-.054	.105	-.517
JAPANESE	-.139	.109	-1.273
BLACK	-.067	.114	-.588
SAMOAN	-.126	.110	-1.147
KOREAN	-.680*	.254	-2.682
PRIOR ARRESTS	.142*	.011	2.459
PRIOR CONVICTIONS	-.025	.011	-2.341
CONSTANT	.748*	.196	3.809

(-2.0) Times Log of Likelihood Ratio 1,209.28
* Significant at the 5% level

TABLE A-4

DISPOSITION AT THE LAW ENFORCEMENT LEVEL:
FORWARDED TO PROSECUTOR

	MAXIMUM LIKELIHOOD ESTIMATES	STANDARD ERROR	COEFFICIENT/ STANDARD ERROR
SEX	-.151*	.054	-2.811
AGE	.020*	.003	7.571
EMPLOYED	-.253*	.055	-4.602
MARITAL STATUS	-.140*	.060	-2.353
EDUCATION	.002	.011	.187
PROFESSIONAL	-.024	.085	-.281
SALES	.055	.060	.914
FORESTRY	-.026	.145	-.176
STUDENT	.228*	.104	2.187
CONSTRUCTION	.070	.076	.930
RETIRED	.082	.231	.353
HONOLULU	.024	.042	.563
MURDER	.881*	.189	4.655
RAPE	.467*	.164	2.846
ROBBERY	.693*	.094	7.373
AGG. ASSAULT	.264*	.122	2.167
BURGLARY	.432*	.095	4.533
LARCENY	1.769*	.082	21.645
WHITE	.025	.083	.306
HAWAIIAN	.133	.084	1.589
CHINESE	.179	.148	1.213
FILIPINO	.127	.105	1.208
JAPANESE	.081	.107	.760
BLACK	-.151	.113	-1.333
SAMOAN	-.153	.110	-1.386
KOREAN	.757*	.236	3.210
PRIOR ARRESTS	-.027*	.006	-4.716
PRIOR CONVICTIONS	.044*	.011	4.233
CONSTANT	-1.143*	.192	-5.966

(-2.0) Times Log of Likelihood Ratio 1,842.32
* Significant at the 5% level

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