ABSTRACT

THE PROVISION OF COURT SERVICES - AN INQUIRY INTO THE ALLOCATION OF OPPORTUNITIES TO RURAL COMMUNITIES

by

Josef Meinrad Broder

Courts play a vital role in shaping the quality of life in rural areas. This study addresses the issue of how the institutional structure of the local court affects local residents' participation in court policy formulation.

Local court centralization legislation now pending would transfer the function of judicial compensation and court financing from local to state levels. Abolition of local judicial elections in favor of a statewide system of judicial appointment has also been proposed in Michigan and other states. Informing rural residents of what to expect from these reforms is the problem setting to which this research is addressed.

To learn more about current and future court operations the following issues were addressed: are there differences in court performance; do judges make a difference; and are court services affected by institutional and other factors surrounding the court.

In developing social indicators for judicial output, substantive and administrative performance differences during 1975 were measured. Primary court data were obtained from individual misdemeanor public

case records from a representative sample of Michigan district courts. Secondary data were obtained from agencies monitoring local court activities. Court performance categories were formulated from data on fines and costs assessed in most frequently committed moving traffic violations; fines, costs, jail and probation used in the disposition of cases involving driving under the influence, disorderly persons, simple larceny, and marijuana possession; plea bargaining; court operating expenditures and revenues per case; and court related police waiting and travel time. Desirability of these differences was not assessed.

In ascertaining whether judges made a difference, some evidence of unique judicial contributions was found by comparing individual judge behavior in multiple judge courts and by examining what happens to court performance as the judgeship changes.

Court performance behavior models were formulated, hypothesizing that judge selection and compensation affect who gets into office and that judges respond to incentives which create costs and benefits to them and their courts.

Ordinary least squares multiple regression routines revealed several findings. Under a system of judicial appointment, local residents can expect greater fine and costs leniency in minor traffic and marijuana dispositions but not necessarily greater uniformity in selected misdemeanor case dispositions. Local contributions to judges' salaries were related to court operating expenditure and revenue performance, giving evidence that local supplements allow for local input into administrative performance. Statewide court financing will remove local

judicial supplemental salaries and the potential for local input associated with these.

Diseconomies of scale were found to exist in Michigan's local court system, raising doubts whether current court centralization and consolidation trends save taxpayers money. Local courts were responsive to local crime rates, and economic and other administrative considerations of court operation affected the substantive decisions made by the court.

The impact of institutional factors on judicial performance cannot be ignored in assessing the desirability of centralizing court financing and staffing. Proposed nominal cost differences associated with these reforms must be weighed against changes in content of services produced by the local court and the foregone opportunities for local participation.

Current structural reforms largely ignore clearly defined objectives as to what changes in court performance are desired, how current performance will be altered by proposed changes and what alternative measures will accomplish desired ends. The current local court information system is inadequate for decision-makers choosing among judicial candidates, annual court budgets and alternative court reform measures. Substantial changes in available output and performance measures are needed for citizen participation in valuing alternative outputs and guiding resource allocation.

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By

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1977

TO MY PARENTS

May they live long
and prosperous in
a strange new
land.

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"Quis custodiet ipsos custodes?"

(Who shall watch the watchers themselves?)

CHAPTER I

INTRODUCTION

Courts play a vital role in the distribution of opportunities in local communities by determining what types of behavior and the subsequent consequences will be allowed or discouraged in the community. The allocation of justice can be described as the allocation of opportunities among people with different preferences for law and order. This study will address the issue of how institutional rules affect the manner in which people participate in court decisions which help shape the quality of life for rural residents.

Problem Setting

A nationwide trend to reorganize local courts is currently underway. In the past three decades, 34 states have passed or introduced legislation which has changed a tradition of local justice which had existed since the founding of this country. These local court reforms, which are often proposed in the name of efficiency, uniformity, and better justice, have included one or more of the following:

1. Centralization of court location.
2. Consolidation of the number of courts in a geographic area.
3. Consolidation and expansion of the types and magnitudes of civil and criminal cases heard.
4. Professionalization of judges and increasing standards for court personnel and court facilities.

5. Replacing the fee system of compensation with salaries.

6. Shifting the political boundaries with respect to court financing and judge compensation.

7. Shifting the political boundaries with respect to judge selection.

The problem setting of this research is characterized by the current lack of information as to the consequences of court reforms. Traditionally, judges and their courts have been insulated from public inquiry. With the exception of legal professionals and law enforcement officials, local residents have little knowledge of court policies which affect the distribution of opportunities in the community.

The Michigan Experience

Michigan's current efforts to reorganize its local courts began with the 1963 Constitutional Convention which abolished the justices of the peace and replaced them with a state-wide system of district courts. The Michigan Legislature was given the task of designing the District Court System which became effective January 1, 1969. Under the new system, judges were required to have law degrees, were prohibited from practicing law and were compensated by salaries paid jointly by the state and local government. While legal professionals predicted that these reforms would provide "the people" with better justice -- residents in rural Michigan were not so optimistic. In an effort to document some of the consequences of the 1969 Reforms, changes were measured in police waiting and travel time under the two court systems in an earlier research project.[1] It was found that

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[1] Josef M. Broder, Selected Impacts of Michigan's 1969 Court Reorganization on Rural Citizens, Unpublished Masters Thesis, 1973, Department of Agricultural Economics, Michigan State University, East Lansing, Michigan.

these newly organized district courts were less accessible with respect to time and location and that rural communities had to increase their law enforcement budgets to maintain comparable levels of police protection. The thrust of the research was not to argue for a return to the former justice of the peace system, but to document costs to rural citizens which had not previously been measured.

Purpose of Study

Michigan's drive toward centralizing the local courts did not end with the 1969 Reforms. Legislation introduced early in 1975 sought to implement a system of statewide district court financing whereby local judicial supplements and other forms of remuneration would be prohibited, uniform annual judicial salaries would be established along with minimum qualifications for court employees.[2] In addition to centralizing the financing functions, there continues to be a growing advocacy to abolish local judicial elections in favor of a system of appointments by a central commission. Providing rural residents with information as to what they can expect from these reforms is the purpose of this research.

In addition to informing rural residents as to what they can expect from these reforms, this research will generate information on how various courts are operating under existing arrangements. Included in this information are measures of court operating efficiency in addition to information on the courts' policies towards various

[2]Senate Bill 154 and House Bill 4278 which are comparable to House Bill 4589 as drafted by the Senate Jucidicary Committee.

types of offenders. Comparative information of what the courts are doing is useful to various groups associated with the court. Currently, there are no systematic and continuous efforts being made to inform citizens of how their courts are operating.[3] Local and state financing agencies would find such information useful in their allocative decisions. Local citizens would have some basis for making informed choices regarding judicial candidates and court reforms, and to the extent that the courts' policies toward various offenses reflected the community's attitudes toward those offenses, publicizing such information serves the community by making it known to the criminal and potential criminal how they feel towards various forms of behavior.

The need to understand the consequences of court reforms can be viewed as an integral part of rural development. When the majority of Americans were employed in agriculture, rural problems were synonymous with farm problems, as professionals concentrated on efforts to increase agricultural productivity. With the decline in the number of farms and the expansion of publicly provided goods and services to rural America, rural problems have become more complex. One approach to the declining conditions of rural America, was to encourage people to move into the "promised land of the cities."[4] Another approach and the one underlying the purpose of this research takes the view that there is something

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[3]This is in contrast to the legislature where various organizations publicize voting records of the individual members.

[4]Relative to urban areas, rural areas, in general, have experienced higher rates of unemployment and received lower levels of social services.

unique to life in rural communities and that much of the deterioration which takes place in the quality of rural life is the result of deliberate or undeliberate choice. The critical issue affecting the quality of rural life is one of control of community resources. In this rural development context, this research can be seen as providing rural residents with information on how court reforms affect their ability to control the allocation of community court services.

Scope

This research will deal primarily with Michigan's district courts which were established to meet the bulk of the local community's demand for court services. To understand the scope of this research, a brief description of the Michigan district court system is in order. Organized in 1969, these courts of limited jurisdiction are empowered with original jurisdiction in all misdemeanors and local ordinance violations, where the penal remedy does not exceed one-year imprisonment. Other remedies available to the district court include the assessment of fines and costs and probation. In general, the assessment of fines and costs is the most commonly used legal remedy used by these courts in criminal matters. These courts also have criminal jurisdiction over arraignments, setting and acceptance of bail, and conducting preliminary examinations in felony cases among other powers. In civil matters, these courts have exclusive jurisdiction of all civil litigation up to $10,000, excluding equity. Jury trials are available in both criminal and civil cases. Appeals from district courts are heard by circuit courts on record. A more complete description of Michigan's judicial system can be found in Appendix A.

The state of Michigan is divided into 98 judicial districts with at least one district court and one district judge in each of these districts. Some of these districts are further broken down into judicial election divisions with court and judge(s) in each of these divisions. The geographic jurisdiction of these courts may encompass one or more municipalities (city or township), a county or several counties. In brief, the system is made up of multi-judge districts, multi-district counties, and multi-county districts.

The 193 district court judges are elected on non-partisan ballots with interim vacancies being filled by the governor by appointment until the next general election. District judges serve full-time, receive fixed salaries from the state which are in most instances, supplemented by the local unit, and are required to be members of the Michigan Bar Association.

In examining the structural parameters surrounding the local court, the reader should keep in mind that the court is only one part of the legal system. While this research is concerned primarily with selected institutions which affect the judge's contribution to court performance, a brief discussion of the overall local legal system is in order. One should not confuse the local judge with his court or the legal system. While making decisions in the name of the court, the judge is thought to make unique contributions to the performance of the local court. Whether the judge makes a significant difference in the performance of the court will be explored by this research.

Contributions to court performance made by the judge should not be confused with contributions made by other participants in the

local legal system.[5] While the judge's contributions to the local legal system are thought to be unique, contributions made by other participants should not be ignored. In the context of the local legal system, the relationships the judge and his court have with other participants can be conceived of as having both horizontal and vertical dimensions. The judge's horizontal relationships affect which types of disputes will be brought before the court. Since the judge cannot reach out to settle conflicts which arise in the community, he must wait until other participants in the legal system have performed certain functions. These horizontal participants consist of the local citizen as plaintiff or witness, the law enforcement officers in arresting the offender, the prosecutor by bringing formal charges against the defendant, the defense attorneys in representing their clients, the judge who arraigns, assesses fines and court costs, sentences, and orders probation and the corrections administrators, probation officers, and social workers engaged in the process of rehabilitation.

In addition to the group of participants who determine which individuals will appear before the court, there are a group of participants with vertical relationships with the judge that determine what he can do with those who finally make it to court. In this group we

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[5] Observations made by this researcher seem to indicate that a large number of local residents are unfamiliar with the role played by the various participants in the local legal system. Reactions to the little performance information made available to local residents typically are in the form of complaints and criticisms to the wrong participant. For example, the amount of criticism directed toward judges for the level of plea bargaining which takes place in court may better have been directed towards the prosecutor.

have the Governor's office which appoints interim judicial vacancies, the State Treasury which pays and receives some monies from the local court, the State Court Administrator's office which prescribes the administrative procedures for the court, the appeals process which involves the Circuit, Appeals, and Supreme Courts which uphold statutes, the People of Michigan and their elected representatives which write the laws and prescribe the types of offenses and remedies applicable to the court, the local citizens and their votes and the local funding unit and their input into the court's expenditure decisions. These horizontal and vertical relationships of the local court are illustrated in Figure 1.1.

The instrumental position of the district court judge within the local criminal justice system, in conjunction with the impact proposed changes will have on that office, were factors in delimiting the scope of this research. This research is primarily concerned with district court judges and how their relationship with groups instrumental in their selection and compensation affects the outputs of the local court. The judge performs a variety of functions as head of the local court. For purposes of this research, we will make a distinction between substantive decisions or decisions of legal substance made from the bench, and administrative decisions or decisions made in regards to the operations of the court as its head administrator. Court outputs of interest to local residents within the scope of this research are outlined in Figure 1.2.

Figure 1.1: Factors Affecting the Outputs of Michigan's District Courts

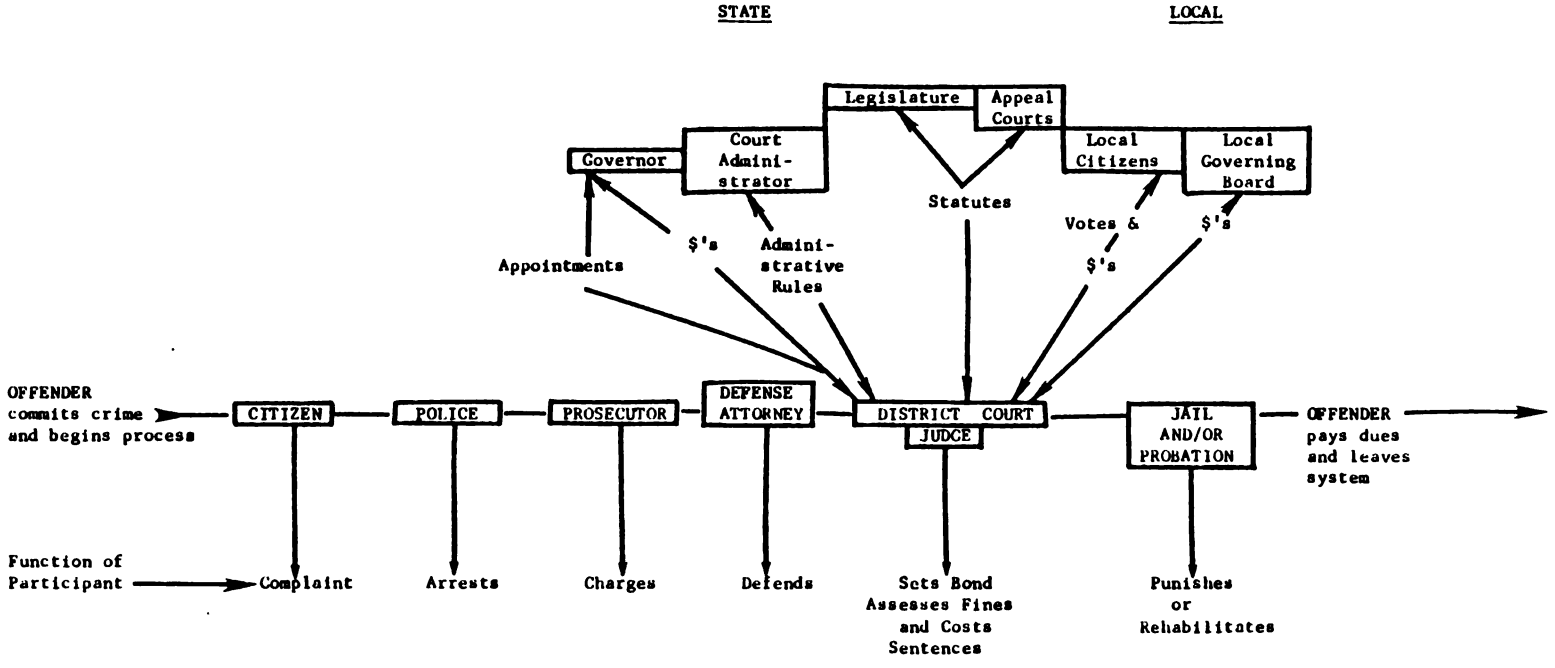
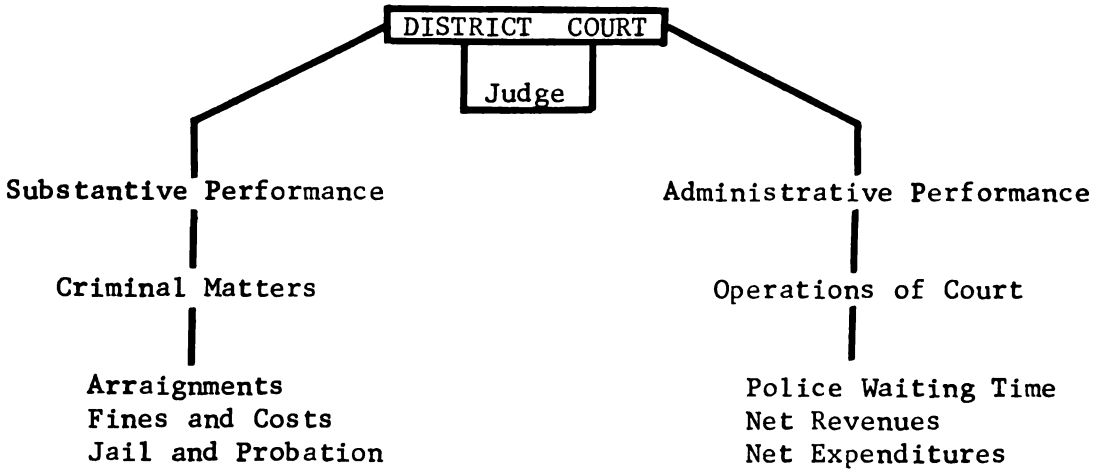


Figure 1.2: Selected District Court Outputs of Relevance to Local Residents



Criminal case arraignments and dispositions were selected as substantive court outputs because they contain a degree of measurability, comparability, and repetitiveness, not found in civil cases. Because of the large variety of criminal offenses heard by the district courts, this study will be limited to those most frequently committed offenses which are common to most communities. The court's treatment of criminal offenders determines which types of behavior will be allowed and encouraged in the community and ultimately, the distribution of opportunities among local residents. Administrative outputs are of interest to local residents in that they determine the costs of operating the courts and ultimately, who pays for the provision of court services. Included in this category of outputs are measures of how efficiently the courts are operating with respect to case processing and costs of operation.

While the empirical analysis of the study is limited to selected performance categories within Michigan's district courts,

some useful insights can be gained by judicial policy-makers in other states, contemplating similar changes in the structure of their local judiciaries.

Objectives

1. To review the existing literature of research efforts which have attempted to explain the factors influencing the outputs of courts and how these outputs changed in response to efforts in reorganizing the structure of the court.
2. To formulate court performance indicators for purposes of measuring differences between judges and courts in administrative decisions and in decisions of legal substance (e.g., how different courts handle similar cases of driving under the influence, shop-lifting, or marijuana smoking).
3. To offer alternative explanations for the variation in court outputs by comparing administrative and substantive variation with criminal population variables and community social, political, and economic variables.
4. To predict the impact of shifting structural boundaries of judicial selection and compensation on the performance of district courts of interest to individuals in rural communities.

Study Design and Format

This inquiry into the allocation of court services to rural communities will utilize marketing tools which have been used by agricultural economists to examine the production and distribution of goods and services. The basic paradigm of this research will be the institutions - behavior - performance framework for looking at marketing problems. The concern is primarily with how alternative forms of court organization will affect the performance of local courts in the context of how these courts reflect various interests within the community. The marketing approach used in this research is not unlike the approach one would use in examining the delivery of other services including education, manpower programs, health care, etc. Likewise, the conclusions to be drawn from this research are not limited to issues surrounding judge selection and court financing but will add to understanding the allocation of resources under administrative arrangements where the quality and quantity of the service and its price are not determined by markets but directly by legislation.

Local courts play a crucial role in prescribing how people relate to one another, by enhancing and reflecting a particular distribution of opportunities within the community. In Chapter II, a general model of human interdependence will be discussed and applied to understanding the interrelationships between the court and the local resident. The concept of jurisprudence will be explored and various schools of jurisprudence will be examined for suggestions as to the particular set of variables which should be kept track of in understanding and predicting the performance of the local judiciary. The allocation of court services will be described in a marketing

context in Chapter III. An attempt is made to identify those outputs of the court which are relevant to local residents, and demonstrate how these outputs are allocated among competing interests. The demand for court services is discussed along with different interpretations of equality under the law. Within the context of court performance, judicial behavior is examined in light of political, socio-economic, and stochastic determinants. Chapter IV examines other studies which have attempted to document and explain differences in court outputs and how these outputs have been affected by institutional changes within the court.

In brief, this study addresses the following issues:

a. To what extent do judges make a difference in affecting the performance delivered by the local court?

b. Does the particular institutional organization of the court have an impact on court performance?

c. Whose preferences are being reflected in the performance delivered by the court?

Chapter V places this research in perspective, with a discussion of the unique contribution of this study to the body of literature on judicial behavior. A discussion of the methodological problems involved in the testing of the following hypotheses is also discussed in Chapter V:

> Hypothesis I: Courts deliver significantly different kinds of performance within and across jurisdictions.

In general, the output of the court reflects a joint decision made by the citizen, police, prosecutor, defense attorney, judge, and others. The first hypothesis tests if there are any significant

differences across courts in their substantive and administrative decisions, without ascertaining possible reasons for these differences. The performance indicators developed for this purpose and the methods used in testing for differences in these performance indicators are listed below.

Court Performance Indicators	Statistical Tests
1. Arraignments (Setting of Bond)	Analysis of Variance
2. Assessment of Penal Fines and Court Costs	
3. Sentencing Practices (Jail and Probation)	
4. Plea-Bargaining	
5. Net Revenues Generated to Local Unit	
6. Police Waiting and Travel Time	

Since the judge makes up only one component of the local criminal justice system, it becomes necessary to distinguish court output differences attributable to the local judge from differences attributable to other factors.

Hypothesis II: Judges account for some of the output differences within and across courts.

To test whether the judge has a unique input into the court's output, an examination is made of what happens to the content of the court's decisions over time, as the judgeship changes personnel, holding other variables constant. In addition, a comparison using Analysis of Variance is made in multi-judge courts (courts with more than one judge) to determine whether judges hearing cases from the same criminal population behave any differently. The court performance indicators and the methods used in testing Hypothesis II are listed below.

Court Performance Indicators	Statistical Tests
1. Arraignments	1. Quasi-Experimental Time Series
2. Assessment of Fines and Costs	2. Analysis of Variance
3. Sentencing	

Hypothesis III: The jurisdictional boundary of judicial selection and compensation is a significant institutional variable affecting the substantive and administrative performance of the court.

To determine whether judges behave differently under alternative methods of court financing and selection, various court performance measures are compared with the level of local financing and the method by which the judge initially took office. Other sociological and community variables are examined also to explore alternative explanations for why differences exist across judges and courts. In addition to testing which combination of variables explains performance differences across judges and across districts, an exploration is made of the extent to which economic-administrative variables associated with operating the court affect the substantive decisions handed down by the courts. The relationships between court performance indicators and various explanatory variables are given below:

Court Performance Indicators	=	Local Judge Salary;	Initial Judge Election or Appointment;	Administrative Economic Variables Associated with the Court;	Criminal Population Variables;	Community Sociological Variables

Chapter VI is devoted to the formulation and documentation of selected court performance indicators reflective of how Michigan's district courts operated in 1974-75. Within the context of these court performance indicators this study examines the extent to which courts differed with respect to their substantive and administrative decisions.

The extent to which individual judges made unique contributions to court performance is examined in Chapter VII. The relationship

between institutional variables associated with the judge and court performance is also examined within the context of a general model designed to explain cross-sectional differences in court performance.

The research findings and the implications these findings have on current and future court policies in Michigan and other states is discussed in Chapter VIII along with any unanswered questions raised by this research. This study concludes with suggestions for future research in the area of judge behavior and court performance and for improving local court information systems.

CHAPTER II

INSTITUTIONAL DIMENSIONS OF THE LOCAL COURT

Local courts are part of a larger legal system, the study of which comes under the realm of jurisprudence. As a specialized branch of legal philosophy, jurisprudence is considered to be the authoritative body of knowledge about legal systems and processes. There are a variety of schools of jurisprudence, each with a conceptual framework for examining local legal systems and implications for particular relationships within the system worthy of research resources. This chapter will provide the conceptual framework from which structural and performance categories will be formulated and empirically measured in subsequent chapters.

Toward a Conceptualization of the Local Legal System

The conceptual framework from which empirical analysis is initiated gives structure to the manner in which questions are posed, the nature of the questions themselves, and the prerequisite skills and methods the researcher must possess before initiating the research.

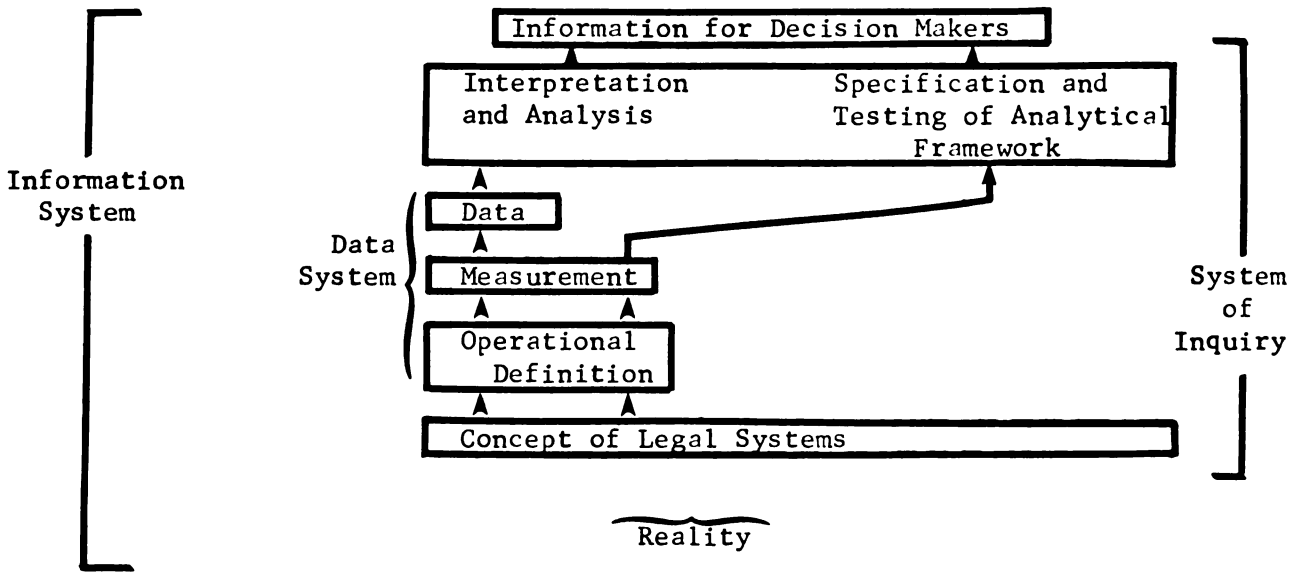
The process by which we come to understand reality is described by James Bonnen in the context of information systems.[6] Transforming

[6]Bonnen, James T., "Improving Information on Agricultural and Rural Life," American Journal of Agricultural Economics, Vol. 57 (December, 1975), pp. 754-763.

sensory impulses into useful information involves several components of the system of inquiry which give structure to the manner and content of the questions to be addressed. Within this system of inquiry, we begin with a general conceptualization of the legal system which must be reduced to definitions which are operational in the sense that something can be measured. The assimilation of data enables the researcher to test hypotheses about various relationships, the interpretation of which adds to the understanding of legal systems.

The variables which emerge from the system of inquiry depend largely upon the researcher's prior conceptualizations. This system of inquiry whereby one attempts to generate meaningful information from theoretical concepts of reality is summarized in Figure 2.1:

Figure 2.1: A System of Inquiry for Generating Information for Decision Making



Information derived from the analysis of data is not synonymous with knowledge, for "knowledge is a function of associations and communication: it depends upon tradition upon tools and methods socially

transmitted, developed and sanctioned."[7] To the extent that communities of inquiry possess and adhere to different tests of objectivity, information becomes knowledge to some and nonsense to others.[8]

The system of inquiry relevant to this research is concerned with understanding the relationship between the judge and the output of the court. Several prominent schools of jurisprudence have been developed, each of which offers somewhat different interpretations of legal processes.[9] The Philosophical School of Jurisprudence as reflected in the writings of Aristotle and Saint Thomas Aquinas argued that knowledge about proper human behavior belongs to the realm of natural law as discovered and applied by legal scholars and jurists. The laws of men are viewed as being inferior to the laws of nature which exist independently of society's artificial rules, values, and traditions. The Philosophical School places a great deal of emphasis on the relationship between law and moral justice. The judge performs the function of insuring that human behavior coincides with the morals dictated by nature. Since the judge and his court are conceived as an entity separate from society, the Philosophical School's approach to understanding legal systems offers little in the way of systematic empirical inquiry. Not only are judges thought to operate in a system

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[7] John Dewey, The Public and Its Problems, (Chicago: Swallow Press, Inc., 1927), p. 158.

[8] The reader should bear in mind that there is a school of thought known as objectivism, which argues that objective knowledge exists irrespective of the community of inquiry.

[9] The discussion of the various schools of jurisprudence which follow was adopted from the work of Eduard Ziegenhagen, "The Reconceptualization of Legal Systems and Processes," The Politics of Local Justice, ed. by James R. Klonski and Robert I. Mendelsohn, (Boston: Little, Brown and Company, 1970), pp. 26-35.

separate from the remainder of society but the norms, values, and methods of inquiry possessed by the larger society are inferior by virtue of their mortal association and thus inadequate for purposes of understanding and evaluating judicial behavior.

The Positive School of Jurisprudence, as developed by Thomas Hobbes, Sheldon Amos, and Oliver Wendell Holmes, rejects the naturalistic tenants of the Philosophical School in favor of an internal system of logic. Judicial behavior becomes a part of a closed system where internal consistency is the only measure of objectivity. This insulated legal system of the Positive School is similar to that of the Philosophical School in that the system in which the judge operates is devoid of psychological, sociological, or political influences which plague the remainder of society.

Like the Philosophical School, the Positivistic School has its roots in a system of a priori logic, which is not amenable to systematic inquiry. The search to understand the factors which affect judicial behavior must take place within the Positivist's system of legal logic. Since psychological and sociological factors do not play a significant role in the judge's behavior, judges are conceived of as discovering or unveiling law from a system of logic. The Positivist would tend to look toward the formal legal constraints on the judge's discretion as relevant variables to understanding and predicting the behavior of judges. Political and economic variables surrounding the operation of the local court would be deemphasized in favor of statutes and common law precedents.

The insulated and empirically immune conceptions of the legal system advanced by the Philosophical and Positivistic Schools of

Jurisprudence are criticized for their inability to explain certain types of judicial phenomenon, i.e., why judges dealing with the same geographic populations and operating under similar statues and common law precedents behave differently in disposing similar kinds of cases. The dissatisfaction with what was perceived as obsolete conceptualizations of legal systems led to the emergence of the Sociological School of Jurisprudence, with Benjamin Cardozo and Roscoe Pound as its chief advocates. The more formidable contribution made by this school of thought was in their efforts to relate law to other social phenomenon -- breaking down the traditional insulation of courts and judges and providing the conceptual framework for systematic inquiries into judicial behavior.

The traditional schools of jurisprudence have received similar criticism from the Legal Realists who argued that syllogistic reasoning and precedent do not constitute the dominant intellectual operations that lead judges to their decisions.[10] The School of Legal Realism, as advanced by Jerome Frank and Karl Llewellyn, saw a need to maintain a certain degree of predictability regarding judicial behavior. The thrust of the Legal Realist's approach to understanding the outputs of the court was to add an element of predictability to judicial behavior by emphasizing sociological and psychological variables surrounding the judge and his court. While the Sociological Jurisprudents and Legal Realists were instrumental in breaking down the insulation of local courts and expanding their scope of analysis to

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[10] Ibid., p. 29.

include other participants in the legal system including police, prosecutors, and attorneys, they were reluctant to introduce political and economic variables as relevant factors affecting judicial behavior. Reasons for this reluctance of viewing the courts in an economic and political context are not clearly understood. One possible explanation might be found in fascinations held by legal researchers for the behavior of high level judges who are typically immune from political influences by virtue of their life-time tenure and immune from economic considerations of their courts which are not in the business of generating revenues. While all judges are believed to be influenced by psychological and sociological factors surrounding the court's jurisdiction, economic and political variables are thought to be more important in the local courts where judges are elected and where the courts can recoup some of their operating costs by assessing monetary remedies in criminal cases.

In practice, researchers do not adhere strictly to any particular school of jurisprudence; rather, there is a tendency to examine the relevant variables suggested by each school in predicting judicial behavior and its relationship to the outputs of the court. The methodology of this research, to be developed in subsequent chapters, will borrow major tenants from the Sociological Jurisprudents and Legal Realists by concentrating upon the judge as the focal point for understanding and predicting the outputs of the court. The importance of legal reasoning and the existence of norms which transcend human experience are not denied by this research, rather this researcher lacks the necessary training to deal with such variables.

In addition to the sociological and psychological factors

suggested by the Sociological Jurisprudents and the Legal Realists, a series of economic and political variables will be introduced into the model of judicial behavior. Changes in the economic and political structure of Michigan's district courts make up the essential elements of proposals to alter current methods of court financing and judicial selection. The importance of political and economic factors in describing a broad range of behavior merits further investigation.

A Framework for Human Interdependence

Rather than view the judge's decisions in a social vacuum, this research takes the position that the factors which affect the judge's behavior are not unlike those which affect all forms of behavior. In other words, the judge responds to social, political, and economic sanctions in a manner similar to what can be observed in general human behavior. In this section, we will develop an individual welfare model from which the individual is depicted as behaving to his advantage in the face of various political and economic pressures and opportunities.

The public choice approach to individual welfare used in this research is methodologically individualistic in that it starts with the individual as the basic unit of analysis.[11] The individual is assumed to be self-interested and rational and the environment in which he finds himself is one of scarcity. This competition between individuals with unique preferences over scarce resources

[11]This model of interdependence is based primarily on the work of A. Allan Schmid and Warren Samuels in the area of welfare and public choice economics.

results in interdependence -- the actions of one individual affects the welfare and subsequent choices of other individuals.[12] The concept of choice is accepted as an intuitive social phenomena, and is central to the understanding of human interdependence. Without this intuitive acceptance of choice, the analysis of judge behavior is directed toward the examination of natural laws and systems of internal logic, rather than on political, economic, sociological and psychological variables.

Cost, the conceptual link between choice and human interdependence, can be described as an obstacle to choice or as an undesirable consequence of choice.[13] The institutional concept of cost and choice by which individuals affect one another's opportunities is described as mutual coercion. Externalities comprise the substance of coercion, namely the injuries and benefits, the costs and gains visited upon others through the exercise of choice. The concept of externality derives its meaning from the notion that choices made by the rational, self-interested individual to enhance his uniquely defined satisfactions have consequences external to that individual. The concept of externality says nothing about the normative character of human interdependence. Externalities are ubiquitous; they may be harmful or beneficial and viewed as being acceptable or unacceptable, just or unjust in their distribution. Moral judgements regarding the

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[12]This description of economic man is intended to encompass both quantifiable and unquantifiable explanations elements of human behavior.

[13]James M. Buchanan, Cost and Choice, (Chicago: Markham Publishing Company, 1969), p. 47.

direction and magnitude of externalities are generally not made by the analyst in his efforts to describe and understand relationships among individuals.

The means or capacity with which to exercise choice is known as power. Power entails the ability to act and thereby create costs and benefits to other individuals, whereas the intentional restraint from acting to the fullest of one's power is defined as forbearance. The extent of one's power can be viewed in the context of opportunity sets which define the range of choice open to individuals. The distribution of opportunity sets among individuals represents the distribution of scarcity. Opportunity sets are delineated by law, custom, tradition, and knowledge, and remain viable only to the extent that individual rights to choose are sanctioned by others.

The recognition of individual rights is necessary but not sufficient for the exercise of choice. Knowledge of available opportunities and expected consequences is essential for a choice situation to exist. The relevance of this distinction between rights and capacity can be seen in arguments against a system of electing judges. Within court reform circles, one hears the argument that since the general electorate knows nothing about judicial candidates, these voters would be better off if they delegated the burden of selecting judges to legal experts. Others argue that the right to participate in judicial elections should be accompanied with information as to what residents can expect from judicial candidates. The significance of this discussion to this research is to emphasize the importance information plays in the distribution of opportunity among people. In the absence of information as to how the choices of the judge affect the output of the

court, judges are insulated from public inquiry and must rely on massive "name spreading" campaigns in seeking office.

The local judge is empowered with a particular set of opportunities for discretion from which he has the ability to create costs and benefits for other individuals which come before his court and live within the court's jurisdiction; likewise the judge is exposed to the choices made by various groups associated with the court. The thrust of this research is not to assess the merits of the judge's treatment of drunk drivers or his relationship with the local funding unit, but rather to explore how various forms of interdependence affect the judge's decisions and the subsequent output of the court.

Institutions, Behavior, and Performance

The role opportunity plays in affecting the interrelationships among the judge and those associated with the local court must be examined in a dynamic context. Opportunity sets are not static but rather are constantly changing through the process of interaction which can be described by concepts of structure, conduct, and performance. At any point in time, the individual finds himself choosing from within a particular set of opportunities, the result of which produces a set of intermediate and final products.[14] The local judge finds himself making administrative and substantive decisions from within some set of institutions which contributes to the performance of the local court. When analyzing these relationships from the

[14]By structure it is meant to identify institutional alternatives in terms of property rights and their distribution. Conduct refers to the behavior and actions of people individually and aggregatively in firms and governmental agencies. Performance is in terms of various intermediate products and finally the quality of human life.

standpoint of institutions, behavior, and performance, it is useful to distinguish between:[15]

1. The study of institutions which is concerned with the link between alternative rules (definition of rights/ exposure) and behavior; and

2. The study of production processes which is concerned with the link between behavior with respect to resource combinations and goods and services.

This distinction can be illustrated in the context of the local court. Under current arrangements, the district court judge is exposed to various groups instrumental in judge selection and court financing. Examining how the judge's relationship with these groups affects his behavior belongs to the realm of institutional research. How do the institutions surrounding the local court affect the judge's behavior?[16] On the other hand, a production study would be concerned with ascertaining some relationship between marijuana or alcoholic consumption and the ability to drive a motor vehicle. This research will concentrate primarily on how institutions affect judge behavior.

Unique Preferences and the Boundary Issue

Individuals within the local community often disagree as to the desirability of various outputs from the court. What constitutes "good" court performance depends largely upon to whom the question is addressed. The multi-dimensional nature of court performance results from the heterogeneity of court output preferences in addition

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[15] A. Allan Schmid, Property, Power, and Public Choice, Unpublished Manuscript, (East Lansing, 1976), p. 347.

[16] Another institutional question not examined here is the relationship between punishment (length of sentence) and the frequency of drunk driving.

to the complexity of the court's role in the local community. To operationalize the conceptualization of the local legal system developed earlier in this chapter, it is necessary to select those court outputs which contain the characteristics of being measurable and at the same time being of interest to local residents. For the researcher attempting to discover whose preferences are being reflected by the local court, the presence of unique and sometimes conflicting preferences for court outputs leads to additional problems of aggregation among individuals associated with the local court. To discuss the manner in which individual preferences are brought to bear on the decisions of the court and to what extent the courts are providing services compatible with various interests, the concept of boundary is introduced:[17]

> Boundaries may have physical and spatial dimensions as in the definition of the physical jurisdiction of the regional government or they may have social, occupational, financial, or ideological dimensions as in the case of churches, unions, lobby groups, clubs, etc.

Choices made in a world of interdependence result in consequences to some boundary of individuals. Boundaries are of interest to researchers in that they allow the complexity of human interrelationships to be reduced to manageable proportions. The criteria which go to make up the relevant boundary varies with the type of questions being asked. In many cases, the relevant boundary cannot be selected on a priori grounds, rather it emerges after considerable investigation of the interrelationships among the people being observed. In this

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[17]McDowell, George, Whose Preferences Count? A Study of the Effects of Community Size and Characteristics on the Distribution of the Benefits of Schooling, (Dept. of Agricultural Economics, Michigan State University, East Lansing), unpublished Ph.D. Thesis, 1975, p. 2.

author's earlier research efforts to measure the impacts of court centralization and consolidation on police waiting and travel time, the relevant boundary consisted of individuals residing in sparsely populated areas by virtue of their physical distance from the reorganized courts. The relevant boundary which will be affected by changes in court financing and judge selection is thought to possess more than just physical dimensions. The boundary of individuals upon which these court reforms have an impact will depend upon the particular performance dimension being measured. The identification of boundaries with political dimensions will be of particular relevance to understanding how institutional variables affect the judge's behavior, which will be discussed in the following chapter.

The existence of interdependence among individuals does not in itself make up a relevant boundary of individuals. Humans are related to one another, but also with plants and other animals according to ecologists. The distinction to be drawn here is between associated behavior and community behavior. John Dewey reminds us that "We are born organic beings associated with others, but we are not born members of a community."[18] The distinguishing feature between an association of individuals and a community of individuals involves the degree to which a distinctive share in mutual action is consciously asserted or claimed. Local residents may share an association by virtue of residing under the jurisdiction of the local court but not a community in the sense that they possess conflicting preferences for the content

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[18]John Dewey, op. cit., p. 154.

of court outputs. "Community is not the social datum which we have, it is the moral possibility which we labor after."[19] While the concept of community is relatively new to the area of institutional legal research, it is my contention that it is a fundamental concept to this system of inquiry. Discovering the relevant community the judge identifies with is thought to be an important variable in predicting judicial behavior. These sense of community variables are sometimes reflected in judge psychological and sociological factors which would be reflected in political party or religious affiliation. In other instances, the judge's sense of community is much more subtle and perhaps not subject to measurement. Sharing a sense of community with the residents of the local court becomes a prerequisite for making decisions which the judge feels are just. If the judge feels a sense of community with those who feel strongly towards certain types of behavior, he may choose not to be lenient in substantive decisions regarding those offenders. If the judge feels a sense of community to those groups who place a high value on highway safety, his attitudes toward drunk drivers may be shaped by this sense of community. Within the context of this research, sense of community considerations will be treated as sociological and psychological variables associated with the judge, court, and the local area.

The existence of a sense of community among the court's clientele has implications for the types of punishments which will be metted by the court. Differences in the sense of community across

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[19] John F. A. Taylor, The Masks of Society, (New York: Appleton-Century-Crofts, 1966), p. 40.

court districts might explain differences in the substantive treatment of similar types of offenders. This idea can be illustrated by examining changes in legal remedies over time. A sense of obligation to some larger group, when accompanied by public ostracization for a criminal action is sometimes sufficient to discourage certain types of behaviors. For example, publicizing the names of men arrested for soliciting prostitutes is thought to have made a difference in the number of incidents of street prostitution in Atlanta, Georgia. In societies where there is little mobility between small decentralized population centers, punishment for minor offenses consisted of public humiliation. Such remedies would be less effective among groups without a sense of community and perhaps would be preferred by offenders in a highly impersonal or mobile area.[20]

The sense of community held by residents under the court's jurisdiction is thought to have a direct bearing on court operating costs. The offender who does not share a sense of community with those preferences reflected by the court may not willingly participate in the processing of his offense. We describe the actions which emerge from the individual's sense of community as "willing participation." In the extreme, the recalcitrant offender will make it very costly for the court to process his case perhaps by demanding a jury trial and a court appointed attorney rather than plead guilty to the offense. These concepts of community and willing participation are thought to be a significant factor in explaining variation in the

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[20]For an illustration of the types of behavior which results among groups who do not possess a sense of community, see Edward Banfield, The Moral Basis of a Backward Society, (New York: The Free Press, 1958).

percentage of court cases which are contested by the defendant. Since the courts are not able to shift all of court operating expenses incurred while processing these offenders to the offenders themselves, they must be subsidized out of general revenues and thus become an issue of general concern to local taxpayers.

This chapter was devoted to introducing the major theoretical concepts which are used in this research. The relationship between theoretical concepts and information was discussed in the context of designing a general information system. It was demonstrated that the relevant questions posed by any research effort are largely influenced by the conceptualization of the problem at the outset. With the importance of this link between theory and information in mind, we examined the major schools of jurisprudence to give the reader a feel for the different approaches to judicial behavior. Major assumptions about the individual and his environment were summarized and a model of general human behavior was developed and applied to the analysis of judicial behavior. The critical element in describing and predicting judge behavior was seen in his interdependence with various groups associated with the court. This interdependence was made operational through the framework of institutions, behavior, and performance. The issue of boundary was discussed in the context of how geographic, political, and institutional boundaries influence both the judge's behavior and the local resident's ability to have an input into the court's decision process.

The following chapter places the provision of judicial services in a marketing context. A closer examination is made of the demands which are made on the local court, what these courts produce and the

factors which affect the performance of the court either directly through the judge's behavior or indirectly through groups which can create costs for the judge. The relationship between administrative and substantive performance is examined along with the various dimensions of judicial behavior which cannot be explained.

CHAPTER III

THE PROVISION OF COURT SERVICES IN A MARKETING PERSPECTIVE

Local courts play an integral part in the dynamic process of property rights definition among local citizens by deciding whose preferences count in situations where interests conflict. The performance which emerges from the local court is influenced by the interaction of individuals associated with the court. This interaction between the court and its constitutencies can be discussed using the conventional economic tools associated with demand and supply analysis. The purpose of this chapter is to integrate the general behavioral concepts discussed earlier in developing a model to explain and predict substantive and administrative judicial behavior.

What Do Courts Produce?

When conflict arises over the distribution of benefits from scarce resources or from differences of opinion as to the kind of world local residents prefer to live in, the local court is called upon to resolve these differences. Decisions made by the court define the content of the outputs supplied to local residents. A description of the relevant commodity is a critical and often neglected part of marketing research. Commodity definition is important to this research in that it gives an indication as to which participants are associated

with the production and consumption of that commodity. Commodity definition enables the researcher to delimit the scope of his analysis, thereby permitting him to examine select links of the production - distribution - consumption web of interest to his constitutency. The commodities produced by the court are somewhat more narrow than the concept of court performance which is concerned not only with individual commodities but the allocative process in general. The disposition of select cases make up some of the commodities produced by the court, whereas legal remedies, expenditures and revenues, police waiting time, plea-bargaining and the degree to which the legal remedies cater to individual preferences are considered performance measures describing the manner in which the court operates.

We are reminded that the basic unit of economic analysis is service and not the physical good. Local courts produce a service to local residents which is not consumed as much as it is enjoyed or realized. The courts' treatment of drunk drivers and its subsequent effect on highway safety becomes the service which is realized by the community. Jones and Gessaman argue that rural community services are inseparable from the service delivery system by which they are made available.[21] Local citizens may place considerable value on specific structural characteristics of the court which may or may not be related to more final outputs. The types of financing and control may change people's perception of the service. While these perceptions are helpful in describing the services produced by the

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[21]Lonnie L. Jones and Paul H. Gessaman. "Public Service Delivery in Rural Areas: Problems and Decisions", American Journal of Agricultural Economics, Vol. 56, December, 1974, p. 937.

court, they are beyond the scope of this research. Instead, this research will be confined to some of the more quantifiable services produced by the district court and their contribution to court performance. The services offered by the district courts include:[22]

1. Jurisdiction in civil actions where the amount in controversy does not exceed $10,000.
2. Small claims civil actions where the amount in controversy does not exceed $300.
3. Jurisdiction in misdemeanors punishable by fine or imprisonment not exceeding one year or both.
4. Ordinance and charter violations punishable by fine or imprisonment.
5. Issuance of warrants, subpoena witnesses, require production of books, records, documents and other evidence and to punish for contempt.
6. Power to administer oaths and affirmations - issue process - garnishment and attachment - perform marriages.
7. Hold arraignments, fix bail, accept bonds.
8. Power to hold preliminary examinations in all felony and misdemeanor cases not heard by district court.
9. Establish probation department.

The court services of interest to this research include the arraignment and disposition of misdemeanors. These particular services or functions were selected because of their widespread impact upon the distribution of opportunities in the community. The courts treatment of selected misdemeanors which is accomplished through the setting of bond, the assessment of fines and court costs, and confinement or probation reflects the substantive performance of the court.

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[22]For a more detailed description of Michigan's district courts, see Michigan Compiled Laws Annotated, 600.8101 to 600.9930.

The economics profession is replete with conceptional dichotomies which offer little analytical content for empirical research. One such dichotomy which persists in the literature involves the issue of whether goods and services should be produced in the public or private sector. The concept of public goods and services has been introduced into the analysis of court services in an attempt to increase our understanding of what the courts are producing.[23] The contention here is that the dichotomy between public and private services ignores the institutional questions involved in the production of court services.

Ostrom suggests that "ideal formulations for specifying purely private and purely public goods are likely to apply to a few trivial cases." He proposes instead that allocative characteristics such as exclusion, jointness of use and subtractibility of consumption be viewed as important variables.[24] These variables are useful to understanding the nature of court services in that they offer suggestions on how court services affect the interdependence among groups associated with the local court. The characteristics of court services are important only in relation to the kind and distribution of interests among local residents.

Court services can be described as having joint impact characteristics to the extent that the service provided to one individual can also be enjoyed by other individuals with similar tastes without

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[23] William H. Riker, "Public Safety as a Public Good", Is Law Dead? in Eugene V. Rostow, ed. (New York: Simon and Schuster, 1971), pp. 370-384.

[24] Vincent Ostrom, "Public Choice Theory: A New Approach to Institutional Economics," American Journal of Agricultural Economics, Vol. 57, Dec. 1975, pp. 844-849.

additional costs. For example, if the court disposes of a drunk driving case in such a fashion as to discourage someone from drinking and driving, all citizens who value highway safety benefit without additional cost. A measure of the court's policy toward various offenders will be developed in subsequent chapters using estimates of statistical parameters based on a group of select misdemeanor cases. Since there are observed disagreements as to the utility derived from court services, the joint impact characteristic of the court service may be of positive value to some and negative value to others. The extent of the positive and negative effect defines the production boundary or the extent of interdependence between the court and local residents. The extent of participation in the production decision of the court is a matter of institutional boundaries. In a district where the citizens do not share in common the value of highway safety, the provision of safe streets cannot be avoided by the person who doesn't value safe streets or perhaps even feels exhilaration by living with danger. In this case the cost of avoidance is high.

Differences in individual preferences suggest that all local residents may not view the courts' treatment of public drunks or pot smokers as a service, rather they may place a negative value on the service itself. Imagine some boundary of individuals within the local community who feel that alcoholics and marijuana users should be treated with lenience. This group may possibly consist of current and former alcoholics and marijuana users who view alcohol and marijuana related problems as non-criminal matters. For those individuals, who feel quite strongly about the treatment of alcohol and marijuana offenders, the joint-impact service of the court takes on the additional attribute

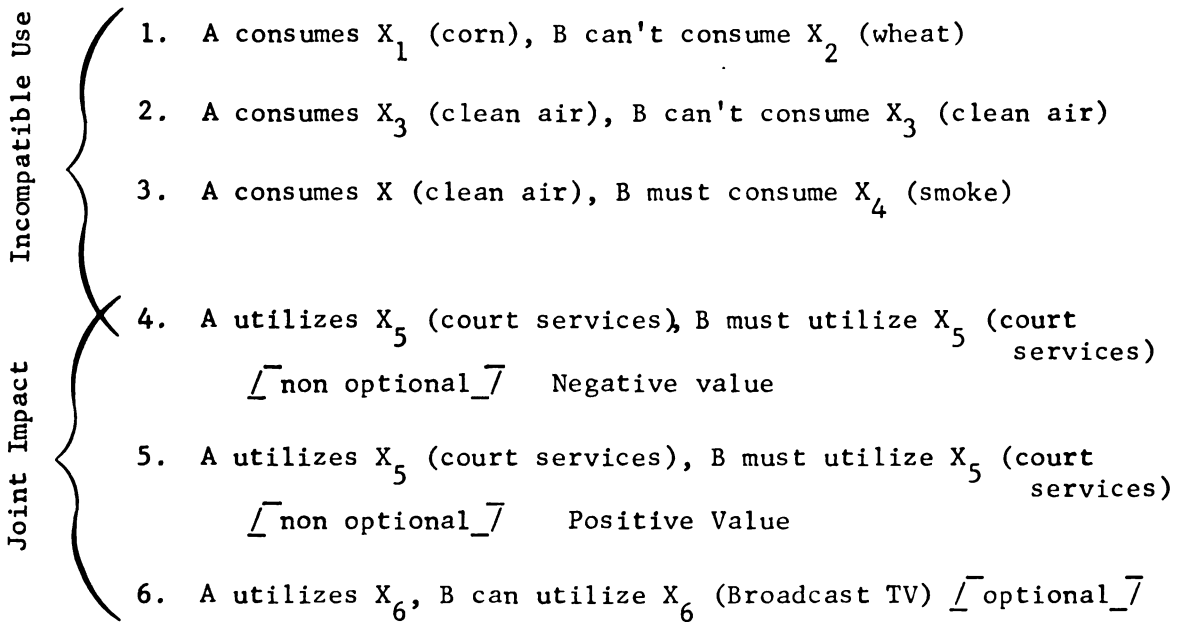
of an incompatible use service (Case # 4 below).[25] The externality or the nature of the interdependence is such that there is a conflict of interest as to how the courts should be treating alcoholics and marijuana users. We are not dealing with service scarcity but with a case where the court caters to one set of interests which are in conflict with another set of interests. The externality generated by the latter stems from incompatable use. The relevant variable for those who place a negative value on the courts' services is not whether the marginal cost for an additional user is positive but rather the costs of avoiding the service altogether. Incompatible or non-optional joint-impact services create a physical boundary of individuals which may be termed "unwilling riders" whether or not they are required to pay for the service.

The above aspects of court services can be summarized in contrast with characteristics of other goods and services. The reader should bear in mind that these characteristics take on meaning only with respect to their implications for human interdependence:

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[25] This incompatibility is not the same as a service which can enter only one person's utility by virtue of its durability. In these cases, both individuals would have enjoyed the service but there wasn't enough to go around and the externality stems from service scarcity where the marginal cost of an additional user is not equal to zero.

Figure 3.1 Incompatible Use and Joint Impact Characteristics of Goods and Services [26]



The reader is reminded that consumption and utilization in the above model is not to be confused with enjoyment, in that the utility derived from consumption can be positive or negative depending upon the individual's perception of the service.

The Demand for Court Services

As a general rule, courts typically do not reach out into the community to resolve disputes, rather, they deal with matters only after other participants in the local legal system have taken the necessary actions. In civil matters, the courts avail themselves to conflicting parties but this does not mean that all civil disputes will go before the court. Whether the court is called upon to assist in the settling of disputes depends upon the costs of going to court

[26] A. Allan Schmid, op. cit., p. 140.

as weighed against the expected benefits. Likewise, in criminal matters all infractions of the law do not require the services of the court. Whether a criminal offender ever makes it to court depends upon (1) apprehension, requiring citizen participation or police detection and arrest; (2) the facts and circumstances surrounding the arrest; (3) the willingness of the prosecutor to pursue the matter and make formal charges against the defendant. Theoretically, we can conceive of a threshold level of negative externality, below which the policeman, citizen or the prosecutor will feel that the infraction is not worth the costs of going to court. While certain types of behavior are illegal statewide, one can observe differences across communities in the percentage of such offenders which are actually brought to court. These differences can be explained, in part, by the police or prosecutor's perception of the severity of the offense. Scattered evidence suggests that under similar circumstances, the chances of getting arrested and prosecuted for smoking marijuana in urban areas is less than that in rural areas. In general, urban residents may not view marijuana as being the potential threat that rural residents do.

The demand for court services is a function of the level of conflict in the community, which is a function of behavior, the diversity of tastes and preferences in the community and the degree to which existing and emerging property rights are specified.

Community characteristics which may influence the level of conflict include the level of unemployment, income distribution, migration, mobility and the degree of urbanization.

Service Differentiation

An inquiry into factors associated with the demand for a good or service would be incomplete without some mention of the degree of differentiation demanded by consumers. The issue of service differentiation constitutes another dimension of the court's treatment of various types of offenders. Rural residents are thought to have an interest not only in the court's policy toward drunk drivers, disorderly persons, marijuana users and shoplifters, but also in the uniformity with which its policy is applied. Documenting service differentiation across courts is conceptually difficult. Klonski and Mendelsohn argue that "the mere fact that two individuals commit the same crime and receive different sentences is not in and of itself evidence of differential allocation.[27]

The issue of service differentiation requires further elaboration.

There are differences of opinion as to what constitutes equal treatment within courts. Leaving aside the many technical problems associated with equal treatment of offenders, one's notion of equality may vary depending upon his perception of the system.[28] The defendant may view equality in terms of his loss in utility from the penalties imposed on him as compared to another similar defendant in another court, whereas, a resident in the community

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[27] James R. Klonski and Robert I. Mendelsohn, "The Allocation of Justice: A Political Approach," The Politics of Local Justice, op. cit., p. 12.

[28] Justice Holmes argued "there may be no greater inequality than the equal treatment of unequals." Implicit in this statement are the technical difficulties involved in treating defendants equally despite their unequal social, economic and psychological status.

might view his loss in utility as a result of the offense and expect all defendants to be treated equally.[29] The degree of service differentiation demanded by offenders is likely to be different than that demanded by victims of the crime. Likewise, there are differences in the degree of service differentiation demanded across communities. Residents in one community are likely to feel that marijuana smoking is a greater negative externality to them and feel that this unequal incidence of harm should be reflected in the court's treatment of marijuana related offenders.

The degree to which district courts in Michigan engage in service differentiation is posed by the first hypothesis which will document and compare specific population parameters related to the treatment of selected offenses.

The Supply of Court Services

In developing a model of judicial behavior, the local court is viewed as being the supplier of services with the judge being instrumental in the production process. Earlier, the various general factors which were thought to influence judge behavior were described. This section will delve further into the economic and political dimensions of judge behavior. This model of judge behavior is not limited to describing the relationship between various economic and political

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[29]The sensitivity of a defendant's notion of equal treatment was promptly made known to a particular court surveyed in this study when the local paper mistated the fines and costs assessed in a drunk driving case. A defendant in a previous drunk driving case contacted the court, somewhat upset by the disparate fines and costs, only to discover that the paper had made an error.

variables and the substantive performance in select misdemeanors, rather it is applicable to understanding of factors influencing decisions related to administrative performance as well.

It is believed that certain parallels can be drawn between judicial behavior and behavior exhibited by entrepreneurs operating in the public and private economy. The factors which affect producer behavior are determined to a large extent by the marketing system under which resource allocation takes place. A distinction is made in the literature between bargained, administrative and status-grant systems of resource allocation.[30]

In bargained exchange systems, parties are considered legal equals and are acknowledged to have certain rights which they voluntarily agree to exchange in light of alternative buyers and sellers of similar rights. In administrative systems, parties are not considered legal equals, rather the role of suppliers and consumers is one of superior to inferior whereby one party is commanded to produce or consume the good or service by administrative order. In the status-grant system, the nature of human interdependence is such that rights associated with goods and services are allocated on the basis of learned habits or custom without conscious consideration of advantage or threat.

The administrative system of allocation best describes the provision of court services. The allocative mechanism of the local court is in the form of a command issued by the court (superior) which

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[30]James D. Shaffer and A. Allan Schmid, "Community Economics - A Framework For Analysis of Community Economic Problems," Dept. of Agricultural Economics, Michigan State University, East Lansing, 1972, p. 22 (mimeographed).

defines the rights of some individual or group (inferior), directly by imposing legal penalties on criminal offenders or indirectly through the court's impact on community behavior and its contribution to the quality of life. The need for court services result primarily from the absence of explicit recognition of property rights broadly defined, and the absence of internalized behavior in resolving such disputes - suggesting that the bargained exchange and status grant models are less appropriate. The distinctions drawn between systems of allocating court resources are not intended to be applied rigorously but rather to give a starting place for looking at the economic and political factors affecting judge behavior.

In Chapter II, a general behavioral model stressed the crucial role interdependence plays in understanding human relationships. It was shown that the structure of individual opportunities influences behavior and the subsequent costs created by an individual to others. Relationships between structural factors associated with the supply of court services to the substantive and administrative performance of the court will now be discussed. The reader is reminded that the concept of supply has both a <u>quantity</u> and a <u>quality</u> dimension. Those who do marketing research in areas where the commodities are relatively homogeneous tend to view supply as being synonymous with quantity. In the provision of court services, the dimension of quantity of criminal cases heard ignores the service difference or the quality dimension of supply. Local residents are as much if not more interested in how courts are handling the substantive aspects of various misdemeanors as they are in the number of misdemeanors which make it to court. In other words, local residents have an interest in

the number of drunk drivers which are brought to trial as well as how the courts are disposing of drunk driving cases.[31]

The factors which affect producer behavior under competitive conditions include prices of the commodity in the short run and profits in the long run. Producers are assumed to be profit maximizers who employ resources at a level equal to their opportunity cost in alternative enterprises. Producer behavior is somewhat different in administrative systems. In the local court, prices in the form of fees and court costs are set directly by legislation or judicial order, based on a number of criteria. The absence of a price system for allocating the substantive aspects of court services and the high cost of avoiding the policies established by the court means that residents must resort to other mechanisms in revealing their attitudes towards such things as alcohol and marijuana offenses.

Access to Court's Production Function

Despite considerable autonomy held by administrative providers of services, there is typically a group of political constraints associated with the structure of administrative positions. The performance of a public or private production unit is influenced by the decision-makers engaged in the production of that good or service. In the administrative system, the boundary of the production decisions is established by those individuals who can create costs to the suppliers,

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[31]Despite large investments to improve the record keeping system of Michigan's district courts, no systematic efforts have been made to generate and make public qualitative differences in court services within and across courts. Qualitative differences which are documented and made public are usually done on the initiative of local newspapers or studies such as this.

affecting either the mix of production inputs as in the case of electing the judge or the more final outputs as in the case of judicial discretion. The creation of costs is expressed in terms of political votes and other sanctions which are generated as citizens exercise their rights to withhold votes or the local funding unit negotiates court budgets with the judge.[32] In the context of Michigan's district court, the boundary of the production decision unit encompasses local citizens as voters in judicial elections and local funding units which finance the operations of the court. Judges are thought to behave in such a way as to minimize the costs created by various individuals associated with the court by reflecting the preferences of these groups in their decisions.

At the heart of Michigan's drive toward centralization and consolidation is the boundary issue. Expanding the size of operation which provided court services was accomplished with the abolition of the justice courts and the creation of district courts. The shift in the boundary of individuals which could create costs for the local judge and thus have an input into the court's production decision had both a size and a content component. Not only did individual votes carry less weight in judicial elections but the ability of the court to cater to unique local preferences may also have been diminished as a consequence of these reforms. If consumer tastes are relatively

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[32]Evidence of costs created for the judge by the local funding unit can be inferred by the number of disputes which take place between the judge and the local funding unit. Regional court administrators were involved in the mediation of 44 such disputes during the fiscal year 1975-76. Source: State of Michigan, "Focus" (Lansing: State Court Administrative Office, January, 1977), p. 3.

homogenous, within a particular geographic boundary, then it may not make much difference where the political boundaries are drawn, or whether there are many small subunits or one large consolidated unit providing court services. If tastes differ then changes in the size of producing unit accompanied by changes in the size and characteristics of the groups electing the judge or financing the court may affect whose preferences will be reflected by the court's administrative and substantive decisions.

Current debates over the method of court financing and judge selection can also be viewed as a boundary issue. A move toward statewide financing of district courts would serve to shift the court's financing function from the local to the state level. Local funding bodies would no longer be able to create costs to the local judge and would lose their input into the court's production process. Likewise a move to appointing judges would shift the political boundary of judicial selection which would reduce the local community's ability to create costs for the local judge by withholding votes in local judicial elections.

The Interdependence Between Substantive and Administrative Performance

Up to this point, substantive and administrative behavior have been considered separate and independent aspects of court performance. In reality, it is somewhat difficult to separate those aspects of producer behavior which influence what is produced from those aspects of producer behavior which influence the efficiency of the production process. The relationships between substantive and administrative

behavior are believed to be economic in nature. While the local court is established by legislation, it is not immune from the economic realities which confront all public or private organizations. Regardless of the institutional parameters which surround court financing, the courts must compete with other local and state agencies for operating expenditures. This competition for public monies when accompanied with the court's power to shift some portion of these operating expenditures to the criminal population in the form of fines and court costs suggests that administrative aspects of operating the court could influence the substantive performance delivered by the court. This is not to say that courts exist solely to generate revenues; rather, costs of operating the court is a relevant variable in explaining why substantive differences exist between courts. In spite of the "pocketbook justice" connotations implied by such economic relationships, it is hypothesized that the degree to which the level of court operating expenditures influences the substantive fines and costs assessed in traffic and criminal cases reflect some individuals' or groups' attitudes towards who should bear the cost of operating the court.

Another dimension of the relationship between administrative and substantive performance involves the influence court expenditures might have on service differentiation or substantive variation. Casual observation suggests that courts with large case volumes tend to have less substantive variation across similar kinds of cases. One explanation for the lack of variation in larger courts is that judicial discretion in the face of large numbers of cases is costly and rather than invest the resources into the needed information for exercising greater discretion, judges tend to treat specific categories of offenders

alike. The implications of the above discussion for this research is that substantive variation within and across courts might be related to judge case load and court expenditures.

In Hypothesis III, the relationship between the local funding unit, local elections and specific court performance measures will be explored in an attempt to inform Michigan residents of what they can expect from these reforms. Hypothesis III will also be concerned with measuring the degree to which economic factors of operating the court affects the substantive outputs of the court.

Stochastic Determinants

The search for understanding why people behave as they do has long been the challenge of the behavioral sciences in general and economics in particular. Among those working in behavioral research are some that argue: "Individuals do not choose, they behave predictably in response to objectively measurable changes in their environment."[33] Others take a more modest approach, "it is probably a mistake to overintellectualize the decision-process. Just because we can imagine some set of calculations which are consistent with observed behavior doesn't mean people actually think that way."[34] Those who over estimate the predictive ability of the behavioral sciences fail to understand the role that empathy plays when one is trying to understand another's behavior. In the words of William James,

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[33] James Buchanan, Cost and Choice, (Chicago: Markham Publishing Company, 1969), p. 42.

[34] A. Allan Schmid, op. cit., p. 240.

"The blindness in human beings is the blindness with which we are all afflicted in regard to the feelings of creatures and people different than ourselves."[35]

Regardless of the system of allocation employed in a particular system of inquiry, there will remain a set of behavioral factors which may not be fully understood. The structural factors which influence behavior may not be in response to other individuals through mutual coercion, rather such behavior may be peculiar to the situation in which we find ourselves. In the context of this research, a distinction can be made between structural elements and situational elements which influence behavior. If under a system where the local court judge is elected by local citizens as compared to a system of appointment, one discovers that the elected judge better serves the tastes of a majority of local residents, one could argue that the performance of the elected judge is a consequence of structural variables surrounding the method of judge selection. Proponents of an elective system would use these findings as evidence in their favor.

Another possible explanation for the performance of the elected judge is stochastic in nature. The elected judge just may have happened to stumble into an office where his tastes are consistent with the bulk of the citizens in the community. The judge may not know or care about the community's sense of justice and the community may know little about the judge. Service compatibility in the above situation may be a function of situation. Among some of the factors which affect

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[35]William James, The Moral Philosophy of William James, ed. by John K. Roth (New York: Thomas Y. Crowell, 1969), p. 214.

the situation in which the judge finds himself include those prior experiences which helped shape his sense of community and his concept of justice.

Kaufman argues that "Men do not enter organizations devoid of opinions, values, preferences and their own interpretations of the world; nor do they shed all of these once they become members."[36] To the extent that some of these situational variables can be quantified they will be utilized along with the structural variables of the previous section in Hypothesis III which will measure the degree of association between these structural and situational variables and various dimensions of court performance.

This chapter placed the task of providing court services into a marketing perspective with a discussion of the factors which affect the demand and supply of court services. An attempt was made to define the nature of the service produced by the court and how that service is perceived by various groups associated with the court. The factors which influence court substantive and administrative performance depends upon who has access to the court's production function. It was suggested that the key to understanding this production function was to look to the marketing system under which courts operate. The local court system was thought to closely approximate the administrative exchange model by virtue of the court's power to issue commands and dictate the character of the service supplied to those associated with the court.

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[36]Herbert Kaufman, The Forest Ranger, A Study in Administrative Behavior, (Baltimore, Johns Hopkins - Resources for the Future, 1960), p. 80.

It was argued that judges in their contribution to court performance are sensitive to those groups who can create political or economic costs to them or their courts. The chapter was concluded on a more humble note which suggested that despite efforts to understand court performance, there remains a dimension to judicial behavior which cannot be explained.

The following chapter reviews the work done by others in the area of court performance and judicial behavior. An examination is made of how various disciplines have approached this subject, the conclusions which were reached and how their methods and conclusions contribute to this research.

CHAPTER IV

PREVIOUS RESEARCH IN THE AREA OF JUDGE BEHAVIOR AND COURT PERFORMANCE

This chapter reviews some of the research which has been done in the area of judicial behavior and court performance. The purpose of this chapter is to give the reader a flavor for how various disciplines have gone about analyzing judicial processes. This literature review is not intended to be exhaustive of previous research in this area but rather to provide a basis for selecting relevant variables, constructing hypotheses and alternative statistical procedures for testing these hypotheses.

In retrospect, the researcher discovers that his efforts contribute to a larger body of knowledge surrounding the subject matter area in which he is working. The process by which individual research efforts contribute to the larger system of inquiry which make up general information systems requires that the research be placed into some perspective in relation to similar types of research efforts. In this chapter and the one which follows, the perspective of this research is addressed in the context of the following questions:

1. How have other researchers approached the area of judicial behavior and court performance?
2. To what extent are theories and methods used by others useful to this study?
3. How does this study differ from previous studies in theory and methodology?

4. What will this research contribute to the current body of knowledge in the area of judicial behavior and court performance?

In the literature of judicial behavior and court performance, a distinction has been made between:[37]

A. Research dealing with decision-making of individual judges in the context of group decision-making processes.

B. Research dealing with substantive practices of individual judges in single judge systems.

The former of these research areas has received a greater amount of research resources, especially in studies of decisions made by supreme courts, where the substantive outputs reflect joint decisions made by the justices.

Substantive Variation Within Multi-Judge Court Systems

Glendon Schubert gives an excellent accounting of the methods used by various disciplines in studying the decision-making behavior of supreme court justices.[38] Peculiar to the discipline of Sociology, bloc analysis is a technique which focuses upon the recurring uniformities in the interaction among individuals in a group, permitting the researcher to make inferences about both the effect of the group upon individual justices and the effect of individual justices on the court. Bloc analysis looks primarily at relationships between justices in attempting to discover blocks of justices behaving with various degrees of uniformity,

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[37] Russell P. Lura, Geographical Variations in Sentence Severity and Probation in United States Judicial Districts, Unpublished Masters Thesis, Oklahoma State University, 1973, p. 3.

[38] Glendon Schubert, Quantitative Analysis of Judicial Behavior, (Glencoe, Illinois: Free Press, 1959).

making it possible to trace the relationship between the levels of dissent of individual justices, changes in the stability of sub-groups and consequent shifts in the balance of power on the court. While bloc analysis does not explicitly consider situational and structural relationships associated with the court, it has been used to make casual inferences about the relationship between method of judge selection and group behavior.

Shubert reports that in a comparison of the bloc behavior of justices in the U.S. and Michigan Supreme Courts for the period 1953 to 1957, that "partisan political affiliations of the justices appear to have been irrelevant to group behavior of the United States Supreme Court; while bloc analysis suggests its primary importance in the case of the Michigan Supreme Court." The life tenure of the U.S. Supreme Court Justices as compared to the lack of such tenure in Michigan's Supreme Court where the justices are nominated by political parties for non-partisan ballots was considered an important variable in explaining differences in behavior between these courts.

Economists working in the area of group judge behavior have employed game theory to specify how the judges should have voted, given certain explicit assumptions about the motivations of judges and the nature of the questions raised by the cases.[39] The behavioral assumptions made in game theory are that each justice attempts to maximize his utility by making choices such that his partial benefit relative to the outcome of the case benefits him most. Game analysts have demonstrated that the smallest group on the court is by no means

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[39] Ibid.

necessarily the weakest group, and that the balance of power on the court lies with those who are flexible and can develop affiliations on the left and right. Among the criticisms of game theory include its failure to incorporate sociological and political variables into the analysis and its failure to deal with the dynamic aspects of judicial behavior.

Another approach to judicial behavior and court performance involves scalogram analysis. Developed by mathematicians and psychologists, scalogram analysis or the method of cumulative scaling as it is sometimes called, affords a procedure whereby the attitudes of the justices can be measured both individually and collectively towards policy issues which confront them. The thrust of scale analysis is to construct attitudinal rankings of judges (i.e., attitudes toward freedom of speech; search and seizure) which are inferred from sets of cases classified by legal and behavioral theory. Individual and group scales can be used to discover which attitudes and values play a dominant role in the decisions made by the justice and how differences in the intensity with which these values are held affect the joint decision or substantive decision of the court. Harold Spaeth suggests "that the U.S. Supreme Court does render virtually all its decisions on the basis of the operation of a very few basic attitudes."[40] Scale analysis has been relatively effective in testing propositions suggested by the U.S. Supreme Court as explanations for past voting behavior and whether these norms serve as the basis for future decisions.

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[40]Harold J. Spaeth, "Warren Court Attitudes Toward Business = The 'B' Scale," Judicial Decision-Making, ed. by Glendon Schubert, (London: Collier-Macmillan, Limited, 1963), p. 100.

The application of bloc analysis, game theory, and scale analysis to understanding and predicting judicial behavior has generally been limited to those courts where the substance performance of the court reflects a joint decision made by several judges. In courts where the substantive performance reflects the decision of a single judge, the researcher, being unable to examine the relationship between judges, must turn to and deal explicitly with sociological, political, and economic variables surrounding the court. A review of the literature in the single judge decision courts will now be discussed.

Research in the area of single judge decision-making has been concerned with a number of major themes, which include:

1. Systematically documenting differences in the substantive performance of courts.

2. Offering suggestions and testing hypotheses as to which variables account for these substantive differences between courts.

A further distinction is made in the literature regarding the documentation of substantive differences within and across courts.[41] One group of studies is concerned primarily with substantive outputs in general while the other group is concerned with substantive treatment of specific types of offenders (i.e., Blacks, young offenders, and women). In the section which follows, an attempt will be made to highlight some of the major research efforts in these different areas.

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[41]Lura, op. cit., p. 5.

Substantive Variation in Single Judge Court Systems

One of the earliest attempts to systematically document and explain differences in judicial behavior in general was made by Wayne Morse and Ronald Beattie.[42] This study completed in the late 1920's examined 1771 original jurisdiction cases which were brought before eight judges in Multnomah County, Oregon Circuit Court. Morse and Beattie compared such factors as suspended sentences, charge reduction, fines, range of sentence, and average sentence for specific crime categories which included robbery, burglary, larceny, forgery, and sex offenses. Since the study included all of these specific offenses brought before the court over a two-year period, statistical infererence regarding some population parameters was not necessary. The study found that:[43]

1. The circuit court judges did not vary materially in the proportion of suspended sentences granted.

2. The judges varied considerably among themselves as to the sentences imposed for each type of crime and that individual judges varied to a significant extent, in the successive sentences which each imposed for the same type of crime.

3. The evidence does not seem to support the conclusion that variation in sentences is made on the basis of any thorough and scientific analysis of the behavioral problems of individual offenders.

Methodologically, this study accomplished a level of refinement, not found in similar studies. By comparing substantive decisions

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[42] Wayne Morse and Ronald H. Beattie, "A Study of the Variances in Sentences Imposed by Circuit Judges," in The Politics of Local Justice, ed. by James Klonoski and Robert Mendelsohn, (Boston: Little, Brown and Company, 1970), pp. 175-186.

[43] Ibid., p. 188.

within specific offense categories, this study was able to control for variation which was attributable to differences in the types of offenses heard. To the extent that the criminal population brought before each judge was randomly distributed for each judge, differences across judges would represent the individual judge's substantive contribution to the case. If the distribution of offenders within judges was not random or judges differed in the percentage of repeat offenders brought before them, then some of the observed variation would have been due to differences in the offender population.

Among the groups who feel particularly strongly about substantive variation across courts are offenders and corrections officials. The general contention among these groups is that variation in sentencing generates a great deal of bitterness among inmates, leaving the question of whether "society" is any better protected as a result in sentencing variation, i.e., it contributes to unwilling participation. A 1968 study conducted by the Federal Bureau of Prisons measured variations in substantive decisions within and across U.S. Federal Courts of Appeals (Federal Circuit Courts).[44] Sentencing variation was observed within and across the 10 Federal Circuits, most of which could not be explained by differences in the content of the criminal population across and within circuits. Since the study dealt primarily with average sentences, some of the variation across and within circuits may have reflected differences in the criminal population.

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[44]William James Zumwalt, "The Anarchy of Sentencing in the Federal Courts," Judicature, Vol. 57, October, 1973, pp. 96-104.

A study which comes close to achieving ideal experimental conditions was undertaken by the Second Circuit Federal Court (August, 1975).[45] In the context of a true experiment, there will always be room for doubting the validity of a sentencing study if different judges pass judgement on different offenders. While this margin of error can be reduced by controling for the specific offense category, there remains the possibility that the characteristics of the offender population going before each judge differ in their distribution of first offenders to repeat offenders and in their psychological and socioeconomic makeup. To control for these threats to validity, the Second Circuit Court Study was done in an experimental environment whereby each judge passed judgement on an identical set of cases. These cases were based on presentence reports and selected in such a manner as to represent the sentencing business of the circuit. The number of cases decided was equivalent to the number each judge would normally decide over a six-month period.

Another aspect of these court studies which creates certain methodological problems involves the lack of a common denominator with which to measure and compare differences in legal remedies handed down. To the extent that judges hand down a particular combination of jail time, probation and fines which they think best fits the individual defendant, it becomes difficult to measure substantive variation across cases which differ with respect to the mix of legal remedies. The problem amounts to deciding whether three months in jail is less, equal, or more severe than $1,000 fine and one year's probation.

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[45]Anthony Partridge and William B. Eldridge, The Second Circuit Sentencing Study, (New York: Federal Judicial Center, 1974).

The Second Circuit Court Study dealt with this "mix of legal remedies" problem by ranking the severity of each judge's decision for each case, and using non-parametric statistical techniques to compare rank differences. The rules for ranking the severity of the decision made by the judge on each case were based on the normative assumptions that imprisonment of any length is more severe than probation or a fine, that supervised probation is more severe than a fine or unsupervised probation, and that a fine is more severe than unsupervised probation. The study concluded that:

1. Substantial disparity exists within districts, and that differences among districts are of secondary importance.

2. Sentencing councils do not generate common approaches to sentencing.

3. Federal bench experience does not reduce the substantive variation among judges.

4. The contribution of "hanging judges" and lenient judges to substantive variation is minor when compared to the contributions made by judges who cannot be so characterized.

Criticisms of the Second Circuit Court Study are directed toward the normative assumptions implicit in the severity rankings and the degree to which decisions made under hypothetical conditions approximates actual decisions made in the courtroom.

Factors Associated With Substantive Variation

The factors which the literature suggest are important in explaining substantive differences across courts depend to a large extent upon the specificity of the data and the refinement in the techniques used for measuring these differences. In the previous section, it was suggested that differences in the nature of the

offenses, characteristics of the offender population, and the mix of legal remedies handed down account for some of the substantive differences within and across courts. A study done by Russell Lura gave some evidence that differences in the characteristics of the offender population account for some of the substantive variation within and across courts.[46] Lura, a geographer by discipline, looked at the geographic pattern of sentencing in 98 United States District Courts and used analysis of variance to test for significant differences and multiple regression techniques to explore various factors which accounted for these differences in a random sample of courts. Lura found significant differences in substantive variables associated with sentencing and probation and that prior prison records of the defendants to be the most consistent variable in explaining these differences. Other variables which were significant in explaining some of the variation across courts included the percentage convicted by jury trial, median time to dispostion of case, percentage of defendants with rehabilitation reports, and percentage of the defendants assigned counsel. Factors which were not found to contribute significantly to substantive variation across courts included specific characteristics of the judge: political party affiliation, regional background and age. The validity of the results of Lura's study depends upon the extent to which his assumptions about the distribution of offenses and characteristics of the offender population as expressed by the number of bills of indictment, prior criminal

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[46]Russel P. Lura, Geographical Variation in Sentence Severity and Probation in United States Jucicial Districts, op.cit.

records, and recommendations by auxilliary agencies are randomly distributed across courts.

A study of the Philadelphia Court of Quarter Sessions was conducted by Edward Green to determine the degree to which the sentences differ according to variations in the criteria for sentencing.[47] Using chi-square and Kruskal Wallis one-way analysis of variance by ranks, Green found the following factors contribute to the severity of the sentences:

1. The type of offense; of particular the extent to which a victim can be identified.

2. The number of bills of indictment of which the defendant is convicted.

3. Prior criminal record of the defendant.

Green also found that:

4. The number of arrests not resulting in convictions has no effect whatsoever on the severity of the sentence.

5. The apparent preference accorded to females as compared with males, to youthful offenders as compared with mature offenders, and to whites as compared with Negroes is a function of differences in the patterns of criminal behavior linked with sex, age, and race.

6. Differences among prosecutors have no significant effect upon the severity of the sentences which a judge imposes.

7. Judges do not favor defendants who plead guilty over those who plead not guilty.

Green discounted the likelihood that individual prejudice against certain categories of the population is a significant factor, suggesting instead that differences among judges stem from their

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[47] Edward Green, Judicial Attitudes in Sentencing, (London: Macmillan and Company, Limited, 1961).

attitudes toward imprisonment and their impressions of the seriousness of the offense.

Substantive Variation and the Treatment of Minorities

While correction administrators and the imprisoned are particularly bothered by substantive variation in general, others are more interested about substantive variation which are thought to exist by virtue of the court's differential treatment of minorities. The major thrust of research efforts which have attempted to document the substantive treatment of minorities has been in regards to the treatment of Black and low-income litigants. In a study of race-related cases in federal district courts, Kenneth Vines asked, "What impact, if any, does the social and political environment have on the behavior of judges and courts in eleven Southern States?"[48] The purpose of the Vines' study was to dispel the myth that courts and judges are not influenced by the economic, social, and political environment in which they operate. Vines found that there is considerable variation in "Negro success" by case, subject, and judicial district and that a negative to moderate relationship exists between his measure of "Negro success" and the proportion of the Negro population in a federal judicial court district. Vines argued "that the mere fact that a judge has a federal rather than a local organization base is no insurance that he will behave as a federal judge rather than as a local judge."

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[48] Kenneth N. Vines, "Southern State Supreme Courts and Race Relations," State Politics, ed. by Robert E. Crew, Jr., (Belmont, California: Wadsworth Publishing Company, 1968), pp. 427-439.

During the more difficult periods of the civil rights movement in the South, Blacks were often forced to bring litigation to state rather than the federal courts, much to their dismay. Variation of the substantive treatment of Blacks in the South during the civil rights period is shown in the following table.

Table 4.1 Disposition of Cases by Southern Supreme Courts, by States, 1954-63

States	Percent of Cases Favorable to Negroes	
Alabama	7.7	
Arkansas	33.3	
Georgia	54.5	
Louisiana	29.1	
Mississippi	23.8	
South Carolina	28.6	
Average of Deep South	29.3	(N=126)
Florida	9.5	
North Carolina	46.6	
Tennessee	40.0	
Texas	40.0	
Virginia	50.0	
Average of Peripheral Southern States	37.2	(N=72)

Source: Kenneth N. Vines, p. 432.

Despite the close relationship southern judges have with the local political structure, their substantive record is more favorable to

Blacks than their counterparts in other southern political offices. Vines attributes this phenomenon to length of office, lack of competition in judicial elections, and the recondite character of the language used in court decisions which allows judges to make decisions favorable to Black litigants in the face of strong local pressures to do otherwise. The study of federal and state court cases involving Black litigants done by Vines was descriptive in nature and was not intended to prove or disprove the existence of differential treatment or rigorously test which factors might account for these differences. Nevertheless, the Vines study exemplifies research efforts which have attempted to document variation in the court's substantive treatment of Blacks.

In addition to a concern for how Black people have fared in the courts, a large body of literature exists on substantive performance to the Poor. Kenneth Dolbeare argues that the "disadvantaged fare poorly in criminal cases and the moderately well advantaged fare well on the civil scale."[49] Ares, et al., documented the court's treatment of the disadvantaged in a study entitled: The Manhattan Bail Project.[50] It was found that "those (defendants) set at liberty before trial as a consequence of their ability to make bail are less likely to be convicted, while those not set at liberty before trial are more likely to go to jail." Similar results were found by

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[49]Kenneth M. Dolbeare, "Who Uses the State Trial Courts?" The Politics of Local Justice, pp. 64-75.

[50]Charles E. Ares, et al., "The Manhattan Bail Project: An Interim Report on the Use of Pre-Trial Parole," The Politics of Local Justice, pp. 78-95.

Stuart Nagel in a comparison of state and federal court cases in which he argued that "disadvantaged defendants are more likely to be imprisoned, less likely to make bail."[51]

Among those studies which have explored reasons for the substantive variation across courts, of particular interest to this study, are those concerned with the effect of institutional variables associated with the court. The major objective of these studies is to increase the level of knowledge on how various political, social, and economic variables affect judge behavior directly or court performance indirectly through the judge selection process. In "The Effect of Institutional Differences in the Recruitment Process," Herbert Jacob assessed the outcome of the judicial recruitment process under alternative institutions.[52] Using basically descriptive statistics and percentages, Jacob examined the selection processes in state trial and appellate courts. Under current arrangements, these judges are elected on partisan ballots in 20 states, elected on nonpartisan ballots in 17 states, appointed by the governor in 7 states, selected by the legislature in 5 states, or selected through some form of the Missouri plan in 4 states.[53] Interim vacancies are filled

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[51]Stuart S. Nagel, "The Tipped Scales of American Justice," The Politics of Local Justice, p. 77.

[52]Herbert Jacob, "The Effect of Institutional Differences in the Recruitment Process: The Case of State Judges," State Politics, pp. 411-426.

[53]The Missouri Plan and its variations allow the governor's appointee to serve a minimal period of time before he faces the electorate. It has been argued that in the absence of voter information regarding court performance and the historical absence of competition in judicial elections, the Missouri Plan closely approximates systems of judicial appointment.

by the governor in 32 states. In comparing these various state systems, Jacob found:

1. Systems of electing judges do not produce poorly trained judges.

2. Legislative selection produces the better trained judges, followed by non-partisan ballots with gubernatorial selection resulting in the least trained.

3. Non-partisan elections provided more frequent opportunities for gubernatorial appointment to fill vacancies than partisan elections.

4. Democrats did not do appreciably better in partisan elections as compared to non-partisan.

5. Partisan elections and the Missouri plan give access to judgeships to those who previously served as district attorney while legislative selection and gubernatorial appointment give preference to former legislators.

6. Most selection by appointment systems favor Republicans.

7. Non-partisan elections afford greater opportunity for outsiders running for local judicial elections.

It was concluded that regardless of what impact socioeconomic variables have on judicial behavior, the impact of the formal selection system is such as to produce quite distinct characteristics among trial judges. How these characteristics affect the judge's substantive performance of the court becomes a separate issue.

Stuart Nagel makes a strong argument for partisan judicial elections. In a study which examined the behavior of 298 state and supreme court judges, Nagel found a greater propensity for appointed judges to vote against their party than elected judges.[54] The argument

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[54]Stuart Nagel, "Political Party Affiliation and Judges' Decisions," State Politics, pp. 442-453.

which follows is that since party affiliation does make a difference in judicial behavior, then non-partisan ballots only deprive the voter of information useful to him in intelligently voting for judges. Nagel feels that the problem is not one of removing an "irreducible residue of judicial subjectivity" but rather, "understanding how judicial subjectivity is affected by various factors which surround the judge and his court."

More recently, Nagel has been concerned with how the system of judicial selection affects not only the type of person who gets into office, but also how that person will behave in office. In a study of non-unanimous state supreme court decisions in 1955, Nagel found that:[55]

1. Elected judges serving on the same courts as interim-appointed judges do seem to be more liberal in their decisions (i.e., in business relations cases involving consumers and unions).

2. Judges on appointed courts were found to be more likely to vote contrary to the pattern of their political party, holding length of tenure constant.

3. There is no difference between elected and appointed judges on such measures as the esteem in which they are held by law professors, the frequency their opinions are used by casebooks or the extent to which they are cited favorably by other courts.

Finding 1 can partially be explained by the results of the Jacobs study which concluded that Republicans who tend toward conservatism seem to do better under appointive systems.

In criminal case decisions Nagel found virtually no difference between elected and appointed judges. According to some arguments,

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[55]Stuart Nagel, Comparing Elected and Appointed Judicial Systems, (Beverly Hills, California: Sage Publications, 1973).

the liberal propensities of elected judges may be offset by their political sensitivity in that the general public tends to demand more convictions and harsher sentences.

Another dimension to Nagel's study which is worth mentioning concerns his comparison of judicial voters and appointers. Some court reformers argue that the absence of voter information on judicial candidates leads to poor voter turnout in judicial elections; voters which participate in judicial elections are not representative of the population as a whole, and a system of appointment is devoid of politics. To these arguments, Nagel found that:[56]

1. Those who vote in judicial elections are at least as representative of the general public as those who vote in general elections.

2. Voters in judicial elections consider party affiliations less than voters in general elections. Although they seem more prone to consider ethnic affiliations.

3. The appointments by presidents and governors strongly reflect political party and ethnic considerations.

4. By appointing judges like themselves, presidents and governors not only promote their ideological causes and satisfy party patronage rewards, but they are more likely to receive more favorable decisions when powers are involved in litigation before the court.

Some casual observations made by Judge George W. Crockett of Detroit's Recorders Court illustrates the appointment behavior suggested by Nagel.[57]

> Of the approximately 700 Federal judges now in office (1975), only 20 are black and significantly each one of these judges is from a geographic area where the black voting potential is crucial -- none of these is from areas where the bulk of black people reside.

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[56] Ibid., pp. 17-30

[57] George W. Crockett, Jr. "Judicial Selecting and the Black Experience," Judicature, Vol. 58, April 1975, pp. 438-442.

While it remains to be shown that black judges reflect the interests of the court's black constituency, Crockett feels that the person chosen for office has a tendency to feel an affinity for those who selected him whether they be private citizens or public officials.

Economic Considerations and Administrative Performance

The current trend toward centralizing methods by which courts are financed has generated a demand for information on how administrative court performance is affected under alternative financial institutions. The majority of the studies reviewed thus far have been concerned primarily with substantive outputs of courts with general, appellate and final jurisdiction. Administrative issues surrounding these courts do not receive much attention, perhaps because of the absence of revenue generating remedies employed by these courts. It is believed that behaviorial models developed for judges in courts where revenue generating remedies are absent tend to be incomplete when examining courts of limited jurisdiction where revenue generating decisions are common practice. In addition to the political, sociological and psychological variables identified earlier, a discussion of the economic factors which surround the court is now in order.

The economic dimension of court performance has often been neglected in much of the judge behaviorial literature. The introduction of economic variables into the courts' decision processes offends many people's sense of justice, not unlike the introduction of political variables.

Adam Smith realized that the courts must compete for scarce

resources in his statement "justice is never administered gratis."[58] Smith was quick to point out the potential consequences of a court system which extracted fees from the defendant as its primary source of compensation. While the fee system of compensation has been abolished in most lower courts, these courts still require large operating expenditures, which are offset in part or in total by the assessment of monetary remedies. Despite this fertile area of research to better understand the relationships between court performance and court financing, economists have concentrated their attention on criminal motivation, taking the substantive outputs of the courts largely as given. Much of the research being done by economists in the area of criminal behavior is an outgrowth of human capital theory whereby criminal motivation is viewed as an alternative form of employment with the criminal behaving in such a manner as to maximize utility.[59] Courts and law enforcement agencies are viewed as minimizing the costs of criminal behavior to society, from within a fixed budget constraint.[60] Noting, once again, that the substantive discretion of the courts is taken as given.

While this study does not deny the possibility that local legal systems behave with some monetary criteria in mind, it is believed that there are other behaviors of importance to those

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[58]Adam Smith, The Wealth of Nations, (New York: Random House, 1937), p. 677.

[59]Gary S. Becker, "Crime and Punishment," Journal of Political Economy, March/April, 1968.

[60]George Stigler, "The Optimum Enforcement of Laws," Journal of Political Economy, May/June, 1970.

associated with the court. Of primary concern to this study is not the efficiency criteria per se, but how the efficiency dimension of court operation affects the whole of administrative and substantive performance of the court. This distinction can be illustrated by the following dichotomy:

1. Given a set of laws to be enforced and a budget constraint under which to operate, how can resources best be combined to achieve the maximum enforcement of these laws.

2. Given a budget constraint with which to enforce some set of laws which is not made explicit by the community, how are decisions made as to which laws will be enforced and what form will the legal remedies take.

It is largely this second question to which this research addresses itself.

This chapter examined the various methodologies used and conclusions reached by researchers in the area of judicial behavior and court performance. Some general conclusions to be drawn from this survey of previous research which are relevant to the design and orientation of this study are that the study of judicial behavior and court performance has become multi-disciplinary in scope; that researchers in the past have made few efforts to distinguish between court outputs attributable to the judge and outputs attributable to other participants in the local legal system; that little behavioral research has been done in courts which handle minor, everyday offenses and in courts which rely heavily on revenue generating penalties; and that economic and administrative factors surrounding the court have been ignored in models attempting to explain judge behavior.

Some selected findings from previous research in the area of judge behavior and court performance were particularly important to

the initiation of this study. While not conclusive, these findings imply that more information about the relationship between the judge and various groups associated with the court is needed in order to predict the consequences of proposed court reforms. Relevant findings from previous research include:

1. Judges differed with respect to their treatment of selected offenders within and across courts.

2. Courts differed with respect to their treatment of minority groups.

3. The impact of the formal judge selection process was such as to produce distinct characteristics among judges.

4. Differences in the formal judge selection methods was found to be related to differences in judge behavior.

5. Voter participation in judicial elections is no less representative of the population than voter participation in general elections.

6. The political nature of judge selection is not removed by moving from judicial elections to judicial appointments.

We now turn to the methodology used in this study in which an attempt is made to answer how this study differs from previous studies in this area and what contributions this study makes to the body of knowledge on judicial behavior and court performance.

CHAPTER V

METHODOLOGY USED IN THIS STUDY

This Study in Perspective

This study attempts to document and give reasons for substantive and administrative variation across Michigan district courts. These courts were selected in an attempt to shed some light on current debates over how these courts should be financed and staffed. While these district courts handle only minor criminal and civil cases, the bulk of local citizen contact with the legal system is made through these courts. Michigan's district courts belong to the class of single judge systems whereby the substantive decisions handed down by the court are made or come under the direction of a single judge. These courts can be distinguished from many of the courts used in previous studies by the mix of legal remedies used in their substantive decisions. With few exceptions, Michigan district courts assess penal fines and court costs in the disposition of criminal cases. The court studies surveyed in the previous section were generally concerned with more serious offenses where the assessment of fines and costs became secondary to imprisonment and probation. In light of previous studies which have documented and explored reasons for substantive criminal performance, this study affords a unique opportunity to examine judicial behavior in a court system which relies heavily on the use of revenue generating legal remedies.

Previous studies indicated that the degree to which substantive variation could be documented and explained depended on the sophistication of the survey techniques employed. The level of experimental sophistication used in these previous studies was partially dictated by the research hypotheses under investigation. The choice of court performance dimensions used in this study is intended to reflect not only those variables which are amenable to statistical hypothesis testing but also those variables which are meaningful to policymakers. It is believed that the choice of variables examined in this study and the statistically significant relationships which are found to exist between these variables also contain an element of political significance.

Primary Data and Sampling

Local courts are engaged in a number of activities, only some of which meet the requirements of being measurable, comparable, and of importance to policy-makers. The criteria of measurability and comparability were used in the selection of criminal cases over civil cases, and state statute violations as against local ordinance violations. Since the type of crime has been shown to be associated with differences in court performance, this study will be concerned with selected offense categories. The selection of individual crime categories was based on the crimes' frequency of occurrence within and across courts and the amount of court expenditures and revenues associated with these crimes. The offense categories selected for this research are classified as being simple or high misdemeanors,

cognizable by a district court.[61] Within the context of this research, a further distinction is made between traffic and criminal misdemeanors. The offense categories examined in this research and its legal citation in Michigan Compiled Laws Annotated are as follows:

Moving Traffic Misdemeanors:

1. Speeding 257.628
2. Driving with no license in possession 257.904a
3. Driving with revoked or suspended license 257.904
4. Failure to yield right-of-way 257.649
5. Disobeying traffic signal 257.612
6. Disobeying stop sign 257.649
7. Improper turns 257.647
8. Improper passing 257.634 - 640
9. Wrong way on a one-way 257.641

Criminal Misdemeanors:

1. Driving Under the Influence of Intoxicating Liquor (DUIL) 257.625
2. Disorderly Persons 750.167
3. Simple Larceny 750.356
4. Possession of Marijuana 335.341 (4) (d)

A complete description of the criminal misdemeanors can be found in Appendix E.

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[61] Misdemeanors according to Michigan Law are as follows: M.C.L.A. 750.8: Misdemeanor - when any act or omission, not a felony, is punishable according to law by a fine, penalty or forfeiture, and imprisonment, in the discretion of the court, such act or omission shall be deemed a misdemeanor. M.C.L.A. 750.9: Misdemeanor - for punishment of misdemeanors not fixed by statute, see M.C.L.A. 750.504.

The substantive court data on these offense categories came from two primary sources which are designated as schedule data and case survey data. For the ten most frequently occurring minor moving traffic offenses, the defendant, under most circumstances, is given the option to plead guilty to the charges against him, at which time the court assesses fines and costs. While the judge reserves full discretion in each case brought before the court, such minor moving traffic offenses are generally disposed of in accordance with a schedule of fines and costs established periodically by the judge or judges. Information on fines and costs assessed in the most frequently committed minor moving traffic violations is generally made available on request to defendants to assist them in disposing of their case by mail. Substantive performance data for the ten most frequently committed minor moving traffic offenses is based on individual court fines and costs schedules used in 1975.[62] While courts differ slightly as to the circumstances surrounding the traffic violation which precludes the use of the schedule, the traffic disposition data used in this survey are believed to reflect the court's policy toward first offenders. Traffic schedule fines and costs data were obtained for each of the district courts in the state.

The remaining four categories of offenses used in the study are considered by the court as being more serious, thus requiring direct judicial discretion in the disposition of each case.

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[62] Schedules of minor moving traffic fines and costs were compiled by personal visits to district courts and by telephone conversations with court personnel. Traffic schedule data used in this study were supplemented and verified by data collected in a study done by the State Court Administrator's Office during 1975.

To get a measure of the courts' policy toward these more serious offenders, several survey methods were considered. One approach which was considered but rejected involved presenting the courts with hypothetical cases in these various offense categories, patterned after the Second Circuit Court Study described in the previous chapter. Another approach which proved unsuccessful was to ask the courts for a probable disposition of a first offender committing one of these crimes. These approaches were rejected for the most part because of the difficulties involved in setting up hypothetical cases which would fairly reflect the court's policy toward these offenses and the reluctance of many judges to offer a probable disposition for these types of offenses. Similarly these approaches would not give an indication of substantive variation within courts.

Rather than ask the courts how they would rule in a particular case, the past records of these courts were examined and data were recorded on the disposition of some 4,308 cases from 1975 and 1,894 pre-1975 cases involving persons originally charged with driving under the influence, disorderly persons, simple larceny, and possession of marijuana.

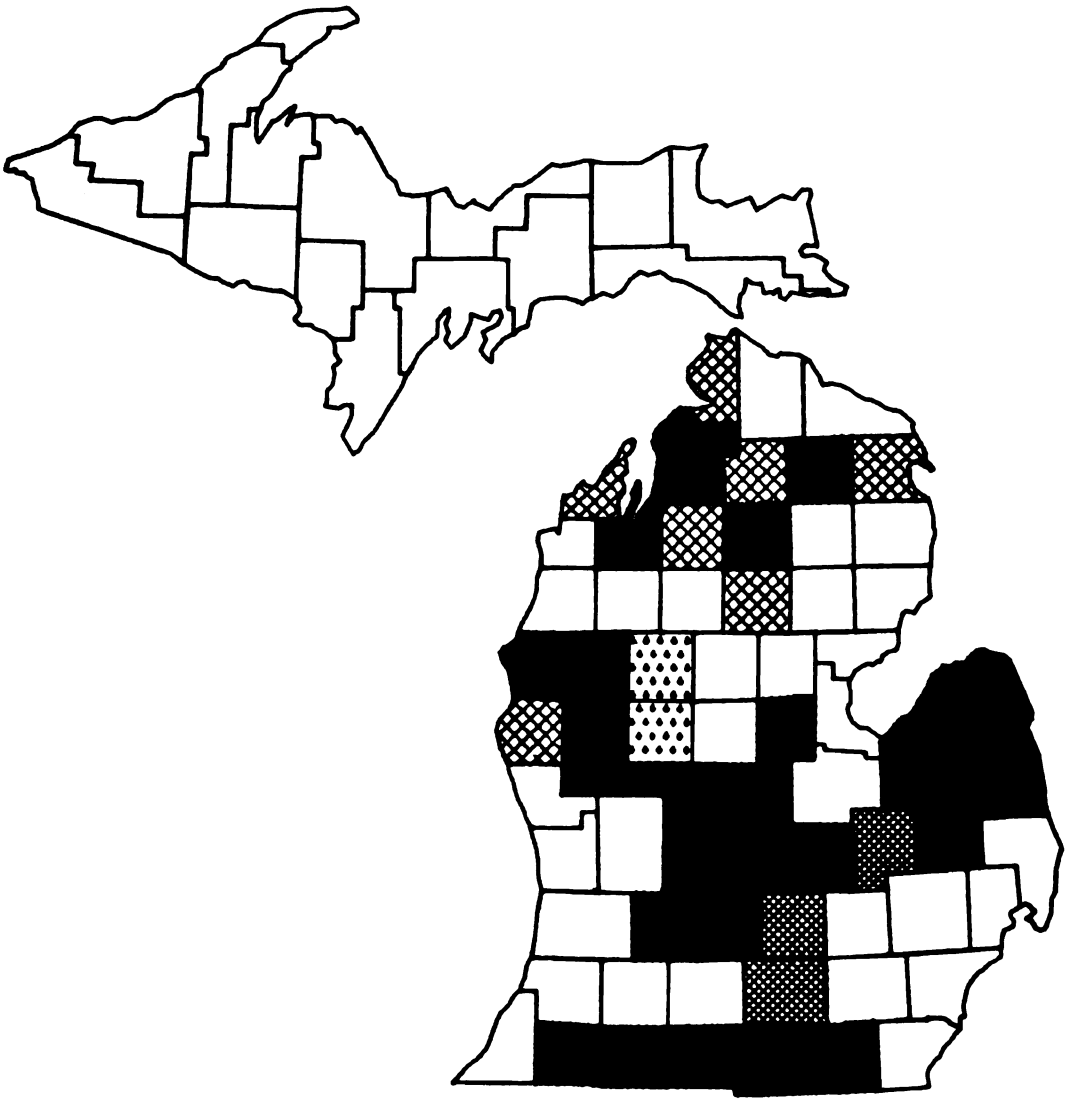
Since it was impossible to obtain survey case data from all district courts, two levels of sampling were necessary. First, it was necessary to pick a sample of courts which would fairly represent the total population of district courts. The 6,202 cases were taken from a sample of 28 district courts, encompassing all or parts of 38 counties and reflecting the decisions of 37 judges. While these courts were not selected at random, no a priori knowledge of court performance was known at the time the courts were surveyed. An

attempt was made to get a cross-section of courts and achieve a balance between courts with elected judges and courts with judges who initially entered office through appointment. Courts in the Upper Peninsula were not surveyed because of research resource limitations. In general, good cooperation was received from the courts surveyed. Attempts to survey two courts proved unsuccessful for the following reasons: in one case the court was in the process of remodeling and in the other case, the judge proved to be uncooperative despite the public nature of the data requested from his court's records. The sample of courts from which criminal misdemeanor data were surveyed is illustrated by Figure 5.1.

The legend describing Figure 5.1 requires further elaboration. Michigan's district court system consists of multi-district-court counties, county-wide district courts and multi-county district courts. Courts in multi-district court counties are referred to as sub-county district courts. As a rule, only one of the sub-county district courts within a multi-district county was surveyed in this study.

County courts comprise all or part of a district. Figure 5.1 makes no distinction between county courts surveyed which are part of a multi-county district and county courts surveyed which are single county district courts. Two types of surveying were employed in this research. Direct surveying refers to on-site compilation of court data. County courts which were not directly surveyed but are part of a multi-county district from which one of the county courts was directly surveyed are referred to as having been indirectly surveyed. This distinction between direct and indirect surveying is

Figure 5.1: District Courts from Which Criminal Misdemeanor Cases Were Surveyed in This Study



County Courts surveyed, comprising all or part of a district

Partially surveyed counties containing sub-county district courts

County courts indirectly surveyed within multi-county districts

Data represents probable hypothetical disposition

Multi-district counties and county courts not surveyed directly or indirectly

made because it cannot be assumed that the multi-county district court judge is consistent in his behavior across counties in his district.

With the exception of one multi-county district, all criminal misdemeanor data were obtained from case records. Since the judge in this exceptional multi-county district had not been in office long enough to have generated a sufficient number of selected cases, data from this district reflect probable hypothetical disposition for first offenders, obtained through a personal interview with the judge. A map of Michigan showing county names, district court numbers and the number of judgeships in each district court is found in Appendix A.

Since some of the more populated courts surveyed in this study had a large number of selected criminal cases, a sample of selected cases had to be taken from judges presiding over the more populated courts. In courts where the number of selected criminal cases in 1975 exceeded 30, a sample of 30 or more cases were chosen at random from 1975 dockets. In courts where the case records were kept alphabetically, randomness was achieved by alphabetical selection. In courts where the case records were kept chronologically, cases were chosen in such a way as to give a representative indication of the selected cases heard during 1975.[63] Where the total number of selected 1975 cases was less than 30, all of the selected cases for

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[63]Data from chronological record system courts were selected on a seasonal basis with an approximately equal number of cases selected from each season. It was assumed that the average disposition for particular offense categories did not vary with seasonal caseloads. For a discussion of the state of district court record-keeping system which existed in 1975, see Appendix C.

the year were used. Selected case observations greater than 30 were obtained from some courts for running alternative statistical tests requiring large numbers of observations. While the court's 1975 case population for each of these offense categories was not precisely known, the number of selected case observations in the majority of courts surveyed approximates the total population of selected cases heard during 1975. It is believed that the consistency in the survey procedures used across courts assumes the comparability of the sample case data.

Record-keeping and legal limitations precluded efforts to choose and sort cases on the basis of whether the defendant was a first or repeat offender. Hence, the selected offense observations from each judge contain both first and repeat offender cases. Techniques of statistical inference are used in subsequent chapters to make statements about the court's first and repeat offender policies. For a further discussion of the current state of record-keeping in the district court system, see Appendix C.

Substantive Case Information

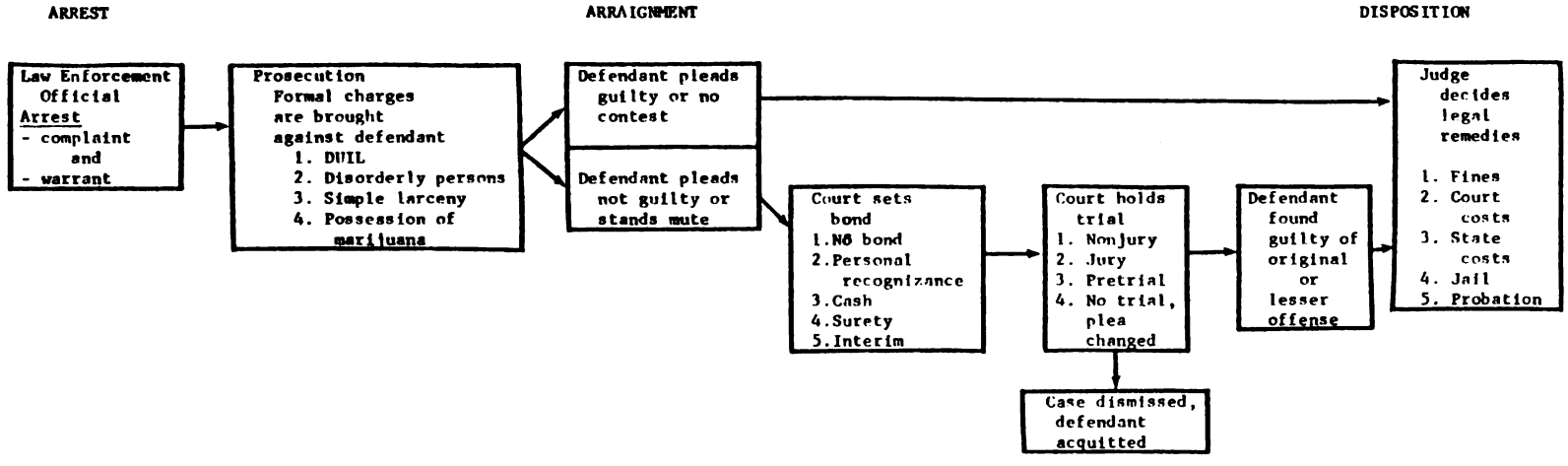
While the district courts are required to keep records or dockets on each case brought before the court, the methods with which these records are kept and the information included on each docket varied from court to court. The sophistication in record keeping is largely determined by case volume, expenditure constraints and the degree of personal knowledge held by the judge about individual offenders. Each of the sample courts kept all or part of the following pieces of information on its case dockets:

1. The initial charge brought against the defendant.
2. Date of arraignment and arraigning judge.
3. Initial plea entered by court at time of arraignment.
4. Amount and type of bond set at time of arrest or arraignment.
5. Date and manner in which case was disposed (type of trial).
6. Whether the defendant plead or was found guilty of lesser crime (plea bargain or charge reduction).
7. Penal fines, court costs and state costs assessed in each case.
8. Number of days sentenced to jail.
9. Length and terms of probation.

The sequence of events which take place when a case is brought to court and the substantive information which is recorded on case dockets is illustrated by Figure 5.2.

This research does not deal specifically with substantive treatment of minority offenders. While casual observation of case dockets and personal interviews with judges suggest that female offenders were treated somewhat differently than male offenders and young offenders somewhat differently than older offenders, record keeping deficiencies and the absence of a large number of female and rural Black offenders preclude any systematic analysis of the extent of differential treatment of individual minority offender cases. An examination is made, however, of the relationship between the courts' substantive decisions and income levels of jurisdiction in which the courts sit.

Figure 5.2 Study Data Associated with the Sequence of Events in Criminal Misdemeanor Case Proceedings in Michigan District Courts



Secondary Data

In addition to the substantive schedule and sample case data, this study is concerned with administrative performance variation across courts. The administrative variables of interest to this court include selected measures of court operating efficiency which are reflected in the following data:

1. State Police waiting time in court
2. Expenditures per case
3. Net revenues per case

These statistics were compiled from the Michigan State Police Court Time Study, 1974-75 Report of the State Court Administrator, and annual reports made to the state treasury by courts and counties.[64] In addition, this study examines the amount of charge reduction which took place in driving under the influence cases as reported in the Michigan State Police Uniform Crime Reports for 1975.[65]

The Statistical Methods

The hypotheses posed in this study and the selection of statistical methods used to test these hypotheses will now be discussed. The hypotheses tested in this study can be restated:

1. Courts deliver significantly different kinds of performance within and across communities.

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[64]Michigan State Police, Michigan State Police Court Time Study, (East Lansing: Department of State Police, Operations Research Section, 1975). Einar Bohlin, 1974-75 Report - State Court Administrator - Michigan, (Lansing: State Court Administrator, 1975).

[65]Michigan State Police, Uniform Crime Reports 1975, (East Lansing: Department of State Police, 1975).

2. Judges account for some of the output differences within and across courts.
3. The jurisdictional boundary of judicial selection and compensation is a significant institutional variable affecting the substantive and administrative performance of the court.

The purpose of statistical analysis is to determine the degree to which courts differ with respect to the substantive treatment of specific kinds of offenses and to explore alternative explanations for why these differences exist. The nature of the data imposes certain limitations upon the statistical test which may be applied.

Before court performance can be documented and compared, a method must be devised by which the analyst can make definitive statements about the courts' substantive and administrative decisions. The court performance indicators used in this study take two general forms:

1. Aggregated, summary or schedule descriptive statements derived from a single observation or reflect a particular performance indicator during a specified period of time.
2. Inferrential statistical statements derived from repeated observations and expressed in the form of statistical population parameters.

Descriptive statements, in the context of this study, include such measures as police waiting time, schedule traffic fines and costs, percentage of defendants demanding trials, etc., where the court performance measure reflects a single or summary statement about

the courts' policy or activities during a period of time. Documenting court differences with respect to these categories is accomplished by describing and displaying such information and allowing those associated with the courts decide whether described differences are of any political significance.

On the other hand, inferrential statements of court performance are derived from repeated observations and expressed in the form of parameters, and require the application of certain statistical operations in order to capture various dimensions of court performance. Statements about the court's drunk driving policy will be used to illustrate these dimensions of court performance or statistical parameters of interest to this study.

1. Average or mean fine and costs assessed to drunk drivers by the court.[66]
2. Variation in fine and costs assessed to drunk drivers by the court.
3. The minimum and maximum fine and costs assessed to drunk drivers by the court.
4. The modal distribution of the fine and costs assessed to drunk drivers by the court including:
    a. first mode or most frequently assessed fine and costs
    b. second mode or the second most frequently assessed fine and costs

[66]Fine and costs assessed by Michigan district courts include penal fines, court costs and state costs. During the time of this study, state costs were referred to as judgement fees. For an explanation of fine and costs assessment and disbursement, see Appendix B.

c. third mode or the third most frequently assessed fine and costs.

5. The percentage of drunk drivers jailed and the average number of days sentenced.

6. The percentage of drunk drivers placed on probation and the average number of months of probation.

Each of these statistical parameters reflected a certain dimension of the court's policy toward drunk drivers. A brief interpretation of each of these statistical parameters and the method by which comparisons will be made is now in order. The reader should keep in mind that statements about the court's policy toward selected offenses must be made in light of each of the above statistical parameters. Applications of the following interpretive exercise are deferred until Chapter VI.

Because record-keeping and legal limitations precluded the compilation of criminal misdemeanor cases according to offender status, the court's policy toward first and repeat offenders is inferred from case observations containing both first and repeat offenders. To the extent that the court heard more first offender cases than repeat offender cases and to the extent that courts treated first offenders with fine and costs uniformly, the first mode (most frequently assessed fine and costs) reflects the court's fine and costs policy toward first offenders. Under the above conditions, the frequency percentage associated with the first mode fine and costs gives an indication of the uniformity of the courts fine and costs policy toward first offenders.

Statements about the court's treatment of repeat offenders can be inferred from:

1. The existence and relative frequency percentage of the first, second and third modes.
2. The mean fine and costs minus the most frequent fine and cost assessed in a category of offenses.
3. The percentage of defendants and average period of time spent by defendants in jail and on probation.

To the extent that second and third mode fine and costs reflect dispositions of second and third offenders respectively, an examination of the relative frequency percentages of each fine and cost mode should give some indication of whether the court used a progressive fine and cost policy to deal with repeat offenders. Where the modal pattern of fine and costs is not distinct such that a declining relative frequency percentage is associated with higher order modes and progressive such that higher order modes are increasing in value, then the court probably used some non-fine-and-costs penalty in disposing of its repeat offenders in addition to or in place of fines and costs.

Other indications of the court's treatment of repeat offenders can be inferred by comparing the mean fine and costs and the first mode (most frequently assessed fine and costs). If the mean fine and costs is greater than the most frequent fine and cost, then the court was probably using a progressive fine and costs policy to repeat offenders. The reasoning behind this is that since the mean fine and costs is computed using first and repeat offenders and the most frequent fine and costs is thought to represent the fine and costs

assessed to first offenders, the direction of the difference between the mean fine and costs and the most frequent fine and costs is attributable to the progressive or regressive nature of the court's repeat offender policy. A progressive fine and costs policy results in a positive mean-minus-mode fine and costs value while a regressive fine and costs policy results in a negative mean-minus-mode fine and costs value.

Further evidence of a regressive fine and costs policy can be found by examining the percentage of cases in which jail and probation was used and the average period of jail and probation time.

If the distribution of offender characteristics was comparable across courts (ratio of first to repeat offenders) then the fine and costs variance represents the degree to which courts used their discretion in individual cases. Stated conversely, the amount of fine and costs variation within a specific offense category is a measure of the court's fine and costs uniformity.

The mean or average fine and cost assessed in various offense categories combines the information about the court's treatment of first offenders and the court's policy toward repeat offenders. The mean fine and cost assessed in a specific offense category is a more comprehensive statement of the court's attitude toward selected groups of offenders, even though this fine and cost may never have been assessed in any one particular case. To the extent that characteristics of the criminal population are randomly distributed across courts, and no conclusive evidence has been found to suggest otherwise, then mean fine and cost differences across courts can be interpreted as evidence of substantive performance differences across courts.

A comparison of substantive court performance as reflected in mean fine and costs and in fine and costs variance can be accomplished with the application of analysis of variance.[67] Analysis of variance statistical techniques utilizes information about the mean and variance of each court's policy toward drunk driving cases along with information on the mean and variance of policies of all courts taken together, to test whether courts differ in their average policy toward drunk drivers. The question asked by this statistical technique is whether the variance which exists within a court's policy toward drunk drivers is large enough to account for differences in the average between courts or conversely, whether the variation or difference observed between courts is greater than what can be explained by the variance of differences which exist within individual courts.

Analysis of variance can also be used to test whether there are statistically significant differences in the fine and costs variance between courts. On the assumption that the offender population is randomly assigned across courts or that the distribution of offender population characteristics is the same across courts, analysis of variance enables the analyst to compare the variance which results as members of the same offender characteristic population are assigned or brought before different courts. It can be shown statistically whether the variances obtained from separate treatments of samples of a population are significantly different.

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[67] For a more detailed discussion of Analysis of Variance see: William Mendenhall, Introduction to Probability and Statistics, 2nd ed., (Belmont, Calif: Wadsworth Publishing Co., Inc., 1969), pp. 268-289.

The statistically significant differences derived from the application of analysis of variance to sample case data will be added to other statistically inferred policy statements along with descriptive statements so that those associated with the court can decide whether these derived and observed differences are politically significant. To assist the decision-maker in forming judgments on and interpreting these differences, an examination of the judge's role in relation to observed and derived differences will be made (Hypothesis 2) along with the various institutional, sociological, and economic variables associated with these differences (Hypothesis 3).

One major criticism of the many previous studies in the area of documenting and explaining substantive court variation has been in their casual treatment of the judge's relationship to court performance. The argument can be made that if court performance is measured by substantive decisions of the judge then differences in court performance are attributable to the judges which sit on these courts. Since much of the study relies on the strength of the above argument, an attempt will be made to ascertain whether the judge actively pursues his discretionary powers in shaping the court's substantive performance.

Under the assumption that criminal population characteristics across courts are homogeneous, analysis of variance can be applied to substantive case data to test whether differences actually exist. Observations suggest that without further research into the nature and distribution of the criminal population across courts, the above assumption may not be valid in all comparisons. In experimental design terms, these comparisons will be considered by some as being

weak in that they lack the element of random assignment of offenders across judges. To control for the threat of non-randomness, two alternative tests will be employed. One test involves cross-sectional comparisons of judges in multi-judge courts in which each judge deals with the same would-be offender population. Since drunk driving cases are assigned to judges in multi-judge courts at random, comparisons of substantive judge decisions in multi-judge court offer a design to test whether judges actively pursue their individual discretion in criminal cases.

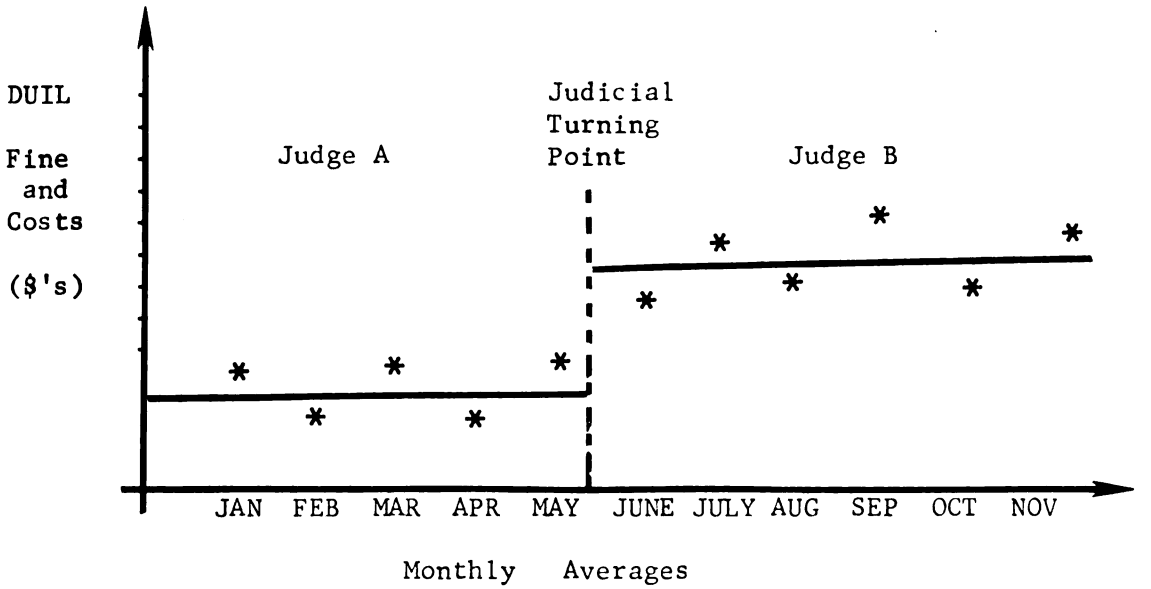
Another test which will be used to ascertain the judge's contribution to the court's substantive performance, involves time-series comparisons of court performance across a turnover in the judgeship. In comparing court performance before and after a change in judges (judicial turning point) the assumption is made that other factors which could affect court performance remain constant. This particular experiment is referred to in the literature as regression-discontinuity design, the methodology of which will now be explained.[68]

Regression discontinuity permits the researcher to examine what happens to some particular performance measure over time, in response to some treatment or, in the instant case, in response to a judicial turning point. Using fines and costs assessed in drunk driving cases as the performance measure of interest, this research design is illustrated in Figure 5.3.

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[68]Donald T. Campbell and Julian C. Stanley, Experimental and Quasi-Experimental Designs for Research, (Chicago: Rand McNally, 1963), p. 61.

Figure 5.3 Graphic Analysis of Two Half-Period Hypothetical Regression Lines Representing a Court's Monthly Average DUIL Fine and Costs -- Before and After a Judicial Turning Point



The point of interest to the researcher is in the changes which take place at the judicial turning point as expressed by the discontinuity in the fines and costs regression line. The reader will notice that since there tends to be some variation in fines and costs over time for each judge, the statistical problem is somewhat analogous to those found in analysis of variance where the concern was determining whether the variation within a group of repeated observations accounts for observed differences across groups. The statistical problems associated with regression discontinuity involve determining whether the time series variation in fine and costs which existed during the individual judge's stay in office accounts for observed differences in fines and costs at the judicial turning point. In other words, are the observed differences at the judicial turning point larger than what could be explained by the variation within each judge's policy over time.

Regression discontinuity can be viewed as a special case of analysis of variance which takes into account variation over time. A comparison of average fines and costs for the two judges is invalid if there is a steady increase or decrease in fines and costs over time. If fines and costs are increasing over time a comparison of average fines and costs will show a difference between the two judges which is not substantiated by a significant discontinuity in the fine and cost trend. A statistical technique which allows the researcher to test whether the differences which take place at the judicial turning point are significant in a statistical sense involves the use of regression analysis.

Regression analysis permits the researcher to measure the degree of association between two phenomena (simple regression). One manner of explaining fines and costs depends on the degree to which fines and costs are associated with some other variable. To the extent that fines and costs are associated with some other variable, the analyst can use this variable to predict fines and costs. The degree of association between two variables can be expressed within the context of error or variation which exists between the series of observations in Figure 5.3 and a line drawn through these points such that the distance between the line and the points is minimized. The more variation or error which exists between these fine and cost points and the fitted line, the lower the degree of association between fines and costs and time.

In testing Hypothesis 1, analysis of variance is concerned with variations around some mean level of fine and costs. In regression discontinuity the analyst is concerned with variation around

different time period segments of the fine and cost trend or regression line. Rather than comparing mean fine and cost levels in light of the degree of variation in each judge's substantive policy toward drunk drivers, regression discontinuity examines the change which occurs in the trend line at the judicial turning point with respect to the variation which exists along the fine and cost trend line. This comparison between the difference observed at the judicial turning point and the differences or variation which exists throughout the period is accomplished by fitting a regression line to each judge's period in office, summing the error or variation obtained from these separate regressions, fitting a regression line to the entire period encompassing both judges and computing the error or variation around the whole period regression line. With these two measures of variation, the analyst can test whether the amount of error or variation derived from two separate regression lines is significantly less than the error or variation derived from one regression through the whole period. If the amount of error or variation around the whole regression line is significantly reduced by allowing the regression line to kink or discontinue at the judicial turning point, it can be shown statistically that judge B's substantive policy is significantly different than judge A's.[69] The contrast of these measures of variation can be shown by Figures 5.3 and 5.4, which contain the same observations of monthly average fine and costs.

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[69]The whole period regression line is constructed by fitting a single regression through all observations (both judges together).

Figure 5.4 Graphic Analysis of the Time-Series Variation Surrounding Two Half-Period Hypothetical Regression Lines Representing a Court's Monthly Average DUIL Fine and Costs - Before and After a Judicial Turning Point

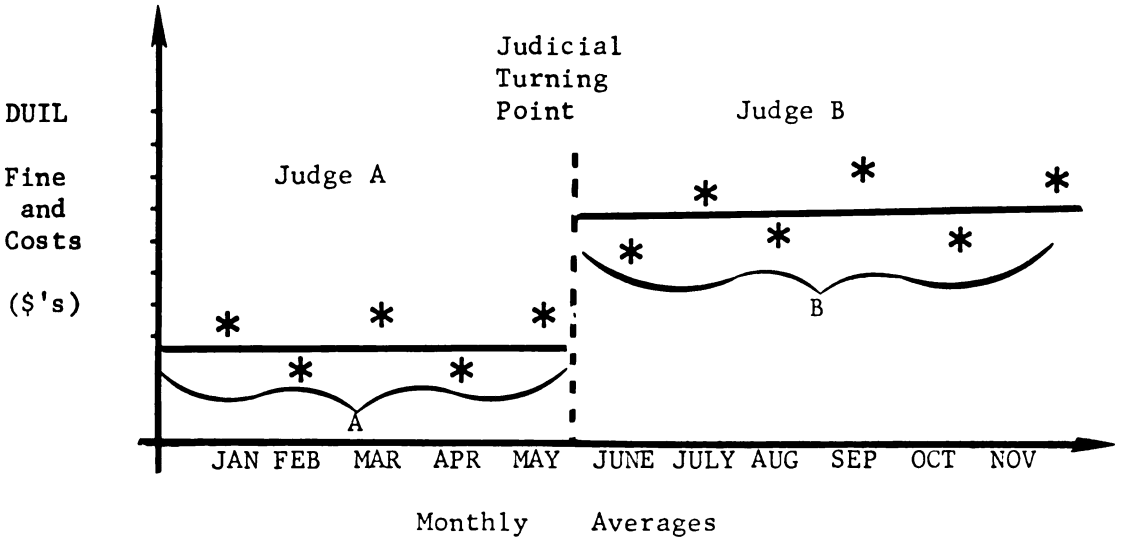
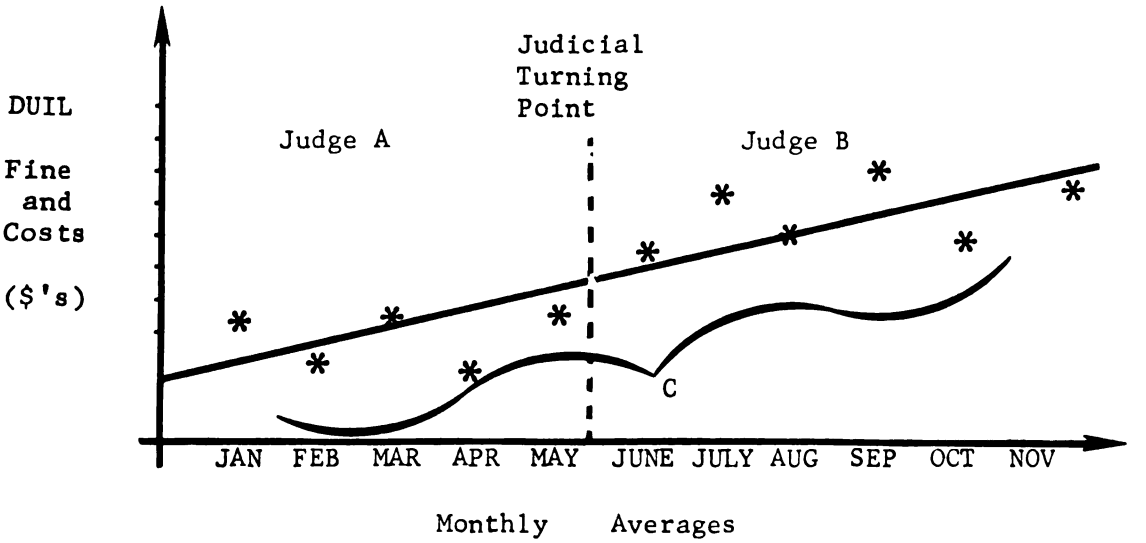


Figure 5.5 Graphic Analysis of Time-Series Variation Surrounding One Whole Period Hypothetical Regression Line Representing a Court's Monthly DUIL Fine and Costs - Across a Judicial Turning Point



By comparing the amount of variation around the separate half period regression lines in Figure 5.4 (A & B) with the amount of

variation around the single whole period regression line in Figure 5.5 (C), the researcher can test three general statements about the court's substantive drunk driving policy in the two periods.

1. The intercept of the fine and cost regression line at the judicial turning point is significantly different than what can be explained by the individual judge variation.
2. The slope of the fine and cost regression lines of the two periods is significantly different.
3. Both the intercept of the fine and cost regression line at the judicial turning point and the slope of these lines are significantly different.

The nature of regression discontinuity experiments is such that the researcher is primarily interested in a discontinuity or intercept difference at the judicial turning (statement 1 above). Changes in the slope of the regression lines are not considered valid unless the researcher can demonstrate with the use of a control group, the appropriate slope of the post judicial turning point period. A more rigorous treatment of the statistics involved with regression discontinuity will be given in the analysis chapters which follow.

The concept of simple regression can be expanded to include a method of measuring the relationship between more than two variables (Hypothesis 3). If it is expected that DUIL fines and costs are influenced by more than one variable, multiple regression can be used to measure the degree of association between some combination of independent or predetermined variables and the dependent variable. The distinction between dependent and independent variables emerges

from the researcher's theoretical framework along with the hypotheses to be tested. This research employs multiple regression analysis in an effort to discover the degree to which certain institutional, sociological and economic variables contribute to the variation in selected dimensions of court substantive and administrative performance.

Multiple regression analysis, like simple regression analysis, fits a regression line such that the error or variation between that line and a combination of points representing values for the independent variables is minimized. Unlike simple regression, multiple regression operates in more than two dimensions and therefore cannot be illustrated graphically. The contribution which any one independent variable makes in explaining the variation in the dependent variable and the contribution which all of the independent variables make to explaining the variation in the dependent variable can be described in the context of analysis of variance.

The degree of association between the dependent variable and a combination of independent variables is measured by comparing the variation which takes place in the dependent variable relative to the variation which takes place in the independent variables. In general, the researcher discovers that only part of the variation in the dependent variables can be explained by the variation in the independent variables. The degree of association between a dependent variable and the combination of independent variables is derived by comparing the proportion of the variation in the dependent variable explained by the independent variables to that proportion of variation in the dependent variable which cannot be explained. In a similar fashion, the contribution which any one independent variable makes

in explaining the amount of variation in the dependent variable is measured by comparing the extent to which that particular independent variable reduces the proportion of unexplained variance in the dependent variable, or to what extent does the variation in that particular independent variable add to explaining the variation in the dependent variable. If the proportion of unexplained variance is not reduced by a certain level with the introduction of a dependent variable then it can be shown statistically that that particular independent variable is insignificant in its contribution to explaining the variance in the dependent variable. If the model has been specified correctly in terms of the combination of independent variables included in the regression equation and if certain assumptions about the independent and dependent variables are met then the researcher can conclude that a particular independent variable is not associated with the dependent variable or in the context of this research that a specific institutional, sociological or economic factor does not significantly affect court performance. A more rigorous treatment of multiple regression along with the assumptions underlying its application can be found in Elements of Econometrics, Chapters 7 through 10.[70] The ideas behind multiple regression will become more clear with its application in the analysis chapters which follow.

This chapter has been concerned with the various methodological issues associated with this study. An attempt was made to place this study in the broader perspective of research efforts done

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[70] Jan Kamenta, Elements of Econometrics, (New York: MacMillan Company, 1971), pp. 197-391.

in the area of judicial behavior and court performance. The sources and methods for gathering various kinds of data used in this study were discussed and an attempt was made to demonstrate some of the methodological problems encountered in any type of comparative and explanatory research. An intuitive treatment of the statistical methods used in this study was offered to give the reader a feel for how these various techniques work. With the conceptual framework developed in earlier chapters and the methodology formulated in this chapter, the following chapter will deal with the construction of court performance indicators which will be used to test the extent to which district courts differed in their substantive and administrative performance during 1974-75.

CHAPTER VI

SUBSTANTIVE AND ADMINISTRATIVE PERFORMANCE OF MICHIGAN'S DISTRICT COURTS (1974-75)

The purpose of this research in general and this chapter in particular is to describe and compare how Michigan district courts are operating under existing methods of judge selection and court financing. Various court performance indicators are developed for purposes of documenting existing performance and predicting the impact of proposed legislation to alter judge selection and court financing. These court performance indicators will also enable local residents to publicly debate local court policies. To the extent that court performance is a reflection of local attitudes toward various types of behavior, these indicators serve to inform would be offenders of potential consequences of certain types of misbehavior.

This is primarily a study of how the rules by which courts are operated and staffed affect the subsequent rulings made by the court and their impact on the administrative and substantive performance of the court. From an institutional perspective, this study is concerned with how the interdependence between the judge and the groups associated with judge selection and court financing affect court performance. Before such relationships can be explored, it must be demonstrated that courts differ in their substantive and administrative outputs and that the judge makes a unique contribution to the performance of the court.

Under current arrangements, the information system in which local courts operate is lacking both conceptually in the manner in which the relationship between the court and the community is described and empirically in the manner in which existing performance indicators are compiled and disseminated. The following section describes and compares substantive and administrative differences between courts. The intention is to add a dimension to the current information system through the creation of performance indicators which local and state policy-makers will find useful to their decision-making.

The Relevance of Court Performance Indicators

Economic literature at the macro level is replete with performance indicators of various types which attempt to give the general public a picture of the economy. These indicators are subsequently used to describe trends in economic activity and predict future states. The formulation and display of performance indicators describing the local legal system serve to give local residents a similar picture of their local court and gives them a base from which to measure future states. The discussion of court performance measures which follows is accompanied with a few statements as to its relevance to various groups associated with the court. The reader is reminded that data are not information and one's choice of things to keep track of is influenced both by prior conceptualizations of the subject matter and the boundary of individuals which are to be informed by the research. Consequently, the performance

measures selected herein are by no means exhaustive but are thought to be useful to public decision-makers.

The Disposition of Minor Moving Traffic Offenses

Of particular interest to many local residents and would-be offenders is how the courts are disposing of the more frequently committed minor traffic offenses. While the impact of the court's treatment of minor offenses to a single individual may be small, the particular policy adopted by the court is thought to be important in that it affects such large numbers both inside and outside the community. Rather than invest a great deal of variable court resources in the disposition of these minor offenses, judges periodically establish a schedule of penalties to be assessed to those either pleading guilty or found guilty of one of these minor offenses.

Data from a compilation of minor moving traffic fine and costs schedules are displayed with the use of maps, shaded according to the fine and costs assessed for various minor moving traffic offenses. These and subsequent maps were prepared by Michigan State University computer facilities with a special computer package designed by Larry Sniderman, Office of Health Services, Education and Research -- College of Human Medicine.

It is believed that the presentation of court performance data in geographic form is more amenable to cross county comparisons. The reader should note that the level of geographic aggregation chosen in the following maps ignores, in some instances, differences which may have been present between counties in multi-county districts and between sub-county districts within multi-district counties. The

data from which these maps were designed is found in Appendix F.

The discussion of the following court performance indicators is intended to illustrate differences which existed in court performance during 1974-75. Various statistical parameters are discussed to give the reader a feel for both absolute and relative performance levels which can be used to compare individual courts as well as future systems performance indicators. Whenever comparative data is displayed, there is a tendency for the reader to be more attracted to extreme data points and pay little attention to data which fall near the middle of the data range. It is not the intention of this research to suggest that more attention should be given to those courts with performance indicator levels which fall in the lower or upper extreme of the distribution. It is hoped that the performance levels for <u>each</u> court will serve as a basis for public discussion.

Public debate should not be limited to questions related to extreme performance scores, rather questions relating to differential performance between courts in similar types of jurisdictions and questions relating performance levels to community sociological, political or economic characteristics should also be addressed. For example, why should a court with traffic fine and costs levels which approximate the state average be immune from public discussion if that court sits in a jurisdiction with the highest per-capita highway accident rate in the state? Similarly, reasons for a court's performance level being extremely high might be related to extreme characteristics in the jurisdiction. There may be numerous reasons why a court generated an extreme performance level and there may not be any particular "safety" associated with performance levels near the

system's average.

Fines and costs assessed for speeding 10 miles-per-hour over the speed limit during 1975, as shown by Figure 6.1, ranged from $10 to $39.[71] County names and district court numbers for Figure 6.1 can be identified by referring to Figure A.2 in Appendix A. The mean fine and costs for speeding 10-over, across Michigan's 83 counties was $19, with approximately 68 percent of these fines and costs falling between $14 and $24, reflecting a standard deviation of $5 and a variance of $26.[72] In the context of a normal, symmetrical bell-shaped distribution, these fines and costs are skewed slightly to the right with a skewness value of (+.85) and relatively peaked with a kurtosis value of (+1.45).[73]

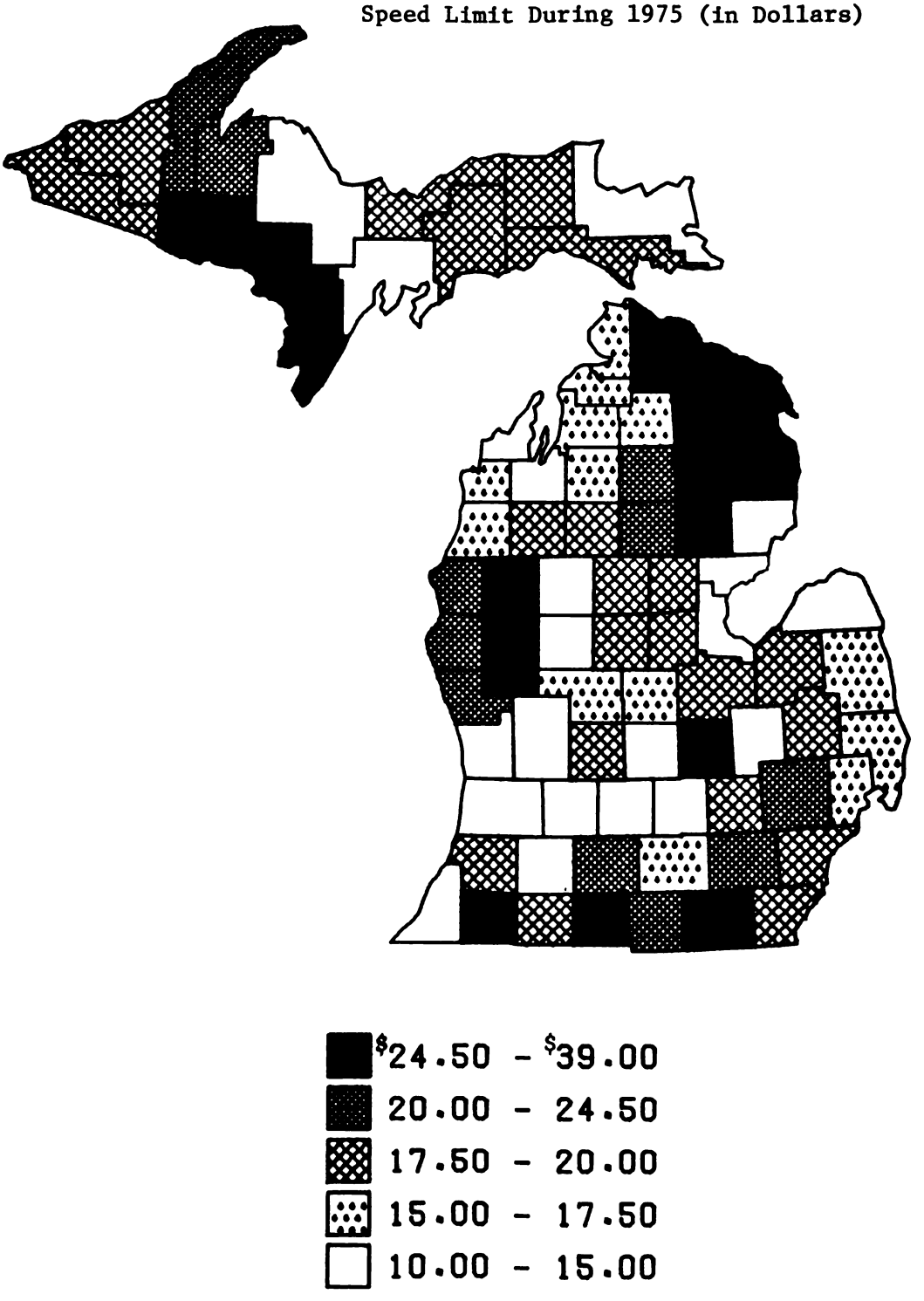
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[71]Fine and costs data and other performance data given in the text of this section are rounded off to the nearest unit. The more precise data from which the textual data was derived is found in subsequent tables.

[72]Computed according to the Empirical Rule which states that given a distribution of measurements that is approximately bell-shaped, 68 percent of those measurements will fall within one standard deviation of the mean. See William Mendenhall, Introduction to Probability and Statistics, (Belmont, California: Wadsworth Publishing, 1969), p. 37.

[73]Deviations from normal distributions are expressed by the population parameters kurtosis and skewness, both of which possess a value of 0 under normal conditions (normal is defined as a statistical expression and not as a measure of what is socially acceptable). Positive skewness values mean that the bulk of observations lie slightly left of the center of the distribution which is skewed or trails off to the right. Negative skewness implies the opposite. Kurtosis defines the relative peakedness of a distribution such that a positive kurtosis is peaked and a negative kurtosis is flatter than a normal or bell-shaped distribution of measurements. For a graphic illustration of skewness and kurtosis, see Appendix D.

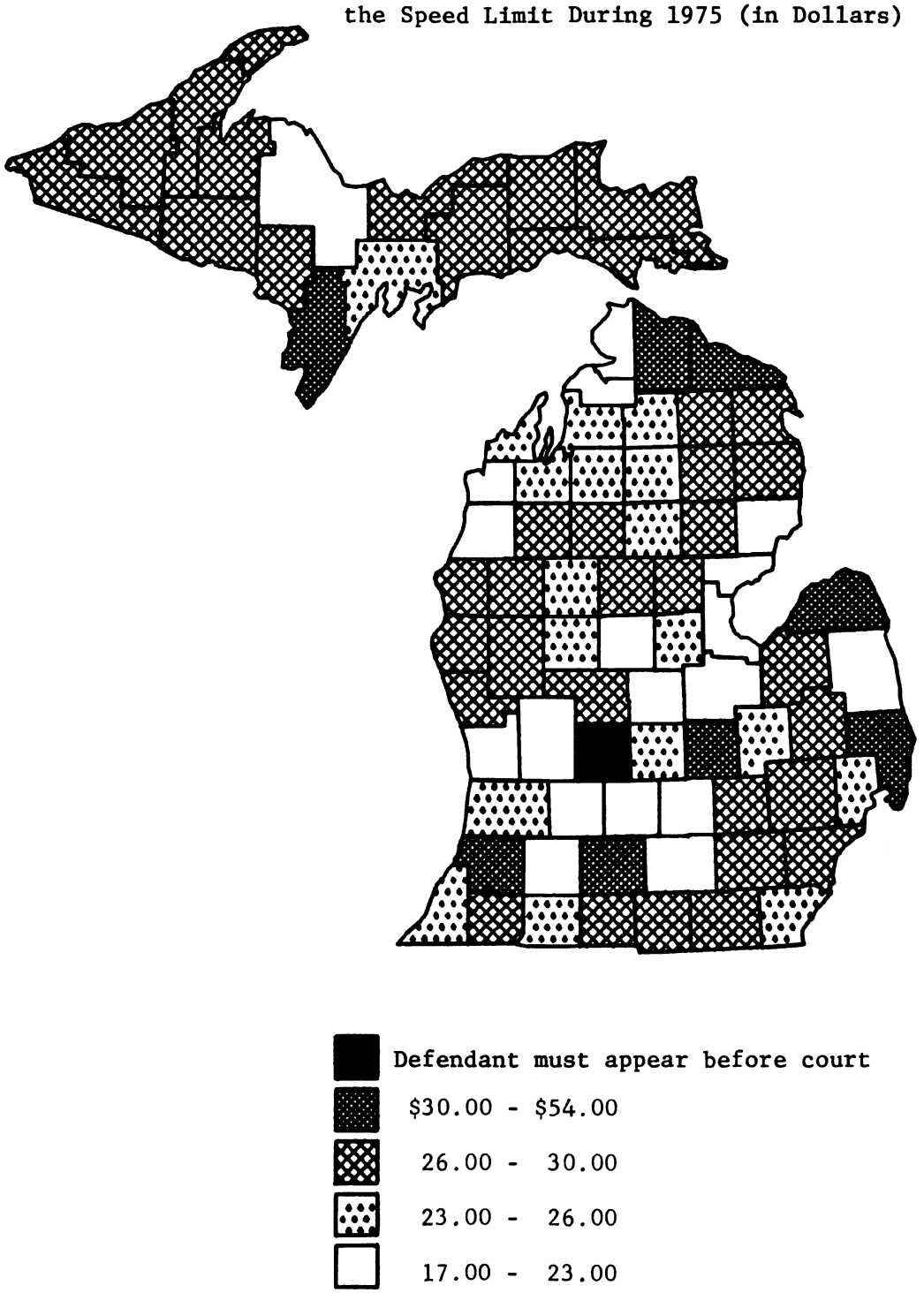
Figure 6.1: Michigan District Court Fines and Costs for Driving Ten Miles-Per-Hour Over the Speed Limit During 1975 (in Dollars)



The relevance of these descriptive statistics derives from the statements which can be made about substantive court policies toward this category of traffic offenders. These statements can later be used for comparing the direction and magnitude of court policy changes. For those who feel that greater substantive uniformity is desirable, a subsequent performance measure of fine and costs variance and kurtosis can be compared to those documented in this research to determine whether courts are becoming more uniform in their policies toward speeders.

The second most frequently occurring traffic violation is speeding 15 miles per hour over the speed limit, the fines and costs of which are shown in Figure 6.2. Penalties for this offense category ranged from $17 to $54. The average fine and costs for 82 of the 83 counties for which data were available equaled $27. Since motorists apprehended for traveling 15 over in Ionia County were not comparable and were therefore excluded from the computations of the following statistics. The fine and costs variance of $28 for traveling 15 over was slightly higher than for traveling 10 over with approximately 68 percent of the counties assessing between $22 to $33. With a positive kurtosis of 6.57, it would appear that courts are more uniform in their substantive policies to speeders going 15 over as compared to policies to speeders going 10 over. The relatively higher positive skewness of 1.40 suggests that some courts view this offense as being more serious relative to other courts and relative to speeding 10 miles per hour over.

Figure 6.2: Michigan District Court Fines and Costs for Driving Fifteen Miles-Per-Hour Over the Speed Limit During 1975 (in Dollars)



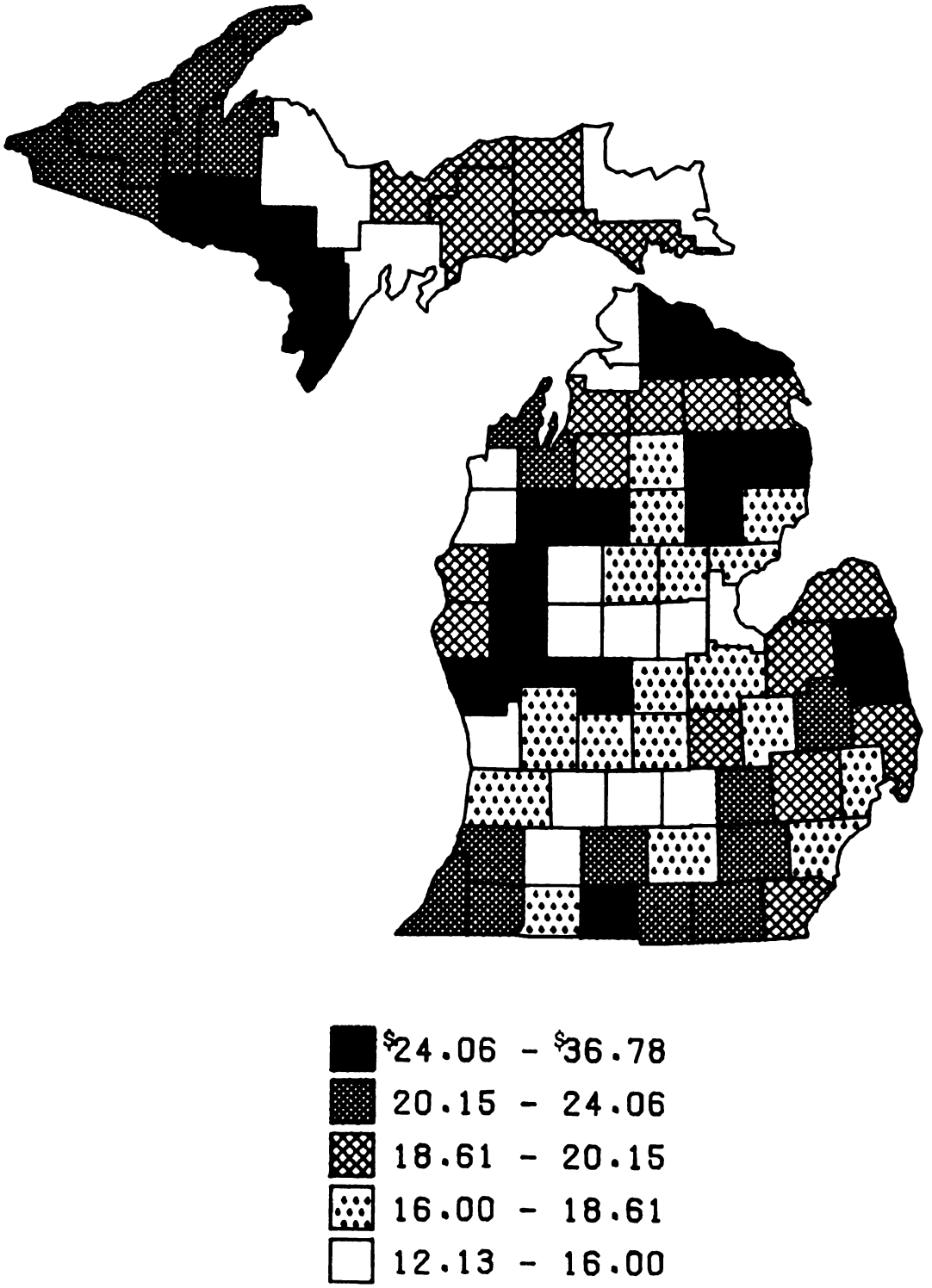
The average fines and costs assessed in the most frequently committed traffic violations is given by Figure 6.3.[74] The state simple average across 83 counties was equal to $20 with a variance of $21 and standard deviation of $5, implying that the average fine and cost assessed to violators of the 10 most frequently committed traffic offenses ranged from $15 to $25 in 68 percent of the counties. The minimum average value was $12. The distribution of these average fine and costs were skewed to the right (skewness = +.96) and peaked (kurtosis = +1.07).

In comparing substantive court performance toward various offenders (as reflected in the court's assessment of fines and costs), across courts and over time, the reader should keep in mind that these performance indicators reflect how the courts treated these offenders, and not how other participants in the local legal system treated these offenders. In other words, it is not known how many persons actually committed these offenses and what percentage of them were arrested and charged. Likewise, these figures ignore discretion used by the arresting officer in his arresting behavior and the prosecutor in his charging behavior. Scattered evidence suggests that in cases where the observed traffic violation required the appearance of the arresting officer in court, there were cases where the observed

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[74]The ten most frequently committed moving traffic violations from which a simple average was computed include: Speeding 10 over, speeding 15 over, driving with no license in possession, driving with revoked or suspended license, failure to yield right of way, disobeying traffic signal, disobeying stop sign, improper turn, improper passing, traveling wrong way on a one-way street.

Figure 6.3: Michigan District Court Average Fine and Costs for Ten Most Frequently Committed Minor Moving Traffic Offenses During 1975 (in Dollars)



violation was reduced to a lesser offense which did not require the officer's presence in court.

Information on the average fines and costs assessed in minor traffic offenses gives an indication of substantive treatment of different forms of driving related behavior in the community. To the extent that such minor traffic offenses make up a major portion of the court's caseload, the level of fines and costs assessed in these cases contributes to revenues of the court which make up one aspect of the court's administrative performance. Courts do not operate free of charge, rather, they must compete with other public agencies for funding. Unlike many of the higher courts, these local courts are allowed to offset all or part of their expenditures through the assessment of fines and costs. For those associated with the local court, an important issue is one of who pays for the provision of court services. For taxpayers and offenders alike, performance information on who pays for the operations of the court is expressed in court revenue and expenditure terms. Administrative performance indicators reflecting how courts and their funding agencies approach the issue of who should pay for the operations of the court can be expressed in the form of expenditures and revenues per case.

Expenditures Per Case

Constructing expenditures per case indicators involves some methodological issues of aggregation which merit some discussion. One dimension of data aggregation involves the selection of case types across which expenditures are to be distributed in light of differences in the variable expenditures required by various types of cases (traffic, criminal, civil, small claims, landlord tenant). Another level of

aggregation involves the question of what is to be included as an expenditure of the court. Still another dimension to aggregating data involves the selection of an appropriate geographic unit of observation.

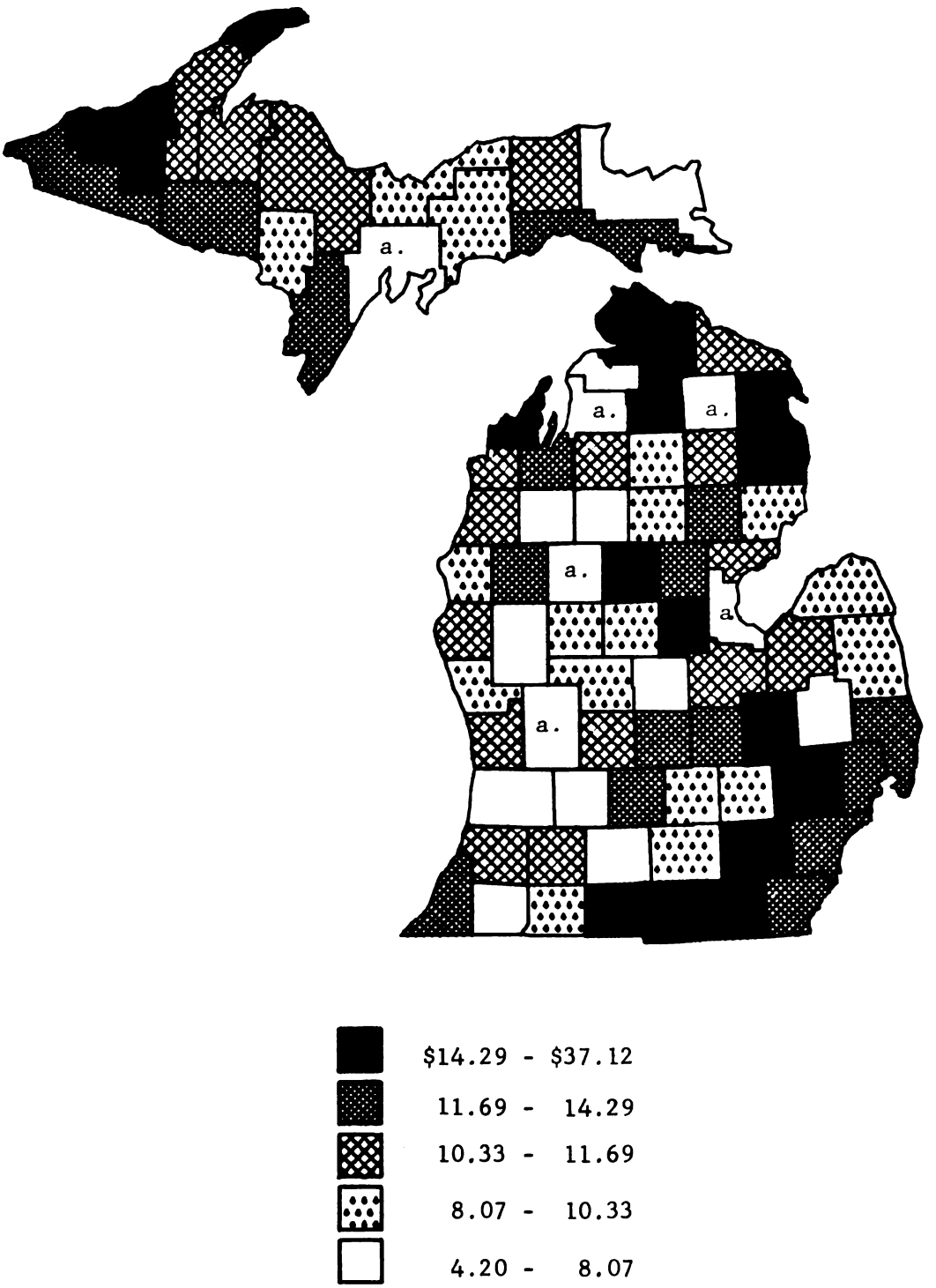
The district court expenditures per case appearing in Figure 6.4 are computed at the county level, include all cases heard by the court(s) in the county for the fiscal year 1974-75, and reflect total locally funded expenditures of the court(s) as reported by the local funding unit (district control unit) in 1974.[75] Expenditures per case were computed by dividing total locally funded expenditures, including amounts spent by magistrates and probation departments, into total cases disposed by the court. While the expenditure period did not coincide precisely with the caseload period, it is thought that comparisons across courts are valid. Comparisons over time should also be valid if the expenditure per case figures are compiled in a similar manner.

Some decisions made by the district court affect the amount of money which local governments allocate to the overall criminal justice system. In general, since these expenditures are not recorded as being a part of the district court budget, they will be referred to as indirect locally funded expenditures associated with district court operations. A variety of these indirect expenditures exist but it is empirically difficult to measure the extent to which decisions made by district courts affect and thus become a part of

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[75]For a definition of "district control unit" and a description of court expenditure items not financed by the "district control unit," see Appendix B.

Figure 6.4: Locally Funded District Court Expenditures Per Case Heard in Michigan District Courts (1974-75)



a. Data not available.

operating budgets of other participants in the local legal system.

Some of the indirect costs associated with going to court are discussed in subsequent sections. Indirect locally funded expenditures associated with committing defendants to jail before or after trial in district court and with cases being appealed from district court were not included in the locally funded expenditure per case estimates because such data are not readily available. Omissions of indirect locally funded expenditures leave open the possibility that courts with relatively low direct operating expenditures per case may be generating relatively high indirect expenditure burdens for local funding units. For policy makers, these indirect locally funded expenditures associated with decisions made by district courts should also be considered when comparing expenditure performance across courts and over time.

The county was selected as the geographic unit of observation because the majority of the rural district control units are at the county level. Since court caseload data are reported by courts, some of which are multi-county in nature, estimates of individual county contributions to total multi-county court caseloads were made according to the proportion of the total multi-county court population residing in each county. These estimates were made on the assumption that the amount of business brought from various jurisdiction within a court is proportional to the population of these areas. Aggregation of multi-court county figures was accomplished by dividing total locally funded expenditures by courts in the county by the total cases disposed by all courts in the county. In multi-court counties with missing court data, the expenditure per case figures were

computed from available court data on the assumption the values computed in this manner approximate the values which would have been obtained had data been available on all courts in the county.

Data on total locally funded expenditures were compiled from annual financial statements submitted by district control units to the State Treasury. Omissions of expenditures per case figures in selected counties were the result of missing data elements in some instances and in other instances, judgements on this researcher's part regarding suspected inconsistencies in the reporting format used by the district control unit. Expenditure per case estimates in excess of $50 per case were taken as evidence of recording inconsistencies and treated as missing data. Raw data from which these tables were constructed are listed in Appendix F.

The mean county aggregated, locally funded, expenditure per case heard in 77 Michigan counties for which data were available equaled $12. The least expenditure per case estimate was $4 and the highest figure was $37. The variance in expenditures per case amounted to $24, with a standard deviation of $5, suggesting that 68 percent of the counties operated their courts in the neighborhood of from $7 to $17 per case. A kurtosis value of +8.43 suggests that a high degree of uniformity existed in the operating performance of district courts during the 1974-75 fiscal year. A skewness value of +2.26 suggests that the bulk of counties operated slightly to the left of the mean $12 per case.

The reader is cautioned against using the above data to make statements about Michigan's district court system as a whole. Since locally funded expenditure per case estimates are aggregated at the

county level, these figures are weighted by county. This implies that differences across districts in multi-district counties are ignored. By computing and displaying statistics on a county level, a more accurate picture could be given of administrative performance in rural courts, rather than have such information masked by the large proportion of cases heard by urban courts. While there seems to be little evidence of economies of scale across different size courts, the reader is advised to use caution in comparing courts with large differences in caseload.[76] Possible explanations for cost differences across courts are explored in subsequent chapters.

Net Revenue Per Case

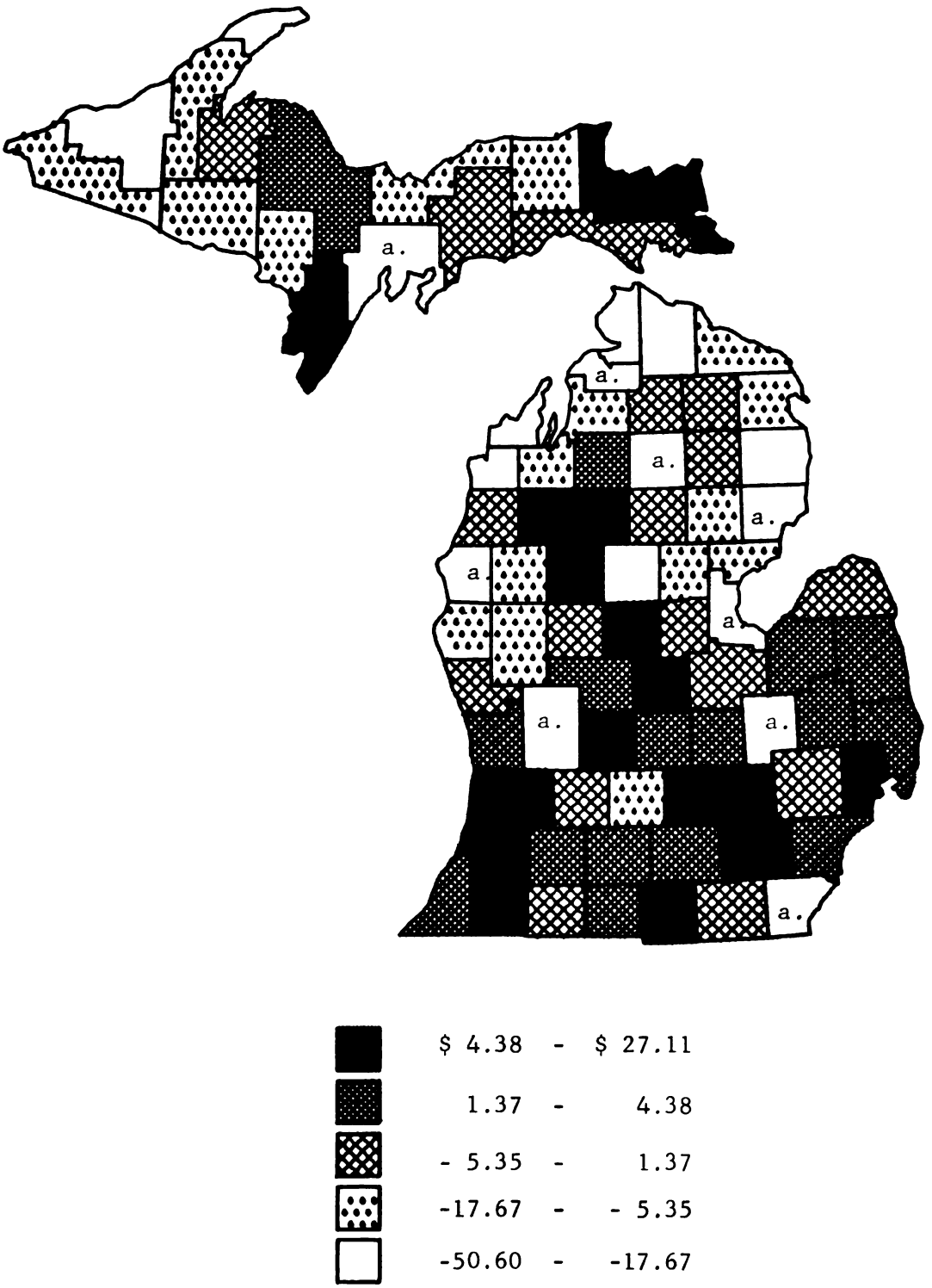
Another dimension to court performance combines the court's overall substantive policy as reflected in its level of fines and costs with administrative performance, as reflected in court operating expenditures. This combination of court revenues and expenditures is expressed in terms of net revenue per case as shown in Figure 6.5. Case net revenues were computed by subtracting total locally funded court expenditures, including amounts allocated to magistrates and probation departments from gross local court receipts, including court costs, locally retained fees, penal fines, ordinance fines and costs and bond forfeitures and divided by the total number of cases disposed.[77] Revenue data were compiled from 1974 financial statements

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[76]Evidence, discussed in Chapter 7, suggests that the relationship between court size and expenditures per case may be such that diseconomies rather than economies of scale characterize the district court system.

[77]For a description of district court revenue disbursement procedures, see Appendix B.

Figure 6.5: Locally Retained District Court Net Revenues-Per-Case Heard in Michigan District Courts (1974-75)



a. Data not available.

submitted to the State Treasury while court caseload data were obtained from the State Court Administrator's Office. Regarding missing data or data suspected of bias due to reporting inconsistencies, assumptions and judgements similar to those made in computing expenditure per case are made in computing net revenue per case.

When computed on a per county basis, the mean net revenue per case across courts in 74 Michigan counties was equal to $-3 with a variance of $148 and a standard deviation of $12, implying that 68 percent of the counties surveyed contained courts which generated from $-15/case to $+9/case. According to these estimates, the least net revenue/case was $-50.68 and the largest net revenue/case was $27. The bulk of the 74 counties surveyed generated net revenue/case to the left or less than the mean ($-3) as suggested by skewness value of -1.12. Counties tended to be less uniform in generating net revenues than they were in their expenditures per case as reflected in a kurtosis value of +2.60, compared to a kurtosis value of +8.43 associated with expenditures per case. The difference in the kurtosis value which results from adding the revenue dimension to court administrative performance can be interpreted as giving evidence to revenue generating substantive differences across courts.

The reader is advised to limit comparisons of net revenue per case to counties which are similar in caseload and other characteristics. To the extent that the net revenue per case figures computed in this study are a good indication of the administrative performance of the local court, the issue of who should pay for the operations of the local court emerges from the value of net revenues

per case generated by the court. Generally speaking, the argument can be made that counties reflecting negative net revenues per case have consciously or unconsciously decided, for reasons which will be explored later, that the operating expenditures of the court will be shared by the offender and the taxpayer. By a similar argument, counties which generated positive net revenues per case have adopted a policy that the burden of financing the court will fall on the offender. It is not the purpose of this research to argue who should bear the costs of operating the local court, rather it is to construct alternative performance categories reflecting which groups are bearing these costs, so that those associated with the courts can make informed policy decisions.

Charge Reduction

Related to substantive court performance in general and the prosecutor's decision-making in particular is the issue of plea bargaining or charge reduction. While plea bargaining reflects decisions made by the prosecutor's office, it is believed to have an impact on the administrative performance of the court. Observation suggests that plea bargaining or charge reduction serves to reduce court congestion, increase case volume, and enable the court to spread its expenditures over a larger number of cases, thereby reducing court expenditures per case.

On the revenue dimension of court performance, there is some evidence suggesting that plea bargaining does not necessarily reduce the amount of revenues generated by the court. Using analysis of variance to compare mean fines and costs assessed to a random sample of 1,285 DUIL (driving under the influence) cases, heard by a

sample of 45 judges during 1975, 858 of which were reduced, no significant difference (at the conventional .05 or .10 level) was found between the mean fine and costs assessed in cases where the defendant was found guilty of the original DUIL charge and the mean fine and costs assessed to defendants found guilty of a lesser offense (F value = .975; significance level = .324). While some individual judges reduced the fines and costs assessed to drunk drivers found guilty of a lesser charge, there was a tendency for the courts as a whole to maintain comparable fines and costs in the face of plea bargaining. To the extent that the court's fine and costs policy in DUIL cases is representative of its policies toward other types of offenses, the degree of plea bargaining which takes place in court affects court expenditures more so than court revenues.

The amount of plea bargaining or charge reduction which takes place in court has received considerable attention from citizens and law enforcement groups who feel that the local legal system is being too lenient in dealing with certain types of offenders. Of particular interest to the safety-minded is the degree to which plea bargaining takes place in drunk driving cases. One measure of plea bargaining which was considered but rejected for this research is computed by dividing the percentage of persons found guilty of a lesser offense into the percentage of persons found guilty of the original charge. A more complete measure of charge reduction can be expressed as a percentage of drunk driving cases which were reduced to a lesser charge, acquitted, or dismissed.[78] By including the number of cases

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[78]Special thanks to Bruce Barton, Jackson County Prosecutor, for his suggestions on various plea-bargaining measures.

acquitted or dismissed, the behavior of arresting officers and citizens as jurors is incorporated into this performance measure.

The percentage of DUIL cases (Driving Under the Influence) reduced, acquitted, or dismissed in the first six months of 1975 is shown in Figure 6.6.[79] These figures were computed by dividing the number of persons charged with driving under the influence into the number of persons found guilty of a lesser offense, acquitted, or dismissed. According to these figures, the least amount of DUIL charge reduction was 0 percent or where none of the DUIL cases heard were reduced, acquitted, or dismissed. The greatest amount of charge reduction was 99 percent or where practically all of the DUIL cases were reduced. The dispersion of charge reduction across counties had a mean of 34 percent with a variance of 527 and a standard deviation of 23. This dispersion was somewhat flatter than normal with a kurtosis value of -.68, and skewed slightly to the right with a skewness value of +.26.

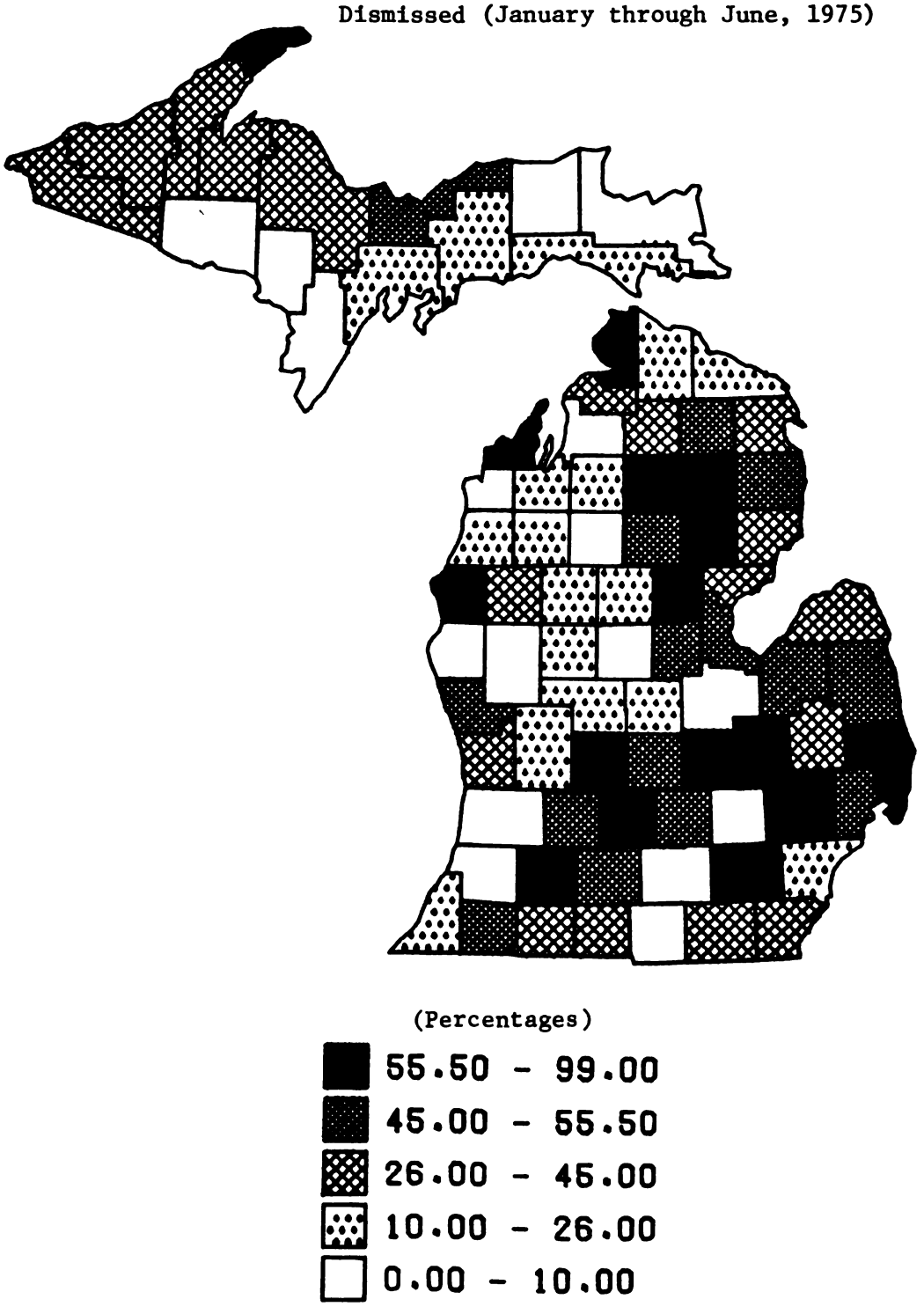
Costs Associated with Using the Courts

In previous chapters, the factors affecting the demand for court services were discussed. The suggestion was made that whether the citizen or law enforcement official chooses to pursue a complaint at the margin, depends not only upon a certain amount of normative discretion, but also on the costs of going to court. Utilization or associated costs of going to court are to be distinguished from court

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[79] Statistics were compiled from Michigan State Police, Uniform Crime Reports. Special thanks to Sargent Jack Warder of the State Police Traffic and Safety Division and Jack Green of Traffic Safety for Michigan for their assistance in the compilation of these data.

Figure 6.6: The Percentage of Driving Under the Influence Cases Heard in Michigan District Courts Which Were Reduced to a Lesser Charge, Acquitted or Dismissed (January through June, 1975)



fees and expenditures by virtue of the manner in which these costs are incurred and their subsequent effect on behavior.

Associated costs can be defined as costs which must be incurred in order to use the goods and services of some public or private enterprise. Associated court costs consist of costs borne by the police or citizen by virtue of traveling to and waiting in court.[80]

Economic theory suggests that individuals respond more so to changes in marginal costs of production and consumption than to fixed capital outlays and expenditures. In this regard, citizens and law enforcement officials are as much concerned with the associated costs of going to court as they are with costs of operating the court. In light of nationwide consolidation, centralization, and professionalization movements and the implications such movements have on the behavior of individuals going to court, information on the associated costs of going to court is worthy of public discussion.

The Michigan Department of State Police, in accordance with House Bill No. 5631, Public Act No. 237, Section 21, July 26, 1974, documented their associated costs of going to court as reflected in police waiting and travel time while engaged in court-related activities. The data compiled by the Michigan State Police for the period of July 1, 1974 to June 30, 1975 included:

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[80] Observation suggests that in some districts, the courts themselves had to wait for law enforcement officials' appearances at scheduled court proceedings. This study recognizes these costs borne by the court as a consequence of waiting for law enforcement officials; however, the absence of data precludes the measurement of these costs.

1. Hours for Waiting: Hours spent waiting for commencement of court trial.

2. Hours in Court: Includes total hours spent during the actual court trial and the giving of testimony.

3. Hours for Travel: Total time traveling to and from court.

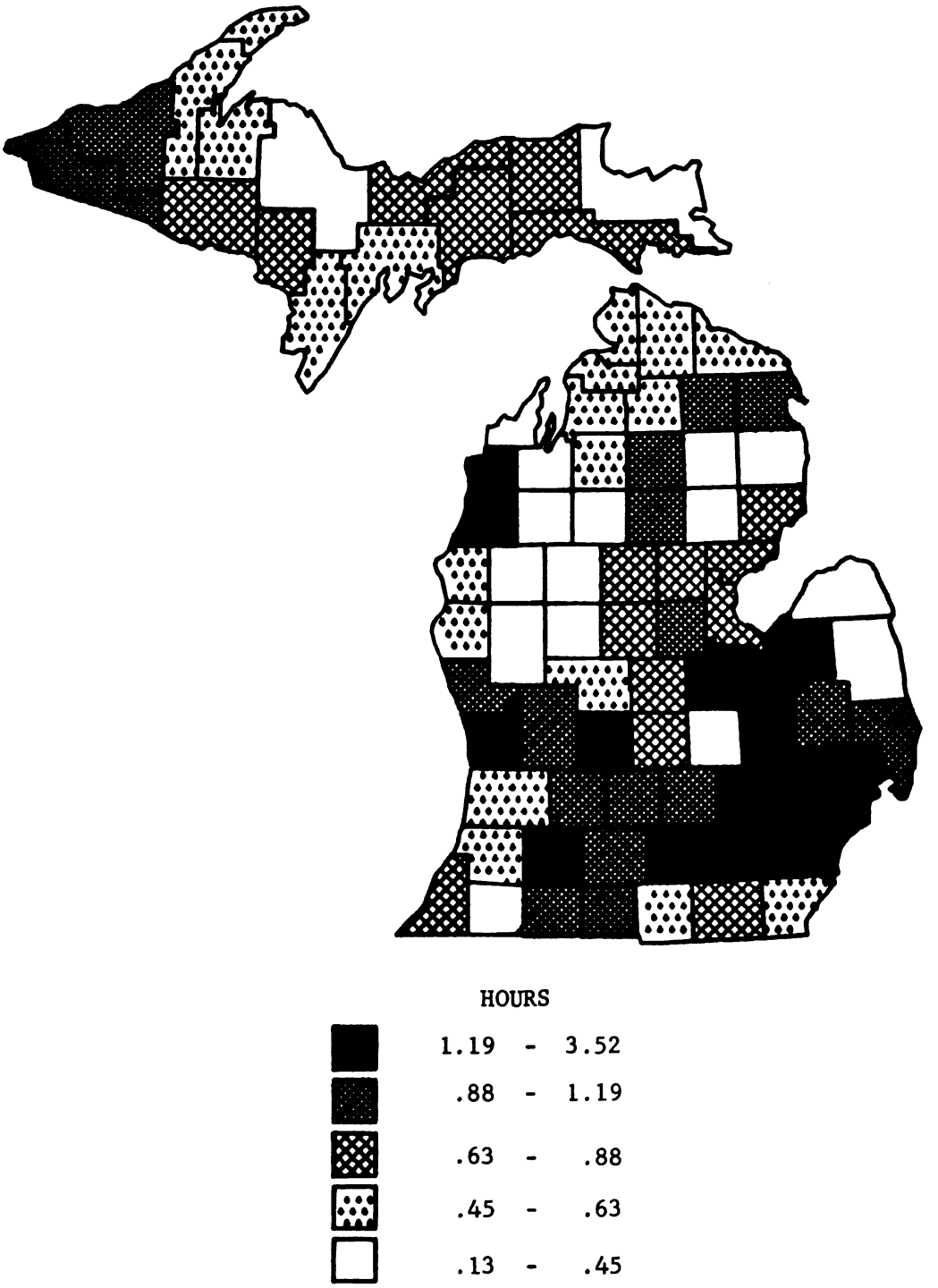
4. Hours for Other: Total time spent signing complaints, picking up dispositions, etc.

Since Michigan State Police posts are not uniformly distributed across counties, a measure of absolute associated court hours would confound differences in administrative court performance with differences in the amount of State Police business heard by each court. To control for these confounding problems, it was decided to compare the hours spent waiting for trials to hours spent during trial and hours spent signing complaints, picking up dispositions, etc. or $\left[\text{(hours for waiting)} / \text{(hours in court)} + \text{(Hours for other)}\right]$ and hours spent traveling to hours in court and hours spent signing complaints, picking up dispositions, etc. or $\left[\text{(hours for travel)} / \text{(hours in court)} + \text{(hours for other)}\right]$.

The ratio of State Police waiting time to total time in court, as derived by the above equation, is shown in Figure 6.7. This ratio of waiting time becomes an associated cost to local residents in that it means a reduction in police services for the community. To the extent that police waiting time is an indication of civilian waiting time, additional associated costs are incurred by some local residents.

When averaged on a county basis, Michigan State Police spent .9 hours or 52 minutes waiting for each hour spent in trial and other court business. The greatest amount of relative waiting time was 3.5 hours or 3 hours and 31 minutes for each hour State Policemen

Figure 6.7: Ratio of Michigan State Police TIME SPENT WAITING to TIME SPENT IN Michigan District Courts (1974-75)



spent in trial and court-related business (the reader should note that this county had a documented relative absence of plea bargaining.)[81] The least amount of relative time spent waiting was .1 hour or 8 minutes waiting for each hour spent in court or court-related business.

The amount of relative waiting time across Michigan counties fell between .3 hours or 17 minutes and 1.5 hours or 87 minutes in 68 percent of the counties. This dispersion reflected a variance of .3 hours and a standard deviation of .6 hours. The dispersion of measurements was concentrated to the left of the mean (.9 hours) as shown by a kurtosis of +6.84 and a skewness of +2.25.

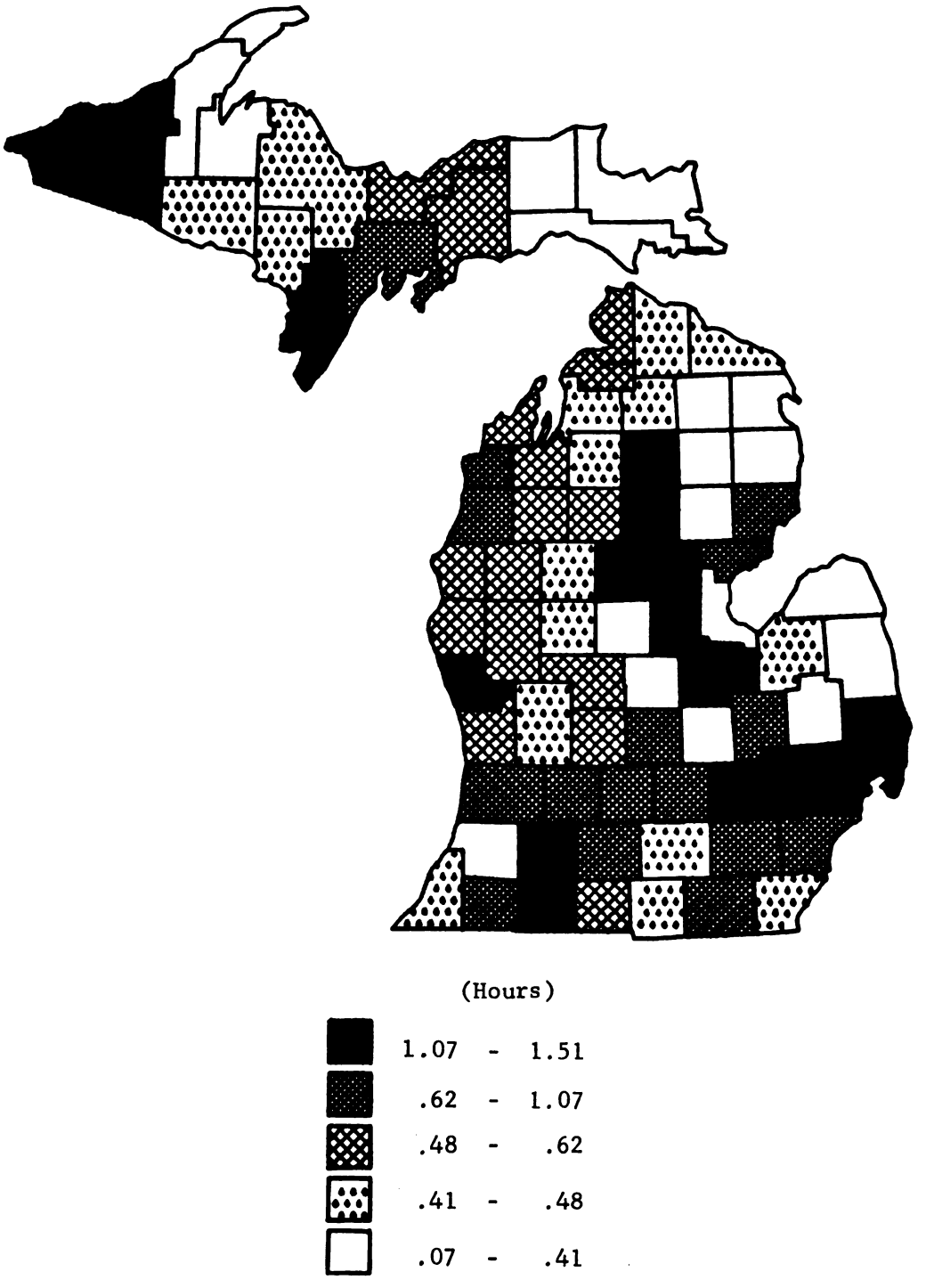
For the system as a whole, Michigan State Police spent 29,210 hours waiting in court, 19,849 hours of which was classified as overtime. A total of 28,296 hours were spent in court and court-related activities, 14,151 hours of which was classified as overtime. When computed on the basis of total hours, more time was spent waiting than in court by a ratio 1.03 to 1.00. Again, the reader is cautioned against making indiscriminant comparisons across counties. Comparisons should be made in light of factors related to police waiting time.

A second form of associated court costs consists of time spent traveling to and from court. Relative hours spent traveling to and from court are shown in Figure 6.8. While relative court waiting and travel time give some indication of case scheduling policies of the court, relative traveling time also says something about the location of courts and policemen. These associated costs are often unknown to citizen and taxpayer and tend to be ignored in court

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[81]Michigan Department of State Police, Uniform Crime Reports:1975.

Figure 6.8: Ratio of Michigan State Police TIME SPENT TRAVELING to TIME SPENT IN Michigan District Courts (1974-1975)



reorganization proposals to centralize and consolidate local courts. By ignoring these travel costs, net expenditure savings accomplished by centralization and consolidation tend to get overestimated.

When averaged by counties, Michigan State Police spent .7 hours or 42 minutes traveling to and from court, for every hour spent in trial or other court business. The largest amount of relative travel time was 1.5 hours or where the patrolman spent 90 minutes traveling for each hour spent in court. The least amount of relative travel time was .1 hours or where the patrolman spent 4 minutes traveling for each hour spent in non-waiting court activities. Approximately 68 percent of the counties reported relative travel time figures from .3 to 1.0 hours, reflecting a standard deviation of .4 hours and a variance of .1. The dispersion of relative travel time figures was wider than normal with a kurtosis of (-.51) and skewed slightly to the right with a kurtosis of (+.67).

Michigan State Police reported that for the system as a whole, they spent 8,029 regular hours and 11,382 overtime hours traveling to and from court. Relative to the 28,296 regular and overtime hours spent in non-idle court activities, Michigan State Police spent .7 hours or 41 minutes traveling to and from court for each hour spent in non-idle court business.

When both travel and waiting time and their associated costs are considered, Michigan State Police spent on the average 2.4 hours or 145 minutes traveling and waiting for each hour spent in non-idle court activities. Adding these associated or what is sometimes known to the marketing economists as assembly costs gives a new dimension to the picture of how much it costs to operate local courts in addition

to who is bearing these direct and associated costs. The preceding court substantive and administrative statistics are summarized in Table 6.1.[82]

Substantive Treatment of Selected Misdemeanors

Of particular interest to many local residents is the court's treatment of select offenses. Examining how the courts are disposing of various offenders gives an indication of the courts' attitudes toward different kinds of behavior, the distribution of opportunities, and ultimately quality of life in the community. The safety-minded resident has an interest in whether the court's policy toward drunk drivers contributes to highway safety; the concerned parent has an interest in whether the court's treatment of marijuana offenders decreases the chances of his child experimenting with drugs; the shopkeeper has an interest in whether the court's policy toward shoplifters serves to discourage such forms of behavior in the community. Despite this concern by various groups for the court's policies toward select types of behavior, there are few systematic and continuous efforts made to inform the public of substantive court performance. This section represents a systematic effort to document how the court treated selected types of offenders.

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[82]The summary statistics of Table 6.1 were computed with the assistance of Michigan State University computer facilities. For specific equations, see Nie, et al., SPSS, Statistical Package for the Social Sciences, 2nd Edition (New York: McGraw-Hill Company, 1970).

Table 6.1: Summary Substantive and Administrative Performance Statistics of Michigan District Courts (1974-1975)

	Fines and Costs for Speeding 10 Over	Fines and Costs for Speeding 15 Over	Average Fine and Costs in 10 Offenses - Most Frequent Minor Moving Traffic	Locally Retained Net Revenue Per Case Heard	Locally Funded Expenditures Per Case Heard	% of DUIL Cases Reduced	Mich.State Police Relative Waiting Time	Mich. State Police Relative Travel Time
Mean Value	$19.42	$27.24	$20.02	-$ 3.43	$11.94	33.98	.87 hrs.	.66 hrs.
Standard Deviation	$ 5.07	$ 5.26	$ 4.54	$ 12.16	$ 4.89	22.97	.58 hrs.	.38 hrs.
Minimum Value	$10.00	$17.00	$12.10	-$50.60	$ 4.20	0	.13 hrs.	.07 hrs.
Maximum Value	$39.00	$54.00	$36.70	$27.10	$37.10	99.00	3.52 hrs.	1.51 hrs.
Skewness	+.853	+1.403	+.964	- 1.116	+ 2.26	+.257	+2.25	+.669
Kurtosis	+1.450	+6.570	+1.07	+ 2.60	+ 8.43	-.678	+6.84	-.508
Number of Counties Surveyed	83	82	83	74	77	83	83	83

The more serious criminal misdemeanors examined in this study include:[83]

1. Driving Under the Influence of Intoxicating Liquor (DUIL) (MCLA: 257.625)

2. Disorderly Persons (MCLA: 750.167)

3. Simple Larceny (MCLA: 750.356)

4. Possession of Marijuana (MCLA: 335.341)

Making statements about the court's substantive policy toward these offenses is accomplished by an examination of what the courts did, rather than asking them what they would do. Methodologically, this meant that substantive performance statements had to be made from observing the court's treatment of persons charged with one of the above misdemeanors as recorded in criminal case dockets. To maintain the comparability of the data, the year 1975 was selected as the time period from which dockets were examined. While the total number of specific offense cases heard in 1975 by each court is not known, it is believed that the sample is not only representative of the select

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[83]Effective October 1, 1977, persons appearing to be incapacitated can no longer be arrested and charged with disorderly persons. In accordance with House Bill No. 6016 and 6017, 1976; Public Acts No. 173, June 25, 1976 and Public Acts No. 205, July 23, 1976, (more commonly known as the "substance abuse assistance act,") decriminalize much of the activity which is currently in violation of the disorderly persons statute and set forth specific guidelines for treating such dependents in a medical fashion. Future research should take this and other statutory changes into consideration when making comparisons in substantive court policies over time.

offender population but in a majority of the courts, the sample is synonymous with the select offender population for 1975.[84]

The particular pieces of data, compiled from criminal dockets, from which substantive performance statements are made include:

1. Initial plea entered by the court at time of arraignment.
2. The manner in which the case was disposed.
3. The amount of penal fines and court and state costs assessed to the defendant by the court.
4. Number of days sentenced to jail by court.
5. Length of probation ordered by court.

The above data from which substantive performance statements are made were selected because of the degree of reporting uniformity, which exists between courts with respect to these data and because such statements are thought to be a reflection of the judge's contribution to court performance.

Case information which was compiled but which is not presented include the type and amount of bond and whether the defendant plead to or was found guilty of a lesser offense. Bond-related information collected in this study was suspect because of reporting deficiencies within and reporting differences across courts, while plea bargaining or charge reduction information reflects more of the prosecutor's input into the substantive performance of the court.

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[84]For the statistical hypothesis testing in subsequent sections of this chapter, this means that statements about differences in selected misdemeanor fine and cost averages and variances have a conservative bias. Because the mean and variance scores from many courts are based on the entire 1975 case population, observed differences in a majority of courts, are synonymous with actual differences which existed in 1975.

A Guide to Interpreting Selected Misdemeanor Disposition Data

Substantive performance statements with respect to selected misdemeanors are inferred from repeated observations of fine and costs assessments, sentencing and probation orders handed down by a sample of Michigan district court judges. Rather than attempt the construction of some severity index, reflecting the court's attitude toward these offenses, this study displays the different dimensions of substantive performance separately. General statements about a court's policy toward a particular offense category requires an examination of several substantive performance measures. The methodological problems associated with making substantive court policy statements was discussed in the previous chapter. Two such problems which are worth restating at this time involve:

1. Record-keeping and legal limitations, which precluded the compilation of case data on the basis of offender status (i.e., first offender, second offender or third offender).

2. The existence of variation across courts in the mix of legal remedies handed down. (Different courts used a different mix and levels of fines and costs, jail and probation).

For the discussion of substantive court policies which follows, the above metholdological problems mean that the court's treatment of various classes of offenders (i.e., first offenders or repeat offenders) must be inferred from case data which does not make these distinctions and that the reader must use some judgement in interpreting and comparing the substantive policies of various courts.

Statements about the courts' substantive policy toward selected offenses were made from data which contained both first and

subsequent offenders and persons which plead to or were found guilty of the original or a lesser charge. A lesser charge or offense within the context of this research is defined by common or statute law as carrying fewer and/or lower levels of specific penalties. Survey misdemeanor cases were classified on the basis of the original charge and not on the basis of the final or reduced offense. Persons acquitted or cases in which all charges were dismissed were not included in the survey cases. Multiple offense cases where the defendant was originally charged with more than one offense were also not included in the survey data.

The computation of statistical parameters for the specific misdemeanor cases in this chapter was accomplished with the assistance of Michigan State University computer facilities utilizing a statistical package particularly suited for social science research. Specific equations and procedures used in the computations and estimations not given herein, can be found in the computer manual used for this study.[85]

The statistical parameters computed for these specific misdemeanor cases and what they reveal about the courts' substantive policies are described as follows:

Mean Fine and Costs: Represents one dimension of the court's overall substantive fine and costs policy toward specific misdemeanor cases,

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[85]Nie, et al., op. cit.

the population of which includes both first and subsequent offenders.[86]

Fine and Cost Variance: Represents the amount of within court variance or the amount of uniformity used in the assessment of fines and costs to a particular misdemeanor category of offenders, the population of which contains both first and subsequent offenders.[87]

Minimum Fine and Costs[88]: Indicates the presence of a floor fine and costs for a specific misdemeanor category, below which the court did

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[86]Mean fine and costs for selected misdemeanor categories are computed by summing the fines and costs assessed to selected misdemeanor defendants surveyed and dividing by the total number of selected misdemeanor defendants surveyed. Case related monetary payments made to courts, court related agencies, or victims of the crime, by the defendant, not specifically recorded as penal fines, court costs and state costs were not considered as fines and costs.

[87]The measure of variance used in the following discussion is the standard deviation which is the square root of the computed variance, given by the equation:

$$\text{Fine and Costs Standard Deviation} = \sqrt{\frac{\Sigma(y_i - \bar{y})^2}{N - 1}}$$

y = fine and costs

$\bar{y}$ = fine and costs mean

i = individual observation

N = total number of observations

Displaying variance in the form of a standard deviation enables the reader to more readily get a feel for the distribution of observations by applying the Empirical Rule (see footnote 72). Standard deviation is a statistical expression relating a distribution of observations about the mean or average and not a measure of how the court's policy is deviating from what is desirable.

[88]The dismissal of fine and costs as reflected in a minimum fine and costs value of zero does not imply that the defendant was relieved from monies paid in restitution, probation fees or other monetary payments not specifically recorded as penal fines, court costs and state costs.

not assess, regardless of other penalties which may have been associated with these fines and costs. Whether the courts pursue a minimum fine and costs policy gives an indication of the court's attitude on who should pay for the operations of the court.

Maximum Fine and Costs: Gives some indication of the seriousness of the offense in the eyes of the court, how the court felt about using high fines and costs and the extreme to which fines and costs were used in the disposition of selected misdemeanor cases.

Fine and Costs First Mode: Can be used to make inferences about the court's first offender policy - represents the most frequently observed fine and cost assessed to a selected misdemeanor category of offenders. To the extent that the court heard more first offender cases than subsequent offender cases, the relative frequency of the first mode gives an indication of the degree to which a uniform fine and costs policy existed for first offenders.[89]

Fine and Costs Second and Third Mode: Can be used to make inferences about the court's repeat offender policy - represents the second and third most frequently occurring fine and costs assessed to a selected misdemeanor category of offenders. By comparing the relative frequencies of the first, second and third mode, inferences can be made to determine whether the court used a progressive fine and costs policy with respect to repeat offenders. Increasing modal values associated with

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[89]The relative frequency of the first mode and/or subsequent modes is defined as the number of times the particular mode value occurred relative to the total number of case observations. Given the series of observations (2,9,8,9,2,2,2,9,2,2) the first mode equals 2 and has a relative frequency of 60%; the second mode equals 9 and has a relative frequency of 30% and the third mode equals 8 and has a relative frequency of 10%.

declining modal relative frequencies can be taken as evidence that the court used higher fines and costs as a penalty in the disposition of selected misdemeanor cases. Whether the court might have handed down other penalties in addition to fine and costs requires closer examination of the extent to which jail and probation was ordered and the relationship between fine and costs mean and fine and costs first mode.

Fine and Cost (Mean minus First Mode): Gives additional evidence of the courts repeat offender policy. A positive mean minus first mode value suggests that the average fine and costs assessed to first and repeat offenders combined was greater than the fine and costs assessed to first offenders, implying that the court used a progressive repeat offender fine and cost policy. A negative value suggests that the average fine and costs assessed to first and repeat offenders combined was less than the most frequently assessed or first offender fine and costs, implying that the court used a regressive repeat offender fine and costs policy. Some evidence of whether the courts used jail and probation in addition to or in lieu of fines and costs can be found by examining the frequency and magnitude to which jail and probation was ordered.[90]

Percent Receiving Probation: Represents the extent to which probation was used in the disposition of a particular misdemeanor category, the

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[90] Without further analysis, only limited information about the distribution of jail and probation penalties across first and repeat offenders can be inferred from the above data. Some indication of whether jail and/or probation is associated with more than one type of offender can be inferred from the percentage jailed and/or placed on probation and the relative frequency percentage of the modal values.

population of which includes both first and repeat offenders.

Mean Probation Period: Represents the mean probation period ordered to those defendants receiving probation as all or part of their disposition. The length of individual case probation periods used to compute the sub-judge's mean period represents that period ordered by the judge and recorded on the case docket regardless of whether the entire period was actually served by the defendant.

Percent Jailed: Represents the extent to which jail was employed by the court in disposing of these selected misdemeanor cases, the population of which includes both first and repeat offenders.

Mean Jail Time: Represents the mean sentence of those receiving jail as all or part of their dispostion. The length of individual case sentences used to compute the subjudge's mean sentence represents that period sentenced by the judge and recorded on the case docket regardless of whether the entire sentence was actually served by the defendant.

The unit of analysis used in the following discussion of substantive misdemeanor court performance is the subjudge. Recalling that Michigan's district court system consists of multidistrict counties, county-wide districts and multicounty districts, a subjudge is defined herein as a judge presiding over all or part of a district with a geographic area less than or equal to a county. The distinction between judge and subjudge only has relevance to multicounty districts. The level of subjudge was selected for this study in order to determine whether the behavior of the multicounty district judge varies along his multicounty circuit. The number of subjudges in districts where the court's geographic jurisdiction is less than

or equal to a county, is equal to the number of actual judges. The number of subjudges in a multicounty district is equal to the number of judges presiding over the district multiplied by the number of counties in the district.[91]

Selected substantive performance measures associated with the disposition of 1,269 driving under the influence cases are shown in Table 6.2. These statistics reflect how 42 subjudges disposed of defendants originally charged with driving under the influence in 27 district courts across 29 cities and counties during 1975.

In the absence of a single common denominator with which to measure and compare substantive court performance, statements about the court's policy toward drunk drivers can be inferred from the data found in Table 6.2. For illustrative purposes, consider the following table data.

1. Number of cases = 30
2. Mean fine and costs = $116
3. Standard deviation = $42
4. Minimum fine and costs = $38
5. Maximum fine and costs = $253
6. First mode fine and cost value and the associated relative frequency percentage = $90 (27%)
7. Second mode fine and costs value and the associated relative frequency percentage = $125 (20%)
8. Third mode fine and costs and associated relative frequency percentage = $150 (17%)
9. Fine and costs Mean minus First Mode = +$26.17
10. Percentage Probation = 40%
11. Mean probation period = 9.8 months
12. Percentage Jail = 33%
13. Mean Jail sentence = 5.6 days

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[91]For example: The 78th District Court which consists of Lake and Newaygo Counties is presided over by the Honorable Judge Riley. Since court is held in two separate counties, Judge Riley's decisions in Lake and Newaygo Counties make up two subjudges respectively. District Court 65-2 which consists of Clinton County is presided over by the Honorable Judge Lewis. Since the court makes up a geographic boundary less than or equal to a county, District 65-2 is made up of one subjudge.

Table 6.2: Selected Disposition Data from a Sample of Subjudges Ruling in Driving Under the Influence Cases Heard in Michigan District Courts During 1975

Judge	Geographic Jurisdiction	District Number	Number of Cases Surveyed	Fine and Costs (dollars)								Probation		Jail	
				Mean	Standard Deviation	Minimum	Maximum	Modes and (Mode Relative Frequency %) First	Second	Third	Mean Minus First Mode	Percentage of Cases Receiving	Mean Period (months)	Percentage of Cases Receiving	Mean Sentence (Days)
Reid	Ingham	55	30	59.23	23.78	20	124	50(33)	75(7)		9.23	10	1.0	0	0
Lewis	Clinton	65-2	26	85.58	27.36	35	145	75(35)	100(27)		10.58	26	3.4	27	a.
Bauer	Eaton	56	20	92.35	26.30	54	154	79(40)	104(30)	154(10)	13.35	0	0	0	0
Bauer	Barry	56	32	93.59	25.11	24	154	104(59)	79(19)		-10.41	3	6.0	6	6.5
Bell	Ingham	55	23	93.70	38.45	20	144	124(39)	50(13)	104(9)	-30.30	17	8.3	0	0
Crary	Jackson City	13	18	94.44	20.15	22	111	101(63)	99(13)		- 6.56	0	0	0	0
Kohn	Lenawee	2-1	17	99.53	66.60	0	257	72(47)	107(18)	257(12)	27.53	18	6.0	24	8.8
Kerby	Lenawee	2-1	30	106.30	45.62	70	270	72(20)	90(10)	114(10)	34.52	48	21.7	10	2.7
McManus	St. Joseph	3-2	30	106.50	30.83	0	130	115(40)	100(27)	130(20)	- 8.50	15	24.0	0	0
Hansen	Barry	56	42	108.12	33.95	0	204	104(50)	129(17)	154(10)	4.12	0	0	0	0
Hansen	Eaton	56	30	110.77	24.31	40	154	104(53)	129(17)	154(13)	6.77	0	0	2	a.
Reibel	Charlevoix	90	8	115.00	50.14	50	220	125(38)	100(25)		-10.00	0	0	0	0
Hayne	Hillsdale	2-2	30	116.17	42.28	38	253	90(27)	125(20)	150(17)	26.17	40	9.8	33	5.6
McCollom	Jackson City	13	26	116.39	48.19	101	300	101(85)			15.39	0	0	0	0
Bennet	Branch	3-1	40	119.23	33.68	44	179	100(30)	95(20)	175(15)	19.23	18	8.6	0	0
Mather	Mason	79	28	121.79	26.22	75	150	100(50)	150(43)		21.79	0	0	4	7.0
Franklin	Montcalm	64-B	45	123.56	57.06	50	400	125(29)	110(13)	100(13)	- 1.44	16	9.4	2	10.0
Lignell	Cass	4	37	125.00	14.43	50	150	129(89)	154(8)		- 4.00	0	0	0	0
VanBuren	Ionia	64-A	31	125.65	24.20	54	204	129(71)	104(13)		- 3.35	3	2.0	10	8.7
Mack	Montmorency	88	17	126.35	40.78	39	209	104(35)	154(24)		22.35	0	0	29	1.4
Hart	Midland	75	14	128.57	54.57	0	200	150(50)	100(21)		-21.43	93	15.3	14	7.5
Sheldon	Gratiot	65-1	33	129.27	10.63	121	154	125(82)	154(15)		4.27	15	12.0	0	7.5
Basso	Shiawassee	66	32	132.66	56.41	50	400	150(47)	100(34)		-21.34	28	12.4	3	10.0
Riley	Lake	78	36	136.00	22.45	50	200	135(50)	150(17)		1.00	33	8.0	0	0
Riley	Newaygo	78	32	139.44	17.53	85	185	135(57)	150(22)		4.44	19	10.0	0	0
Spires	Lapeer	71-A	51	140.80	49.56	25	300	145(28)	170(16)		- 4.20	71	5.5	41	4.1
Somers	Genesee	67	35	143.71	31.16	30	175	150(72)	175(17)		- 6.29	0	0	0	0
Kern	Tuscola	71-B	49	146.88	39.05	20	200	150(55)	175(12)	200(10)	- 3.12	73	11.0	6	14.7
Fox	Shiawassee	66	33	147.58	82.86	45	400	120(18)	100(12)	125(2)	23.58	36	8.2	9	20.0
Fershee	Charlevoix	90	35	152.77	58.06	0	304	154(24)	214(18)		- 7.32	30	a.	32	11.0
Snodgrass	Genesee	67	6	155.83	49.54	60	200	175(75)			19.17	0	0	0	0
Fraser	Midland	75	59	156.78	41.00	100	300	150(58)	100(19)	200(17)	6.78	95	21.4	15	26.0
Deegan	Sanilac	73-2	55	158.64	36.39	0	300	150(82)	200(11)		8.64	7	10.5	4	7.5
Caswell	Genesee	67	27	161.11	29.69	75	200	175(70)			-13.88	3	0	0	0
Benedict	Gd. Traverse	86	39	164.10	82.28	0	500	150(54)	200(21)		14.10	36	10.4	10	22.8
Newblatt	Genesee	67	28	170.54	20.47	75	200	175(86)			- 4.76	2	11.6	1	6.5
Dionese	Lapeer	71-A	35	173.57	70.41	25	400	200(17)	165(14)	135(11)	-26.43	0	0	0	0
Mosier	Genesee	67	22	175.00	00.00	175	175	175(100)			0	0	0	0	0
Evans	Genesee	67	4	175.00	00.00	175	175	175(100)			0	0	0	0	0
Murray	Antrim	87	26	176.92	79.93	0	300	225(31)	150(27)	250(15)	-52.08	54	9.9	19	41.0
Walsh	Crawford	83	37	178.22	43.75	124	304	184(30)	204(22)		- 5.78	0	0	0	0
Schubel	Huron	73-1	21	192.76	111.64	0	500	154(57)	200(19)	500(10)	38.76	14	6.0	33	15.0
Group Means:				132.75	40.16										

a. Data not available

Source: computations from survey data.

Given the above data, the following statements can be made about the courts' substantive policy toward drunk drivers:

1. While the observed[92] average fine and costs of $116 assessed by this judge fell near the middle of the average fine and costs assessed by the subjudges, there is no reason why the drunk driving fine and cost policy should be immune from public discussion.

2. A fine and cost standard deviation of $42 suggests that approximately 68% of the drunk driving cases surveyed from this judge's court fell between $74 and $158.

3. In no instance did this judge assess less than $38, suggesting that fines and costs were assessed in all cases regardless of other penalties or the defendant status as a first or repeat offender.

4. Relative to the mean fine and costs assessed by this court, the maximum fine and cost value of $253 suggests the extreme to which fine and costs were used in the disposition of its drunk driving cases.

5. To the extent that the court heard more first offenders than second offenders and more second offenders than third offenders, the increasing modal values of $90, $125 and $150 associated with declining relative frequency percentages of 27%, 20% and 17% suggest that the court used a progressive fine and cost policy in the disposition of first and subsequent offenders.

6. The positive Mean minus First Mode value of $26 shows further evidence of a progressive fine and costs policy.

7. This court used probation in 40% of its drunk driving cases, and ordered on the average of 9.8 months of probation to those defendants receiving probation.

8. This court used jail in 33% of its drunk driving cases, and sentenced those receiving jail an average of 5.6 days.

9. Since the percentage of defendants placed on probation (40%) exceeded the relative frequencies of fine and cost modes (27%, 20%, and 17%), probation was not limited to a single fine and cost mode, implying that probation was not used exclusively with fines and costs thought to have been assessed to first, second or third offenders.

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[92] Observed values are defined as values derived from a group of observations without explicit considerations of errors due to sampling.

The previous comments about a particular court's substantive performance in drunk driving cases are illustrative of the kinds of inferences which can be made from the available 1975 court data. Absolute and extreme performance measure comparisons should be made in light of unique community characteristics. The relevance of cross-court comparisons depends to a certain extent upon the degree to which certain characteristics of the communities in which the courts sit are similar or dissimilar. Rather than discuss the data from each subjudge, and its substantive performance implications, the remainder of this discussion of drunk drivers and other misdemeanors concentrates on the distribution of legal remedies employed and the extent to which such remedies were used by individual judges. The reader is invited to make similar inferences, comparisons and evaluations of other courts, using the methodological suggestions in this and the previous chapter and the above illustrated court.

Driving Under the Influence

The extensive use of fines and costs in the disposition of DUIL cases can be seen by examining the mean minus first mode and the minimum fine and costs columns of Table 6.2. Only 9 of the 42 sample subjudges had the occasion to dispense with fines and costs all together, as reflected by a non-zero minimum fine and costs. At least 23 out of the 42 subjudges used some type of a progressive fine and costs policy in their treatment of repeat offenders, as reflected in positive mean minus first mode values. The group mean across all subjudge DUIL fine and costs means amounted to $133.

Individual DUIL case fine and costs ranged from $0 to $500.[93] The least amount of observed variance (as reflected by the standard deviation) was $0 and the greatest observed variance was $83.

Twenty-six out of the 42 subjudges surveyed used some form of probation in disposing of DUIL cases. The highest probation percentage ordered by a single subjudge amount to 54%. The longest mean probation period order by a subjudge equaled 24 months. The largest proportion of DUIL cases involving jail sentences amounted to 41%, while the highest average jail sentence handed down to jailed defendants equaled 41 days. Twenty-two of the 42 subjudges used some degree of jail in their DUIL dispositions.

Disorderly Persons

The 39 subjudges from which 1,143 disorderly persons in 1975 cases were surveyed are found in Table 6.3. The observed subjudge minimum average fine and costs assessed in disorderly persons cases was $16 with the observed subjudge maximum average being $103. The group mean for all subjudge disorderly persons fine and costs means equaled $47. The lowest of the observed fine and costs standard deviations in a small sample court was $2, while the lowest observed fine and costs standard deviation in a large sample court was $6.

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[93] The reader is reminded that the aggregated misdemeanor data discussed in this section and summarized in Table 6.6 are computed on the basis of individual subjudge scores. Each subjudge is counted as a single observation regardless of differences in the number of cases surveyed across subjudges. A two stage process was performed in computing aggregate fine and costs mean and standard deviation: stage one involved computing individual subjudge fine and costs means and standard deviations which were used in stage two to compute aggregate subjudge statistics.

Table 6.3: Selected Disposition Data From a Sample of Subjudges Ruling in Disorderly Persons Cases Heard in Michigan District Courts During 1975

Judge	Geographic Jurisdiction	District Number	Number of Cases Surveyed	Fine and Costs (dollars)								Probation		Jail	
				Mean	Standard Deviation	Minimum	Maximum	Modes and (Mode Relative Frequency %) First	Second	Third	Mean Minus First Mode	Percentage of Cases Receiving	Mean Period (months)	Percentage of Cases Receiving	Mean Sentence (Days)
Reid	Ingham	55	27	15.56	27.47	0	150	10(77)	0(12)		5.56	12	10.3	0	0
Kohn	Lenawee	2-1	12	21.00	10.30	0	35	24(67)	0(17)		- 4.00	45	10.8	9	2.0
Crary	Jackson	13	43	23.35	8.89	5	54	26(25)	10(19)	5(19)	- 2.65	4	12.0	0	0
Bauer	Eaton	56	15	23.80	6.26	6	39	24(87)			1.20	0	0	0	0
Franklin	Montcalm	64-B	25	24.68	15.67	0	50	0(17)	25(17)	30(17)		13	7.5	25	11.7
Bauer	Barry	56	32	24.78	8.04	14	54	24(100)			.78	0	0	0	0
Sheldon	Gratiot	65-1	61	31.57	5.75	21	79	29(72)	39(23)			3	12	2	5.0
Lewis	Clinton	65-2	29	28.65	7.33	11	46	25(31)	30(24)	35(17)	3.65	3	6.0	0	0
McCollom	Jackson	13	24	32.00	13.38	14	75	26(58)			6.00	4	12	0	0
Kerby	Lenawee	2-1	15	32.07	9.70	18	46	24(20)	35(20)		8.07	67	10.8	0	0
Benedict	Gd. Traverse	86	32	35.47	36.24	0	150	0(25)	15(16)	25(13)	35.47	16	8.6	25	3.5
Riley	Lake	78	34	36.12	10.91	20	75	35(49)	25(24)		1.12	3	6.0	0	0
Murray	Antrim	87	16	36.25	27.66	0	100	0(25)	35(19)	40(19)	36.25	19	16.0	38	25.8
McManus	St. Joseph	3-2	57	37.35	18.74	0	115	40(52)	25(25)		- 2.65	12	24.0	0	0
Deegan	Sanilac	73-2	62	37.42	27.78	0	100	50(42)	0(25)		-12.65	18	7.4	29	6.7
Riley	Newaygo	78	29	40.83	11.89	35	75	35(74)	50(15)			0	0	0	0
Hansen	Barry	56	47	41.28	14.75	0	79	44(42)	34(32)		- 2.72	0	0	2	10.0
Spires	Lapeer	71-A	26	41.57	47.39	0	200	25(46)	20(15)		16.57	26	9.5	13	23.5
Mack	Montmorency	88	32	43.25	17.37	24	124	34(52)	49(26)		11.25	0	0	65	1.0
Bell	Ingham	55	18	45.44	25.00	10	104	50(17)	54(11)		- 5.54	33	9.2	0	0
Fershee	Charlevoix	90	45	46.09	18.18	0	109	49(44)	50(27)		- 2.81	2	a.	35	30.9
Mather	Mason	79	27	46.15	11.38	0	50	50(85)			- 3.85	0	0	11	15.0
Schubel	Huron	73-1	40	47.18	17.61	0	75	50(64)	75(10)		- 2.82	3	6.0	5	22.5
Newblatt	Genesee	67	12	47.92	34.48	30	150	30(42)	40(42)			20	6.0	1	a.
Kern	Tuscola	71-B	25	48.20	21.59	0	100	50(64)	0(12)		- 1.80	35	10.5	5	15.0
Dionese	Lapeer	71-A	39	49.89	54.23	0	200	0(28)	25(28)	50(20)		19	8.0	16	1.9
Basso	Shiawassee	66	16	50.63	20.16	30	100	40(44)	50(38)		10.63	0	0	0	0
Hayne	Hillsdale	2-2	28	51.64	34.86	0	204	63(29)	48(14)		-11.34	36	7.3	4	7.0
Hansen	Eaton	56	15	52.40	23.26	34	104	44(31)	54(21)	34(13)	8.40	0	0	0	0
Walsh	Crawford	83	28	53.85	23.36	0	84	64(68)	0(14)		- 9.47	5	6.0	10	17.0
Bennet	Branch	3-1	53	54.53	14.98	25	120	50(38)	45(25)	70(17)	4.53	10	9.0	0	0
Fox	Shiawassee	66	28	57.36	38.94	2	140	30(14)	35(11)	40(11)	27.36	36	6.1	18	4.0
Caswell	Genesee	67	7	71.43	26.73	50	125	50(43)	75(43)			0	0	0	0
Mosier	Genesee	67	5	74.00	2.24	70	75	75(80)			- 1.00	0	0	0	0
Van Buren	Ionia	64-A	23	75.22	38.94	0	129	64(43)	129(26)		11.22	4	2.0	6	45.0
Lignell	Cass	4	35	78.41	13.84	70	150	75(86)			3.41		6.0	0	0
Hart	Midland	75	27	85.56	54.43	0	250	100(30)	50(26)		-14.46	21	7.7	4	21.0
Fraser	Midland	75	42	86.90	47.82	0	200	50(21)	75(21)	100(17)	36.90	48	18.3	1	10.0
Snodgrass	Genesee	67	12	103.33	44.64	0	200	100(46)	120(18)		3.33	0	0	9	31.0
Group Means:				47.00	22.88										

a. Data not available

Source: Computations from survey data.

The subjudge mean fine and costs assessed to disorderly persons cases exceeded the subjudge's first mode fine and costs in 19 of the 33 subjudges for which these statistics were available, suggesting that progressive fine and costs policies were used in the disposition of repeat offender cases. Judges were more willing to suspend fines and costs to disorderly persons relative to DUIL cases, with 20 out of the 39 subjudges having had the occasion to assess no fine and costs. The maximum fine and costs assessed to a person originally charged with disorderly persons was $250.

Twenty-seven of the 39 subjudges from which disorderly persons cases were surveyed used probation in their dispositions, while only 20 of the 39 subjudges used jail. The largest proportion of defendants placed on probation and jailed was 45% and 65% respectively. The longest average probation period for those defendants placed on probation was 24 months. The longest average jail period of the jailed subpopulation was 45 days.

Simple Larceny

The simple larceny dispositions associated with 789 of the 1975 cases heard by 36 subjudges are found in Table 6.4. These subjudges assessed as a group, an average $57 in fines and costs to persons originally charged with simple larceny. Fines and costs were suspended in some portion of the cases heard by 22 subjudges. The maximum fine and costs assessed in an individual case was $300. The smallest observed mean fine and costs assessed in an individual case was $23 while the largest was $140.

Table 6.4: Selected Disposition Data from a Sample of Subjudges Ruling in Simple Larceny Cases Heard in Michigan District Courts During 1975

Judge	Geographic Jurisdiction	District Number	Number of Cases Surveyed	Fine and Costs (dollars)								Probation		Jail	
				Mean	Standard Deviation	Minimum	Maximum	Modes (Mode Relative Frequency %) and First	Second	Third	Mean Minus First Mode	Percentage of Cases Receiving	Mean Period (months)	Percentage of Cases Receiving	Mean Sentence (Days)
Reid	Ingham	55	23	23.30	17.02	0	79	10(26)	25(17)		13.30	26	6.0	4	4.0
Crary	Jackson	13	9	24.56	10.68	14	49	20(33)			4.56	0	0	0	0
Riley	Lake	78	5	25.80	15.19	0	35	35(60)			- 9.20	60	6.0	20	90.0
McCollom	Jackson	13	10	26.90	11.73	15	49	15(40)	34(20)		11.90	10	12.0	0	0
Riley	Newaygo	78	18	30.94	13.12	0	50	35(50)			- 4.06	0	0	11	16.0
Hansen	Barry	56	18	33.44	25.41	0	79	0(28)	34(22)	44(17)	33.44	0	0	17	4.0
Fox	Shiawassee	66	21	34.24	29.48	10	100	25(24)	16(19)	100(14)	9.24	33	7.6	42	7.0
Fraser	Midland	75	48	37.40	23.83	0	150	35(58)	20(13)		2.40	4	12.0	6	10.0
Lewis	Clinton	65-2	10	39.30	55.67	0	150	0(50)			39.3	30	4.7	40	30.0
Franklin	Montcalm	64-B	28	39.71	15.71	15	75	25(18)	50(18)			82	8.1	21	17.0
Bell	Ingham	55	27	40.85	23.13	0	100	50(19)	0(15)		- 9.15	52	10.3	22	20.8
Basso	Shiawassee	66	32	41.09	20.27	20	100	50(34)	30(22)	20(19)	- 8.91	0	0	0	0
Deegan	Sanilac	73-2	20	42.25	25.67	0	100	25(25)	50(25)			10	6.0	30	16.7
Benedict	Gd. Traverse	86	48	42.60	28.13	0	100	50(44)	0(23)	60(83)	- 7.40	19	6.3	73	11.0
Van Buren	Ionia	64-A	30	42.67	10.74	34	74	34(52)	54(32)	44(13)	8.67	23	9.0	0	0
Reibel	Charlevoix	90	3	44.67	26.56	14	60	60(66)			-15.33	0	0	33	a.
Bauer	Barry	56	15	46.00	13.73	24	54	54(73)	24(27)		- 8.00	0	0	7	3.0
Hart	Midland	75	42	47.02	33.82	0	150	50(38)	100(38)		- 2.98	30	10.6	12	8.6
Bennet	Branch	3-1	18	48.72	11.83	21	75	50(44)	45(22)		- 1.28	11	10.3	0	0
Bauer	Eaton	56	42	49.48	12.67	0	74	54(79)	24(7)		- 4.52	5	6.0	0	0
Mather	Mason	79	22	49.82	.85	46	50	50(96)			- .18	0	0	9	17.5
Hansen	Eaton	56	24	50.33	16.15	0	79	54(29)	44(25)		- 3.67	13	5.0	0	0
Walsh	Crawford	86	4	58.00	39.80	0	84	84(50)			-26.00	0	0	25	30.0
Fershee	Charlevoix	90	14	60.43	20.57	49	109	49(56)	50(24)		11.43	0	0	50	a.
McManus	St. Joseph	3-2	36	67.22	35.12	0	190	70(58)	0(11)	55(8)	- 2.78	8	24.0	11	32.5
Mack	Montmorency	88	6	69.67	20.07	44	98	74(33)			- 4.33	0	0	67	18.5
Schubel	Huron	73-1	22	71.95	47.76	0	154	75(50)	0(23)	100(14)	- 3.05	18	6.0	23	30.6
Sheldon	Gratiot	65-1	47	73.34	23.04	0	114	79(81)			- 5.66	6	5.0	0	0
Lignell	Cass	4	30	74.17	4.56	50	75	75(97)			- .83	0	0	0	0
Kern	Tuscola	71-B	2	75.00	106.07	0	150	0(50)	150(50)		-18.89	0	0	100	5.0
Murray	Antrim	87	9	81.11	16.73	60	100	100(33)	60(22)	75(22)		57	12.0	44	22.50
Kohn	Lenawee	2-1	27	84.74	25.09	0	152	87(33)	88(15)	107(15)	- 2.26	35	7.9	8	37.5
Kerby	Lenawee	2-1	32	107.19	57.25	0	265	70(26)	90(20)	80(16)	37.19	39	16.1	25	43.9
Hayne	Hillsdale	2-2	30	109.07	57.54	0	300	125(20)	67(17)	150(10)	-15.93	60	6.8	53	13.0
Dionese	Lapeer	71-A	9	122.22	83.39	0	300	100(44)			22.22	33	10.0	0	0
Spires	Lapeer	71-A	8	140.13	68.20	0	200	200(38)	150(25)		-59.87	0	0	38	15.0
Group Means:				57.09	29.07										

a. Data not available

Source: Computations from survey data.

Twenty-three of the 36 subjudges used probation in disposing of simple larceny cases while 26 of the 36 used jail. The greatest proportion of defendants placed on probation was 82% while the longest mean probation period was 24 months. The largest proportion of defendants jailed among large sample subjudges was 73%. The average jail sentence used in disposing of persons originally charged with simple larceny ranged from 3 to 90 days.

Possession of Marijuana

The manner in which sample subjudges disposed of 573 possession of marijuana cases is found in Table 6.5. The subjudge average fine and costs average was $101. The fine and costs assessed in individual cases ranged from 0 to $600. The lowest observed fine and costs mean of $0 was recorded in a court which placed 96% of its possession of marijuana cases on probation. The highest observed mean fine and costs of $253 was recorded in an adjacent court. The lowest observed fine and costs standard deviation was $0 while the highest was $152.

Only 10 of the 34 subjudges for which data could be computed recorded a positive mean minus first mode value, suggesting that the majority of subjudges in this sample felt that progressive fine and costs policies were not appropriate. Similarly, judges were quite willing to suspend fines and costs in many instances, as reflected by a zero minimum fine and cost value being recorded in 22 of the 35 subjudge courts.

Probation was ordered by 30 of the 35 subjudges for which data was available and jail was used by 20 of these subjudges. The largest proportion of possession of marijuana cases placed on probation was 100% while the longest mean probation period was 24 months.

Table 6.5: Selected Disposition Data from a Sample of Subjudges Ruling in Possession of Marijuana Cases Heard in Michigan District Courts During 1975

Judge	Geographic Jurisdiction	District Number	Number of Cases Surveyed	Fine and Costs (dollars)							Probation		Jail	
				Mean	Standard Deviation	Minimum	Maximum	Modes and (Mode Relative Frequency %) First	Second	Third	Mean Minus First Mode	Percentage of Cases Receiving	Mean Period (months)	Percentage of Cases Receiving	Mean Sentence (days)
McManus	St. Joseph	3-2	24	0	0	0	0	0(100)			0	96	24.0	4	90.0
Lewis	Clinton	65-2	18	10.83	22.05	0	80	0(72)	25(11)		10.83	78	14.0	0	30.0
Reid	Ingham	55	7	23.57	15.41	0	50	29(29)			- 5.43	71	6.6	0	0
McCollom	Jackson	13	19	23.77	6.77	0	39	25(47)	24(37)		- 1.23	37	7.7	0	0
Bauer	Eaton	56	16	28.19	11.33	0	54	29(31)	24(25)		- .81	56	6.7	0	0
Bennet	Branch	3-1	32	29.69	44.19	0	150	0(66)	75(28)		29.69	84	20.0	3	10.0
Crary	Jackson	13	21	35.52	13.11	14	74	39(33)	29(14)		- 3.48	48	6.6	0	0
Murray	Antrim	87	5	36.00	65.04	0	150	0(60)			36.00	20	12.0	0	0
Fershee	Charlevoix	90	4	43.25	54.43	0	113	49(46)	50(23)		- 5.75	25	12.0	100	60.0
Hansen	Eaton	56	15	48.53	27.77	0	104	54(40)	79(13)		- 5.47	53	6.8	0	0
Bauer	Barry	56	8	51.50	24.35	24	104	54(50)	34(25)		- 2.50	0	0	0	0
Hansen	Barry	56	14	51.71	25.53	0	79	54(50)	79(21)		- 2.29	7	6.0	7	7.0
Sheldon	Gratiot	65-1	10	55.30	38.16	0	79	79(70)	0(30)		-23.70	30	4.0	0	0
Deegan	Sanilac	73-2	3	66.67	57.74	0	100	100(67)			-33.33	67	12.0	33	15.0
Bell	Ingham	55	15	74.47	29.93	19	120	100(33)	50(20)		-25.53	100	8.1	40	3.2
Franklin	Montcalm	64-B	15	82.80	77.20	0	350	75(40)			7.80	73	9.8	33	20.0
Van Buren	Ionia	64-A	25	94.36	51.67	0	204	104(64)	0(16)		- 9.64	80	12.3	8	45.0
Hart	Midland	75	12	100.00	56.41	50	200	50(42)	100(33)		-50.00	58	12.0	8	15.0
Riley	Lake	78	6	100.00	35.67	54	124	124(50)	54(33)		-24.00	50	12.0	0	0
Fraser	Midland	75	25	102.00	48.85	0	200	100(58)			2.00	92	15.9	8	13.5
Riley	Newaygo	78	10	124.00	0	120	120	124(100)			0	70	12.0	0	0
Reibel	Charlevoix	90	1	120				120							
Mather	Mason	79	12	127.08	53.79	0	150	150(83)			22.92	0	0	17	37.5
Fox	Shiawassee	66	28	131.43	39.83	40	200	150(57)	200(7)		-18.57	75	6.3	25	6.0
Basso	Shiawassee	66	9	144.44	137.94	50	500	100(44)	150(22)		44.44	44	9.0	22	18.5
Kohn	Lenawee	2-1	16	149.56	41.66	0	204	157(69)			- 7.44	80	14.0	7	30.0
Benedict	Gd. Traverse	86	19	151.32	151.72	0	600	0(32)	200(21)		151.32	37	11.3	58	16.1
Kern	Tuscola	71-B	9	155.56	16.67	150	200	150(89)			5.56	0	0	22	4.0
Schubel	Huron	73-1	10	161.20	87.94	0	254	100(30)	250(30)			0	0	10	21.0
Mack	Montmorency	88	10	165.30	55.97	104	254	129(30)			36.30	80	6.0	0	0
Dionese	Lapeer	71-A	11	165.91	28.00	100	200	175(46)	150(27)		- 9.09	82	12.0	9	10.0
Hayne	Hillsdale	2-2	41	170.98	93.25	0	350	100(22)	225(15)		70.98	68	7.5	24	26.9
Kerby	Lenawee	2-1	18	182.28	93.07	0	455	154(56)			28.28	78	23.1	22	56.3
Spires	Lapeer	71-A	21	193.86	69.77	0	350	200(38)	150(24)		- 6.14	67	12.4	33	7.7
Walsh	Crawford	86	27	194.37	69.59	64	404	208(78)	64(15)		-13.63	0	0	0	0
Lignell	Cass	4	37	253.38	85.02	50	300	300(76)	125(14)		-46.62	3	6.0	0	0
Group Means:				101.36	49.42										

Source: Computations from Survey Data.

A summary of the various substantive performance indicators representing how a sample of subjudges disposed of selected misdemeanor offenses is found in Table 6.6. The unit of observation from which these summary statistics are computed is the subjudge. In computing the summary statistics in Table 6.6, each subjudge substantive performance measure was given equal weight despite caseload differences which existed between subjudges.[94] These summary statistics are computed in order to give future researchers a base from which to measure subsequent changes in the substantive policies of Michigan district courts.

Included in the summary data of Table 6.6 are measures of differences in mean fines and costs among courts in terms of the group mean and group variation of individual subjudge means, and differences in the variation which exists between courts are expressed by the group mean variation (standard deviation) and the group variation of the mean variation (standard deviation of the standard deviations). Individual subjudge fine and costs mean comparisons give an indication of differences in the level of fines and costs assessed to select offenders, while the variation which exists across subjudge fine and costs means reflects the amount of substantive uniformity across courts.

Individual subjudge fine and costs standard deviation comparisons give an indication of how judges differed in the manner in which they used their discretion in assessing fines and costs, while

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[94]For specific equations used in computing the summary statistics of Table 6.6, see Nie, et al., op. cit.

Table 6.6: Summary Statistics of Aggregate Disposition Data from a Sample of Subjudges Ruling in Selected Misdemeanor Cases Heard in Michigan District Courts during 1975

	Misdemeanor Category			
	DUIL	Disorderly Persons	Simple Larceny	Possession of Marijuana
Subjudge Mean Fine and Costs:				
Group Mean	$132.75	$ 47.00	$ 57.09	$101.36
Group Standard Deviation	$ 30.33	$ 19.93	$ 28.13	$ 63.42
Minimum	$ 59.23	$ 15.56	$ 23.30	$ 0
Maximum	$192.76	$103.33	$140.13	$253.38
Skewness	-.071	+.909	1.240	+.279
Kurtosis	-.580	+.456	+1.060	-.827
Subjudge Fine and Costs Standard Deviations:				
Group Mean	$ 40.16	$ 22.88	$ 29.07	$ 49.42
Group Standard Deviation	$ 22.99	$ 14.12	$ 22.61	$ 35.31
Minimum	$ 0	$ 2.24	$ .85	$ 0
Maximum	$111.64	$ 54.43	$106.07	$151.72
Skewness	+.846	+.726	+1.664	+1.020
Kurtosis	+.952	-.444	+2.612	+1.030
% of Subjudges with Positive Mean Minus First Mode Fine and Costs:	50.00	57.58	33.33	35.29
% of Subjudges with Dismissed Fine and Costs (Minimum = 0):	21.43	51.28	61.11	62.86
% of Subjudges Using Probation:	59.52	69.23	63.89	85.71
% of Subjudges Using Probation in More than 20% of Cases:	28.57	23.07	36.11	77.14
% of Subjudges Using Jail:	52.38	47.62	72.22	60.00
% of Subjudges Using Jail in More than 20% of Cases:	16.67	15.38	44.44	31.43
Total Number of Subjudges	42	39	36	36
Total Number of Cases	1269	1143	789	573

Source: Computations from Tables 6.2 through 6.5.

the mean standard deviation gives an indication of how much discretion judges used on the average. Variation across individual subjudge standard deviation is expressed in the context of a group standard deviation of subjudge standard deviations. Additional information on the dispersion of means and variances across courts can be inferred from other fine and costs statistics in Table 6.6: minimum, maximum, skewness, and kurtosis. Also included in Table 6.6 are aggregate measures of the extent to which jail and probation were used. These measures of how the system is treating various offenders on the average and the consistency with which the average treatment was applied were computed so that future research in this area will have a base period from which to measure changes.

Testing for Differences in Fines and Costs

Because some of the fine and costs statements collected in this survey were inferred from a random sample of selected misdemeanors, a comparison of observed differences in fine and costs mean and standard deviations does not take into consideration errors due to sampling. In other words, unless all of the select cases heard by each judge in 1975 are surveyed, statements about the population of select cases are estimates and cannot be expressed as a single value. Statements about population mean and variance based on a random sample of cases within the population are generally made in the form of confidence intervals which state that the mean or variance of repeated samples drawn at random from a population will fall within a certain interval within a certain probability. For this research, this indicates that observing fine and costs differences

between some of the larger courts does not give sufficient evidence that differences actually exist, if these fine and costs statements were based on sampling. While fines and costs make up only one dimension of substantive performance, statements about observed differences in fine and costs policies across courts will be subjected to formal statistical tests to determine their validity.

In the context of testing differences between courts, the dimensions of fine and cost assessment policies of interest to this research include:

1. Fine and Costs Mean: Do courts assess, on the average, different levels of fines and costs in selected misdemeanor cases?

2. Fine and Costs Variance: Do courts differ with respect to the amount of variation used in the assessment of fines and costs in selected misdemeanor cases?

The statistical procedure generally used in testing differences in population means is analysis of variance (ANOVA). An intuitive discussion of ANOVA is found in Chapter V. Since the validity of ANOVA depends upon certain assumptions regarding the nature of the data, the initial step in using ANOVA is to determine whether the data meet these basic assumptions. For the hypothesis testing in this research the assumptions of the ANOVA model are as follows:

1. The probability distribution of each subjudge's performance indicators is normal.

2. The case observations for each subjudge are random observations from the corresponding probability distribution and are independent of the case observations for any other subjudge.

3. Each probability distribution has the same variance (standard deviation).

While the normality assumption may not be characteristic of the data collected from some courts, the use of ANOVA to test for the equality of substantive performance averages is but little affected by lack of normality, either in terms of the level of significance or power of the test. It is believed that the data surveyed in the study are not seriously threatened by nonrandomness and nonindependence for the following reasons: (1) The case selection techniques discussed in the previous chapter were such to insure randomness among misdemeanor cases selected for 1975; (2) It is believed that the substantive decisions of other judges do not play a significant role in the decisions made by an individual judge or that the case observations from one subjudge are independent from case observations of other subjudges.

Problems do arise, however, with respect to the assumption that variances across subjudges are homogeneous. The problem encountered in trying to ascertain whether differences exist in fine and costs means requires that variances in fines and costs assessed within courts do not differ significantly across courts. In testing differences in fine and costs means and variances using ANOVA, the analyst "cannot have his cake and eat it too," since mean fine and costs comparisons are valid only to the extent that variances are homogeneous.

Several formal tests are available for studying whether populations have equal variances as required by the ANOVA model. The simplest procedure for testing variance differences between two groups examines the ratio of variances between two groups and determines whether the subsequent value of F ratio falls within a level which could have been expected as a result of chance occurrence. In

other words, since the sample variances obtained from repeated sampling of some population are different, the question becomes: is the difference in sample case variance as reflected in the F ratio, large enough to preclude the theoretical possibility that the samples could have been drawn from the same population?

For comparing more than two groups, a test given by Bartlett compares the arithmetic average of sample variances, weighted by the degrees of freedom, to a geometric weighted average of sample variances. When the sample variances are constant, the ratio of these averages is equal to 1. Departures from homogeneity in variances result in ratios greater than 1 which are subjected to statistical significance test to determine the extent to which observed departures from homogeneity are due to chance occurrence.[95] The Bartlett test is appropriate for comparing the variances of samples with unequal observations.

Another test for comparing the homogeneity of variances is given by Hartley. The Hartley, or H statistic, contrasts the largest sample variance with the smallest sample variance. Departures from homogeneity are determined by the extent to which the ratio of the largest to the smallest variance is greater than it would be expected under theoretical conditions. The Hartley test is only an approximate for comparing variances derived from unequal samples. A more detailed

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[95]The appropriate test statistic used by Bartlett is derived from the Chi-Square (X^2) which compares the variance of each judge's fine and cost variance with the variance which could be expected under theoretical conditions.

discussion of the Bartlett and the Hartley procedures can be found in Applied Linear Statistical Models.[96]

Some statisticians feel that the appropriateness of mean comparisons using ANOVA is not seriously affected by departure from the variance assumption.[97] Since it is difficult to assess how variance heterogeneity affects the validity of statements made using ANOVA, an additional statistical test will be employed to compare mean fine and costs differences across courts.

When heterogeneity of variances poses serious problems to the ANOVA model, the Chi-Square (X^2) statistic can be employed to compare whether groups are different. The advantage Chi-Square has over ANOVA is that it does not make assumptions about the variances of the sample data, although the test itself has its own set of assumptions.[98] Basically, Chi-Square analysis asks the question: how closely do the observed data approximate the expected frequencies of the theoretical distribution? In testing whether courts differ with respect to their fine and costs policies, Chi-Square analysis is used to compare whether differences in fine and costs increments of judges are significant or merely due to chance occurrence. The particular model from which the Chi-Square statistic will be computed in testing fine and costs differences is shown in Figure 6.9.

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[96]John Neter and William Wasserman, Applied Linear Statistical Models, (Homewood, Illinois: Irwin, Inc., 1974), pp. 509-513.

[97]Ibid., p. 514.

[98]For the data at hand, it is believed that the assumptions of the Chi-Square procedure present no serious problems.

Figure 6.9: The Chi-Square Statistical Model Used to Test for Differences in the Mean Fine and Costs Assessed by Subjudges in Selected Misdemeanor Cases

	Selected Misdemeanor Fine and Costs Increments ---------- dollars ----------			
Subjudges	0-50	51-100	101-150	151-200
Subjudge A	(cell frequencies)			
Subjudge B				
Subjudge C				
Subjudge D				
Subjudge E				

The results of mean fine and costs differences tests and their statistical significance levels as computed by ANOVA and Chi-Square procedures, and the tests for homogeneity of variances are presented in Table 6.7.

Some interpretation of the data presented in Table 6.7 is in order. Each of the statistical hypotheses tested were couched in terms of a null hypothesis, given by the notation H_o, and an alternative hypothesis, given by the notation H_a. In each of statistical tests the null hypothesis states that fine and costs means or variances are equal. The probability of incorrectly rejecting the null hypothesis when it should have been accepted is given by the significance level, in parentheses, immediately below the computed test statistic

Table 6.7: Results of Statistical Procedures Testing for Equality of Fine and Costs Means and Variances for Subjudges Ruling in Selected Misdemeanor Cases Heard in Michigan District Courts During 1975

	Misdemeanor Category			
	DUIL	Disorderly Persons	Simple Larceny	Possession of Marijuana
(Fines and Costs)				
H_o: Variances are equal				
H_a: Variances are not equal				
Bartlett Test (X^2)	18.524	20.920	16.381	17.404
Significance Level	(.000)	(.000)	(.000)	(.000)
Hartley Test (H)	110.229	588.082	15,468.750	502.137
Significance Level	(.000)	(.000)	(.000)	(.000)
No. of Subjudges	42	39	36	36
No. of Cases	1269	1143	789	573
(Fine and Costs)				
H_o: Means are equal				
H_a: Means are not equal				
- ANOVA: F Value =	14.546	13.558	14.559	20.027
Significance Level	(.000)	(.000)	(.000)	(.000)
No. of Judges	42	39	36	36
No. of Cases	1269	1143	789	573
Chi-Square (X^2)	622.408	501.504	283.782	329.890
Significance Level	(.000)	(.000)	(.000)	(.000)
No. of Judges	39	37	27	25
No. of Cases	1251	1131	734	502

Source: Computations from Survey Data.

value.[99] In other words, by rejecting the null hypothesis, the assertion is made that differences exist. The strength to which the statement that differences exist can be made depends upon the probability of being wrong, which is given by the significance level.

The reader will note differences in the number of subjudges and cases used by alternative tests. Subjudges with fine and costs data which were not particularly suited to the Chi-Square model were omitted.[100]

Evidence of Performance Differences

The various court performance indicators constructed and measured in this chapter were directed at giving evidence of substantive and administrative differences between courts. The extent to which differences can be shown to exist between phenomena depends upon the specificity of the phenomena being observed. The more specific the phenomena being measured, the easier it is to test for differences, while the more complex the phenomena, the more difficult it becomes to make brief and conclusive statements about the existence of differences. The thrust of this research has been to emphasize the complex nature of court performance rather than reduce the operations

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[99]The reader is reminded that observed differences in fine and costs means and variances are not sufficient evidence of actual differences in fine and costs means and variances. Because some of the fine and costs means and variances are based on sampling, statements about differences must take into consideration possible errors due to sampling; hence statements are made in terms of probability.

[100]More specifically subjudges with a theoretically insufficient number of cases falling in particular fine and costs increment cells were omitted from the Chi-Square tests. For a discussion of the assumptions of Chi-Square procedures, see: Dick A. Leabo, Basic Statistics, (Homewood, Illinois: Irwin Inc., 1972), p. 523.

of the court to a single index of performance. Consequently, statements about the evidence of differences tend to be complex in the sense that the various dimensions of court performance must be considered simultaneously. The evidence of court performance differences discussed in this chapter are summarized as follows:

1. Courts differed with respect to the fine and cost schedules used in the disposition of minor traffic offenses.

2. Courts differed with respect to the average local expenditure-per-case required for court operations.

3. Courts differed with respect to the revenues they generate to the local community.

4. Courts differed in their policies as to who will bear the costs of operating the court.

5. Courts differed in the amount of costs which are borne by groups using the services of the courts.

6. Courts differed with respect to the mix of legal remedies handed down to select offenders (fines and costs, jail, and probation).

7. Courts differed with respect to the discretion with which they apply various legal remedies.

8. Courts differed in their policies toward repeat offenders.

This chapter has been concerned with constructing, measuring and displaying various court performance indicators reflecting substantive and administrative outputs of the Michigan district courts for the period 1974-75. Judgements about the desirability of differences will not be made in this research, rather the evidence is presented to the readers for their own judgements about the kind of world they want to live in. With evidence that differences exist between courts, we turn to a more systematic examination of the judges' contribution to these differences.

CHAPTER VII

FACTORS ASSOCIATED WITH DIFFERENCES IN COURT PERFORMANCE

The outputs of the local legal system are thought to reflect joint decisions made by several participants. The judge as a participant in the local legal system is thought to make a unique contribution to the performance of that system. While the judge's contribution to the court is taken as being intuitively obvious by some, a systematic examination of the extent to which judges take an active discriminating role in the affairs of the court, is a prerequisite to entertaining whether selected institutional variables affect court performance. This chapter can be considered an exploration for various factors associated with substantive and administrative differences between courts. The first part of this chapter is concerned with judicial discrimination and the extent to which it is exercised in the face of other factors associated with the outputs of the court. The second part of this chapter examines the relationship between various dimensions of judicial performance and the institutional, sociological, and economic environment in which the judge and his court operate. The last part of this chapter discusses the relevance of these relationships to local residents and explores what can be expected from proposed reforms to alter the way in which judges are elected and financed.

Ascertaining the extent to which judges make a unique contribution to the output of the court is accomplished by comparing differences in substantive performance between judges. Since other factors tend to influence performance differences, comparisons must be made in light of other factors which influence court performance. In other words, comparing substantive differences between courts located in separate parts of the state and concluding that observed differences are due to the judges who sit on these courts, requires that certain assumptions be made with respect to other factors which contribute to differences in court performance. Such comparisons are valid only to the extent that other factors associated with court performance differences are comparable between court jurisdictions. Research resources prohibit a systematic examination of various characteristics associated with each court jurisdiction from which performance differences can be measured across similar types of jurisdictions. Such comparisons are left to those who are more familiar with communities surveyed in this study.

A less expensive and perhaps more reliable way of testing whether judges account for some of the observed differences in court performance is to compare the substantive decisions of judges in the same court. By comparing substantive differences across judges in the same court, other factors which might be associated with these differences can be held constant.[101] For this research, intra-court

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[101] Judges in multijudge districts are exposed to the same prosecutor, law enforcement officials, local residents from which jurors are drawn and the population from which defendants originate.

substantive performance comparisons were accomplished by the following methodologically separate approaches:

1. Cross-sectional: Comparing fines and costs assessed to selected offenders by judges in multi-judge courts.

2. Time Series: Examining changes in fine and cost policies associated with a judicial turning point.[102]

Cross-sectional Comparisons of Multi-Judge Court Policies

Cross-sectional comparisons of fine and costs assessed to selected offenders by individual judges in multi-judge courts are accomplished with analysis of variance (ANOVA). The question asked by ANOVA in making fine and cost comparisons is whether the differences between judge fine and cost policies are greater than what can be explained by differences which exist within each judge's fine and cost policy, or conversely, are the differences which exist within each judge's fines and costs large enough to account for differences in fines and costs between judges. Since differences within and across judges are expressed with respect to the mean, ANOVA tests for significant differences in mean fines and costs.

ANOVA results of fines and costs assessed in selected misdemeanors by judges in multijudge courts surveyed in this study are shown in Table 7.1. The ratio of fine and costs variance between judges to fine and cost variance within judges is given by the F value in Table 7.1. The larger the F value, the greater the probability that observed mean fine and costs differences between judges

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[102]A judicial turning point is defined as a turnover in a judgeship due to death, illness, or retirement and accomplished by appointment or reelection.

Table 7.1: Analysis of Variance* Results from Cross-Sectional Comparisons of Fines and Costs Assessed in Misdemeanor Cases Heard by Selected Multijudge Michigan District Courts During 1975

		MULTIJUDGE COURTS															
	Jurisdictions	Lenawee 2-1		Jackson City 13		(Mason) Ingham 55		Eaton 56		Shiawassee 66		Lapeer 71-A		Midland 75	
	Court # Judges	Kerby	Kohn	Crary	McCollom	Bell	Reid	Bauer	Hansen	Basso	Fox	Dionese	Spires	Fraser	Hart
DRIVING UNDER THE INFLUENCE	(Fines and Costs) Mean	106	100	94	116	94	59	92	111	133	148	174	141	157	129
	Variance	2081	4435	406	2322	1478	565	692	591	3182	6866	4958	2457	1764	2967
	# of Cases	30	17	18	26	23	30	20	30	32	33	35	51	59	14
	F Value	.17		3.31		16.12		6.45		.72		6.42		4.54	
	Sig. Level	(.682)		(.076)		(.000)		(.014)		(.401)		(.013)		(.037)	
DISORDERLY PERSONS	(Fines and Costs) Mean	32	21	23	32	45	16	24	52	51	57	50	42	86	87
	Variance	94	106	79	179	625	754	39	541	406	1516	2940	2246	2287	2854
	# of Cases	15	12	43	24	18	27	15	15	16	28	39	26	42	27
	F Value	8.21		10.08		13.72		21.14		.14		.41		.01	
	Sig. Level	(.008)		(.002)		(.001)		(.001)		(.524)		(.527)		(.913)	
SIMPLE LARCENY	(Fines and Costs) Mean	107	85	25	27	41	23	49	50	41	34	122	140	37	47
	Variance	3277	630	114	138	535	290	160	260	410	869	6788	4652	568	1144
	# of Cases	32	27	9	10	27	23	42	24	32	21	9	8	48	42
	F Value	3.57		.21		9.05		.06		1.01		.23		2.48	
	Sig. Level	(.064)		(.660)		(.004)		(.812)		(.319)		(.635)		(.110)	
POSSESSION OF MARIJUANA	(Fines and Costs) Mean	182	150	36	24	74	24	28	49	144	131	166	194	102	100
	Variance	8662	1735	172	46	896	238	128	771	19027	1587	784	4867	1923	3182
	# of Cases	18	16	21	19	15	7	16	15	9	28	11	21	25	12
	F Value	1.67		12.25		17.70		7.30		.21		1.61		.01	
	Sig. Level	(.205)		(.001)		(.000)		(.011)		(.652)		(.214)		(.907)	

* H_0: Mean Fines and Costs are Equal

H_a: Mean Fines and Costs are Not Equal

Source: Computations from survey data.

are statistically significant and not merely due to chance occurrence. The significance level associated with each F ratio (reported in parentheses, immediately below the F value in Table 7.1) is interpreted as the probability of stating that differences in mean fine and costs exist between judges in a multijudge district when these differences do not exist. With respect to Table 7.1, statements about differences in fine and costs means between multijudge district judges are couched in the context of a null hypothesis (H_o) which states that fine and costs means are equal and an alternative hypothesis (H_a) which states that fine and costs means are not equal. The acceptance or rejection of the null hypothesis is based on the confidence level associated with the value of the F value such that the larger the F value, the lower the confidence associated with accepting the null hypothesis and the lower the probability of incorrectly stating that fine and costs means are different.

The level of certainty required in making statistical statements depends upon the consequences of making a wrong decision or of forming an erroneous conclusion. Rather than display only those comparisons which show differences above generally accepted significant levels (.10 or .05), the results of all comparisons are given so that readers can form their own conclusions on the existence of observed differences based on their personal assessment of the consequences of making a wrong decision.

For example, with reference to Table 7.1, in the multijudge situation of Lenawee County, ANOVA results of testing for the equality in DUIL fine and costs means show the judges with fine and costs means of $106 and $100 respectively. Based on theoretical F

values, there is a 68% chance of being wrong if the null hypothesis is rejected. In other words, only a 32% confidence level can be placed on statements that the 1975 DUIL fine and costs means across judges in the Lenawee County district were different.[103]

Also listed in Table 7.1 are the respective fine and costs variances and the number of cases surveyed from each judge. While not explicitly shown, these data can be used to examine whether judges of the same court differ with respect to fine and costs variation. Recalling from the previous chapter, by examining the ratio of sample variances, it can be shown statistically whether the observed population variance estimates are homogeneous. The actual statistical test is performed by computing the ratio of the largest to the smallest variance and comparing this F value with a table of theoretical F values which give the probability that these samples represent estimates of a single population variance.

For example, in the multijudge situation of Lenawee County, a comparison of DUIL fine and costs variances shows the judges with fine and costs variances of 2081 and 4435 respectively and a variance ratio (not shown in Table 7.1) of 2.131. The extent to which these fine and costs variances are equal can be determined by comparing this computed variance ratio of 2.131 to theoretical F values. A variance ratio of 2.131, derived from samples of 30 and 17 observations

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[103]The ANOVA calculations for testing the equality of multijudge district judge mean fine and costs was accomplished with the use of Mighigan State University computer facilities. For a description of the specific equations used in these procedures, see Nie, et al., op cit.

respectively, is significant at the .10 level.[104] This indicates that there is a 90% probability of being correct if the null hypothesis (the fine and costs variances are equal) is rejected.

The reader is reminded that accurate fine and costs comparisons using ANOVA require homogeneity of variances across groups. When the assumption of constant variance is violated, significance levels associated with statements about mean differences are overstated, depending upon the degree to which the variances are different. The extent to which the constant variance assumption is violated in some of the data used in Table 7.1 is not thought to seriously affect the results of the ANOVA.

The ANOVA results of Table 7.1 indicate that judges in multi-judge courts differed more in the uniformity with which they assessed fines and costs to marijuana offenders than for other offenses examined in this survey (as reflected in variance ratios being larger than for other misdemeanors). Of the multijudge courts sampled, judges within the same court tended to assess comparable fines and costs on the average to simple larceny offenders but differed somewhat in the average fine and cost assessed to drunk drivers (as reflected by the significance levels given in Table 7.1).

The absence of statistically significant differences in fine and costs policies between judges of multi-county courts does not imply that these judges could not have adopted different policies. This absence of fine and cost policy differences may have been

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[104] Significance level represents an approximation of the true level. The level shown represents the minimum significance level for samples of 16 and 31 observations respectively. For theoretical F distribution tables see: Benard Ostle, Statistics in Research, (Ames, Iowa: Iowa State University Press, 1963).

intentional or coincidental. Policy similarities may be the result of interactions between judges or between judges and other groups associated with the court, or the result of the judge selectors having consciously or unconsciously selected judges with similar ideas on how the court should treat certain misdemeanors.

This research is not concerned with ascertaining the desirability or the consequences of policy differences within courts, rather it offers these differences as evidence that judges account for differences in court performance, where other factors thought to be relevant are held constant.

Time-Series Analysis of Judicial Turning Points

Another approach to measuring the extent to which judges made a unique contribution to the outputs of the courts involves an examination of changes in fine and cost policies associated with a judicial turning point, i.e., when there is a change in judges. This time-series approach is particularly suited to measuring unique contributions of judges in single judge courts (where the previous test is only applicable to multijudge courts). Since no readily available control situation exists in single judge courts, evidence of unique substantive performance contributions is inferred from a statistically significant discontinuity in a fine and costs trend or regression line; thus the name regression discontinuity design.[105] Since court fine and costs policies are thought to be changing gradually

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[105]The use of ANOVA techniques to test for differences in the judges contribution across judge courts would require matching of courts by case characteristics, court size, police policies, prosecutor policies, etc. or these items would have to be surveyed and quantified to achieve statistical control.

over time, only abrupt changes in the intercept of the fine and costs regression line at the judicial turning point are accepted as evidence that such changes are associated with the incoming judge. Changes in the direction of slope of the regression line are ruled out because of the inability to show that these changes would not have occurred in the absence of the change in judges.[106]

The sensitivity of regression discontinuity designs to measuring significant shifts in policy depends upon the degree to which an explanatory or independent variable is associated with the particular dependent policy variable. The higher the degree of association between the dependent policy variable and some explanatory variable, the more precise the explanatory variable can be in detecting subtle changes in the dependent court policy. The degree to which the explanatory variable is associated with the dependent court policy variable is expressed in the context of variation or error around a theoretical trend or regression line. It can be shown statistically whether the degree of association between two variables is greater than what would have been expected from chance occurrence. In reality, the degree of association between variables is less than perfect which means that some portion of the variation in a dependent variable cannot be explained by the variation in one or more independent or explanatory variables.

Regression discontinuity design asks the question: Is the variation associated with a trend line for a period spanning across both

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[106]For an intuitive discussion of regression discontinuity, see Chapter 5.

judges' administrations significantly less than the variation associated with two separate trend or regression lines constructed for the individual judge administrations? Statistically, the same variance comparisons of two half-period regression lines with the whole-period regression line can be accomplished with the introduction of binary or dummy variables.[107] Rather than have the dependent court performance variable associated with only one explanatory variable, a binary variable is added to the equation, permitting the whole-period equation to discontinue at the judicial turning point. Evidence of a significant discontinuity in the regression line at the judicial turning point is determined by comparing the variation associated with a continuous whole-period regression line and the discontinuous whole-period regression line. The variation associated with the discontinuous whole-period regression line is comparable to the sum of the variations associated with the two half-period regression lines partitioned according to each judge's stay in office (see Figure 5.4 in Chapter 5).

The continuous whole-period equation and the discontinuous whole-period equation used in regression discontinuity are given below:

Whole-period continuous equation (Equation K) =

$$\text{Monthly Average fine and costs } (Y) = \beta_0 + \beta_1 T_t + e \qquad \text{where } T = \text{time}$$

Whole-period discontinuous equation (Equation Q) =

$$\text{Monthly Average fine and costs } (Y) = \beta_0 + \beta_1 T_t + KJ + e \qquad \text{where } T = \text{time}, \; J = \text{new judge (binary)}$$

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[107] For a mathematical discussion of the binary variable approach to regression discontinuity see: Jan Kamenta, Elements of Econometrics, op cit., pp. 409-430. An alternative approach to regression discontinuity and some results from these approaches are discussed in Appendix G.

Since the level of fines and costs assessed during a judge's administration remains fairly constant, monthly fines and cost averages were specified as a function of time. Other independent variables which were examined but rejected by virtue of their low degree of association with fines and costs included: fines and costs assessed by judges in other courts, current period monthly crime rates, and previous period or lagged monthly crime rates. Inclusion of the binary variable into the whole-period equation can be interpreted as expressing the fines and costs as a function of time and judge. If the judge is a significant factor in explaining changes in fine and cost policies over time, the variation associated with the whole-period equation will be significantly reduced by the introduction of the binary variable.

The relationship between the dependent court performance variable and the explanatory variables is expressed as the sum of the distances from the observe fine and cost value and the theoretical regression line. Since some of the variation in the dependent variable cannot be explained by the variation in the independent variables, the square of the distances from the regression line or the sum of squares is partitioned into variation due to variations in the explanatory variables (sum of squares of the regression) and variation due to unexplanable and random factors (sum of squares of the residual).

The appropriate procedure for testing the extent to which the error variance of the discontinuous regression line is significantly reduced by the introduction of a binary variable is the F statistic, given by the following equation:

$$\text{Regression Discontinuity F Value} = \left[\frac{\text{Sum of Squares of the Regression Q} - \text{Sum of Squares of the Regression K}}{\text{Sum of Squares of The Residuals Q}}\right] \times \left[\frac{\text{(No. of Cases Observed)} - \text{(No. of Variables in Q Equation)}}{\text{(No. of Variables in Q Equation)} - \text{(No. of Variables in K Equation)}}\right]$$

Where: K = continuous whole-period equation
Q = discontinuous whole-period equation

This F value is compared to a table of theoretical F values to determine whether the reduction in the error variance resulting from the introduction of the judge as an explanatory variable is statistically significant.

The regression results of the continuous and discontinuous equations, their computed variance ratios, and the minimum approximate significance levels of discontinuities associated with judicial turning points are given in Table 7.2. The dependent variable of the regression equations results shown in Table 7.2 consist of former and incoming judge monthly fine and costs means.[108] As previously mentioned, the independent variables for the continuous and discontinuous equations are time and time plus the binary judge respectively. An illustration of the binary approach to regression discontinuity using an actual judicial turning point is found in Appendix G.

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[108] In multijudge courts the monthly fine and costs means were computed from cases heard by the single judgeship experiencing the judicial turning point. Cases heard by the judge which remained on the multijudge court during the judicial turning point were not included in these monthly fine and costs means.

Table 7.2: Regression Discontinuity - Time Series Analysis of Misdemeanor Fine and Costs Policy Changes Associated With Judicial Turning Points For Selected Michigan District Courts (1971-1975)

Geographic Jurisdiction	District Court Number	Number of Judges	Judicial Turning Point Date	Misdemeanor* Y=Monthly Fine & Costs Mean	Continuous Equation Sum of Squares		Discontinuous Equation Sum of Squares		Number of Months Observed	F Value	Minimum Approximate Significance Level
					Regression	Residuals	Regression	Residuals			
Lenawee County	2-1	2	January 1971	DUIL	1373	14849	1402	14819	15	.024	.900
				DP	571	6520	974	6118	15	.790	.500
Barry County	55	2	August 1971	DUIL	172	1828	456	1544	5	.368	.750
				SL	19	161	94	86	5	1.750	.500
Midland County	75	2	February 1974	DUIL	926	15043	960	15008	10	.000	.950
				SL	700	1684	799	1585	10	.440	.750
Branch County	3-1	1	January 1975	DUIL	1369	6544	6980	933	8	30.063	.005
				DP	904	223	1005	123	8	4.113	.100
				SL	189	2729	191	2727	8	.004	.950
				POM	649	13214	2444	10918	8	.822	.500
Clinton County	65-2	1	July 1973	DUIL	26432	62905	30675	58662	10	.506	.500
				DP	412	1157	867	682	10	4.662	.100
				POM	10804	28738	25757	13705	10	7.59	.050
Charlevoix County	90	1	April 1975	DUIL	22159	96615	29213	89561	9	.473	.250
				DP	1372	865	1378	859	9	.041	.900
				SL	2994	918	3623	288	9	13.105	.025

* Misdemeanor Code: Driving under the influence - DUIL; Disorderly persons - DP; Simple larceny - SL; Possession of Marijuana - POM.

SOURCE: Computations from survey data.

The extent to which a fine and costs policy change accompanied a judicial turning point is shown by the F value and its approximate significance level shown in Table 7.2. The regression discontinuity test is couched in terms of a null hypothesis which states that no changes or discontinuity in fine and costs policy accompanied the arrival of a new judge and an alternative hypothesis which states that a fine and costs policy change or discontinuity accompanied the arrival of the new judge. The significance levels in Table 7.2 represent minimum approximations, implying that true levels are somewhat more significant than the level reported. The significance level generated by each regression discontinuity test represents the probability of being wrong in rejecting the null hypothesis or in stating that a policy change took place when it did not. Rather than display only those cases where the F values are significant at a conventionally accepted significance level (.10 or .05), all of the judicial turning points for which data were available were computed so that readers can base their conclusions on the level of significance appropriate to their loss functions.

Statements regarding court policy changes have relevance only to fine and costs assessed in selected misdemeanor cases. The extent to which bond, jail and probation policy changes accompanied a judicial turning point could not be tested due to data limitations. Each of the selected misdemeanor categories for which data were adequate are shown in Table 7.2. The infrequent and erratic pattern with which some courts heard some selected misdemeanor cases, precluded the application of regression discontinuity tests in some instances and explain misdemeanor category omissions in Table 7.2.

Although weak from a statistical perspective, the general conclusion to be reached from examination of judicial turning points in Table 7.2 is that in some instances district court judges have initiated fine and costs policy changes upon taking office. Statements made by judges and by court personnel employed during judicial turning points give additional evidence of such policy changes. While the evidence is somewhat scattered, there is reason to suspect that fine and costs policy changes associated with judicial turning points were peculiar to single judge courts. The absence of fine and costs policy shifts associated with judicial turning points in multijudge courts might be explained by the element of continuity present in multijudge courts. Since the likelihood of more than one judgeship turning over at any one point in time is small, an element of fine and costs policy continuity remains in the court by virtue of the judges who sit on multijudge courts during judicial turning points.

The absence of significant discontinuities indicates that fine and costs policy changes were not associated with a judicial turning point and <u>not</u> that the judge lacks the ability or discretion to alter the substantive performance of the court. Some of these low levels of statistical significance may have been the result of the low degree of association between time (the explanatory variable) and the monthly fine and costs dependent variables. The explanatory variable, time, may have lacked the necessary sensitivity to detect policy shifts.

Possible explanations for the absence of policy shifts associated with a judicial turning point can be found in similarities which the incoming judge has with the previous judge. The judge selectors may have succeeded in replacing one judge with another judge with similar

ideas on how the court should treat various offenders or both judges may be responding to the same constituency.

With evidence that performance differences exist between courts, and that judges may have a significant input into these differences, an examination is made of various institutional, economic, and sociological factors associated with judicial behavior and its contribution to court performance.

Model Specification

The limitations of human understanding and the complexities of the local legal system are such that in order to gain knowledge about the key relationships surrounding the local judiciary, the analyst must build a model to reduce the number of variables within a system of inquiry to manageable proportions.[109] This section is directed toward formulating a model of the local legal system from which the significance, direction, and magnitude of the relationships between selected variables are studied.

Tomek and Robinson provide an excellent discussion of the steps involved in model specification, which is adapted to this analysis of the local court.[110] These steps associated with model specification include:

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[109]This research model can be distinguished from the general structure-conduct-performance paradigm associated with the initiation and direction of this research. Paradigms tend to be qualitative in nature and generally give structure to the research effort by prescribing a set of issues, relationships and questions which are applicable to a broad range of problems. Models tend to be more quantitative in that they consist of a system of postulates, data, and inferences which are presented as a mathematical description of reality.

[110]William G. Tomek and Kenneth L. Robinson, Agricultural Product Prices, (Ithaca, New York: Cornell University Press, 1972), p. 311.

1. Problem definition
2. Model formulation
3. Model building
4. Model implementation
5. Evaluation and interpretation

The remainder of this chapter is concerned with restating the problem to interpreting the model. Model evaluation is discussed in the context of the final chapter as part of the summary and policy implications.

The problem setting discussed in earlier chapters can be restated as a lack of information on the part of local residents regarding the operations of the local court. This research is primarily concerned with informing local residents of what they are getting under the present court system and what they can expect from court reforms which would alter the manner in which judges are selected and courts financed. The task at hand is one of formulating the various dimensions of the local court in such a manner as to make it possible to systematically examine what affects court financing and judge selection have on court performance.

In formulating a model of the local court, the paradigm of general human behavior and specific judicial behavior developed in chapters two and three is combined with the logic and theory developed by other researchers. Since research in the area of judicial behavior and court performance has been done by various disciplines, the model of the local court developed herein is multi-disciplinary in scope. This multi-disciplinary dimension to this research is directed toward strengthening and enhancing the current knowledge of judge behavior

and court performance held by the various disciplines.

Model building can be subdivided into: specifying variables of interest and their relationships within the system of inquiry, explicitly defining the equations to be estimated and selecting the appropriate estimating techniques.

The variables of interest to this study include:

Court Performance.--Involves descriptive statements about the substantive and administrative policies of the local court and serves as an indicator of how the courts are affecting the distribution of opportunities in the community. Various dimensions of court performance are categorized as dependent variables, thought to be associated with some combination of explanatory variables listed below.

Institutional Variables.--Serve as an expression of the relationship between the judge and groups associated with the court. the general hypothesis is that institutional variables as reflected in the manner in which judges are selected and courts financed affect the substantive and administrative performance of the court. A prerequisite to specifying institutional variables associated with the judge in a model which purports to explain differences in court performance was a demonstration that judges have made unique and substantial contributions to court performance. The relationship between the individual judges and the substantive policies of the court was explored at the beginning of this chapter. It was found that in addition to other factors which might account for differences in court performance, the judge made a unique contribution to court

performance. With this evidence that judges have in the past made a difference and the theoretical proposition that judges are sensitive to groups and individuals who can create costs and benefits[111] to them, it is hypothesized that altering the political boundaries of judicial selection and court financing, in effect, alters the institutional boundaries of individuals who can create costs and benefits for the judge and the court and to the extent that the preferences of the groups which make up alternative boundaries are heterogeneous, differences in court performance are influenced by differences in the preferences of groups which create costs and benefits to the judge and the court.

While the existence of interdependencies create costs and benefits for the local judge, the extent to which institutional factors affect judicial behavior depends on the extent to which knowledge of these costs and benefits is known and the manner in which the judge weighs these interdependent affects against his own personal habits, attitudes and values. In practice it is often difficult to separate conscious calculating behavior in response to some felt need and unconscious or non deliberative behavior not directly associated with a particular felt need. To account for the judges' unconscious or non deliberative behavior

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[111]Costs and benefits are used in the broadest sense and are not limited to monetary factors. Nothing improper or illegitimate is implied by the interdependent nature of the judges position within the local community rather it is believed that these interdependencies were incorporated into the design of the district court system to maintain local input into court policies.

the model must take into consideration the community which helped shape the personal habits, attitudes and beliefs of the judge.

Community Sociological Variables.--A general belief held by other researchers in the area of judicial behavior and court performance is that the judge's decisions are made in the context of the values associated with the larger community. Community sociological variables are thought to account for some of the differences between courts via the judge's contribution to court performance. Two interpretations of this hypothesized relationship are in order. On the one hand, the sociological nature of the community can have conscious effects on the judge's habits, attitudes and beliefs to the extent that he was socialized in the local community. When the judge takes office, he does not automatically lose these experiences and values which he acquired from living in the community. On the other hand, the relationship between court performance and community sociological variables gives some indication of those groups which share a sense of community with the judge. The judge's substantive decisions may be made deliberately, with some select group preferences in mind. The judge may ignore his own feelings toward drinking and driving and choose to assess penalties to drunk drivers in accordance with what he believes to be the preferences of some community to which he feels some sense of obligation.

Criminal Population Variables.--Related to sociological characteristics of the general community are sociological aspects of

the criminal population and its consequences to the community. Since communities differ with respect to crime rates and the nature of their criminal populations, substantive court performance may likewise differ as judges become cognizant of and attempt to deal with these sociological differences. Included in this set of variables are the consequences which criminal behavior has on the parties to a crime which affect the character of the cases heard by the judge. Drinking and driving may have more serious consequences in some communities by virtue of the number and types of people which are exposed to this form of behavior. Differences in the consequences of criminal behavior and differences in the judge's assessment of these consequences are thought to account for differences in substantive court performance.

Administrative and Economic Variables.--The administrative aspects of operating an organization which has the capacity to generate revenues cannot be excluded from the list of factors which are thought to influence the kinds of outputs produced by that organization. For the local court, this means that the judge's role as court administrator cannot be divorced from his role on the bench. It is hypothesized that the interactions between the court and the local funding unit influence the substantive

revenue generating decisions of the court.[112] The extent to which administrative and economic factors affect substantive performance depends upon conscious and unconscious decisions made by the judge and members of the local funding unit regarding the issue of who should pay for the operating expenses of the court.

Substantive Performance Variables.--For some of the more serious criminal misdemeanors, the substantive decisions handed down by the court consist of more than one type of legal remedy. While fines and costs make up the major component of substantive performance in Michigan's district courts, other types of legal remedies (jail and probation) are also used. It is believed that differences in fine and costs policies between courts can partially be explained by differences in the mix of legal remedies available to the courts. Observation suggests that penal fines and court costs may be waived or dismissed in cases where the defendant is jailed or placed on probation. Based on these observations, variables reflecting the mix of penalties handed down by the court are included in this model.

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[112] Observation suggests that in many counties the court meets with the local funding unit periodically to discuss anticipated expenditures and revenues of the court. For many of the counties surveyed, revenues from the district court make up a substantial proportion of the total operating budget of the county. This discussion does not imply that court fines and costs are established by groups other than the judge but rather, the local funding units have an interest in the level of revenues generated by the court to the extent that these revenues become an integral part of county budgetary planning. In some instances, the net revenues from the district court are used toward the financing of other county public services.

The choice of statistical estimating techniques used to examine relationships within a model is affected by the extent to which specific variables can be quantified; the availability and nature of the data; the extent to which the pattern of relationships between variables is known; and the particular question being asked of the relationships within the model. Given that many of the relationships between variables associated with the local court can be quantified, and that data on these variables are available, the task which remains is one of choosing a statistical procedure which will utilize the existing data efficiently in the sense that it will provide the most information about the relationships being examined. The concern is not merely for ascertaining whether statistically significant relationships exist, but also with the magnitude and direction of these relationships. In light of these model objectives, regression was selected as the appropriate statistical technique. Since court performance is believed to be affected by not only institutional variables, but sociological, administrative, and economic variables as well, this research employs multiple regression which provides a method for estimating relationships among several variables.[113]

To enhance the validity of the results, the analyst must employ multiple regression procedures in a systematic fashion. Critical to the implementation of multiple regression are those aspects of model specification associated with deciding which variables are exogeneous or independent and which variables are endogenous or dependent within the system. In some fields, theory often suggests the type of variables

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[113]For an intuitive explanation of multiple regression, see Chapter V.

which should be employed as independent or explanatory variables in the regression equation and the functional form of the relationship between the dependent and explanatory variables. In other fields, including some related to the understanding of human behavior, theories from which to construct models are not so precise. The decision of which variable to include in explaining differences in a dependent variable becomes much more pragmatic, requiring various degrees of subjective judgement.

Within the context of the general model, the search for the "best" set of explanatory variables can be facilitated with automatic search procedures[114] which include or delete variables on the basis of their contribution to explaining the variation associated with the dependent variable and the degree to which the variation in the explanatory variable under consideration is related to explanatory variables already in the equation. Automatic selection techniques are generally employed once the functional form of the relationships have been established (i.e., whether the relationship between the dependent and explanatory variables is linear, quadratic or some other functional form). When the functional form of the regression equation cannot be derived from existing theories, linear or quadratic regressions functions can be used as first approximations to regression functions of unknown nature. The functional forms of the regression equations evaluated in this research were assumed to be linear, as a matter of

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[114]These automatic search procedures are more commonly known as stepwise regression techniques. For a more detailed discussion of stepwise regression and other search criteria, see John Neter and William Wasserman, Applied Linear Statistical Models, (Homewood, Illinois: Irwin, Inc., 1974), pp. 371-392.

convention and as a result of not having any a priori theoretical grounds for specifying other functional forms.

The significance level employed by the automatic search techniques as the basis for deleting variables was the .10 level. Exceptions to this criteria were made when theory and logic dictated inclusion of certain variables at lesser significance levels. Depending on the number of variables in the initial equation relative to the number of variables in the final equation, the significance levels associated with variable coefficients should be interpreted liberally since the reported significance levels are maintained on the basis of the initial rather than the final equation.[115] The implication this liberal bias has for subsequent equation estimates is that if the application of stepwise delete search routine to an initial equation of ten independent variables generates a final equation with only one independent variable significant at the .10 level, the relationship between the dependent and the final equation independent variable can be attributed to chance occurrence.

In addition to automatic search procedures, other techniques can be used by the analyst in refining his models. Included in these refinement procedures are: examining the simple correlation between select variables in the model to check if any relationships have been omitted; selecting the appropriate model by the amount of variation in the dependent variable explained by the set of explanatory variables;

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[115]For a detailed discussion of the liberal bias in stepwise delete regression routines see: David L. Debertin, "Significance Tests of Regression Coefficients: An Additional Reminder," American Journal of Agricultural Economics, February 1975, pp. 124.

and comparing the magnitude and direction of the relationships with suggestions made by the logic and theory from which the model was constructed.[116]

Multiple regression is employed in such a manner as to make statements (test hypotheses) about the significance, direction, and magnitude of the relationships between theoretically relevant explanatory variables and dependent performance variables. The method of least squares or ordinary least squares (OLS) procedures was selected for this research for reasons of convention and simplicity in model specification, computation techniques and interpretation. OLS procedures generally give estimators that are unbiased and have minimum variance. This means that statements about the relationship between an explanatory variable and the dependent variable derived from using OLS are precise and can be stated with the greatest level of confidence relative to other statistical estimating techniques.

Given that the choice of dependent and explanatory variables is a reasonable approximation of reality, and the functional form of the equation has been correctly specified, further model refinements can be achieved by examination whether the basic assumptions of OLS have been met.[117] In those instances where the violation of basic

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[116] Indiscriminant inclusion of explanatory variables based on relationship from the simple correlation matrix not relevant to theory and logic is not considered valid; similarly, exclusion of variables on the grounds that no statistically significant relationship exists between this variable and the dependent variable is not advised if the analyst feels that variable should be in the equation.

[117] Assumptions of OLS include: The error terms are normally distributed, with mean zero and uniform variance; the explanatory variables are independent of the error term; and the explanatory variables are measured without error.

assumptions is thought to be serious, alternative models can sometimes be employed to deal with these problems. In cases where the seriousness of the violations are not known or no reliable, alternative methods are available, the analyst may offer suggestions as to how statements inferred from equation estimates may be in error.

The foregoing discussion of model specification was directed at giving the reader an intuitive feel for the factors involved in using multiple regression techniques to test hypotheses about relationships between variables. The refinement to which a model is specified depends upon the loss function associated with decision makers who use the information as the basis for action or inaction. The researcher must use his judgement in deciding when the model has been sufficiently specified for the problem at hand. While insufficient investments in model specification can invalidate the results derived from the model, overinvestments in model specification for the problem at hand can be described as a misallocation of research resources. A practical technique for deciding whether the model has been specified and refined appropriately involves comparing the benefits derived from achieving greater accuracy against the costs of obtaining such accuracy. The degree to which the models in this research were specified is such that additional benefits from improved accuracy are thought to be outweighed by the costs in obtaining improved estimates.

The degree to which the knowledge of the relationships within a system of inquiry is known determines the extent to which models can be specified before actual equation estimates are made. Within well developed areas of research, it is often possible to know on a priori grounds the choice of variables which are related, the

magnitude of these relationships and the direction of these relationships. For example, in consumption analysis, the direction of the relationship between changes in price of a commodity and changes in quantity demanded is generally understood. Furthermore, knowledge about the availability of substitutes and the price elasticity of demand gives an indication of the expected magnitude of the price-quantity relationship.

Considerably less a priori information about the nature of relationships between variables is available for the models examined in this research. Judicial behavioral research is relatively new and there have been few systematic and comprehensive efforts to understand variation in judicial behavior and court performance. The models formulated and tested in this research are by no means conclusive, rather they are considered first approximations to better understanding the operations of local courts. Given the availability of data and the limitations on research resources, these models have reached a stage of development which merits documentation, in spite of some statistical shortcomings in the models themselves.[118] It is thought that the models developed in this research will serve as a starting point for future attempts to systematically explore judicial behavior and court performance.

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[118]For the first three models the application of single OLS equations to dependent and independent variables some of which are simultaneous in nature, violates the independence assumption, leads to auto correlation problems which introduces bias in the coefficient estimates, the seriousness of which requires further research. The current state of knowledge about local legal systems is insufficient for building more sophisticated models, suggesting that we live with these weaknesses. For further discussion, see Kamenta, pp. 297-304.

For the model specification and estimation which follows, the theoretical rationale of each variable in the final equations generated by the stepwise regression procedure is discussed. The variables which were included in the original model but subsequently rejected by the stepwise search procedure are mentioned but not discussed in detail. These rejected variables are mentioned as evidence of relationships which were not found to exist for the period under investigation.

The unit of observation used in the following regression equations is the subjudge as discussed in the previous chapter. Subjudge observations containing variables with values extremely out of proportion with values associated with the remainder of subjudges were deleted entirely on the judgement that these extreme values were due to recording and reporting inconsistencies.

The following models are formulated in order to predict the consequences of proposed reforms to alter the manner in which judges are selected and courts financed. Inferences about the consequences of court reforms are made from models specified to explain court performance differences across subjudges. Using the subjudge as the unit of observation from which to explain court performance differences has implications for model interpretation which require further elaboration.

A distinction should be made between variation in court performance across subjudges and variations in court performance within the individual subjudge. The following models are formulated in such a manner as to explain differences which exist between subjudges and not necessarily differences which exist within an individual

subjudge's court. While variables related to differences across subjudges have implications for proposed changes in the system as a whole, these variables may or may not be relevant to each individual subjudge's decision making criteria. The implications which model formulation and specification have on model interpretation in general and predicting the impact of proposed court reforms in particular will become evident in the discussion of individual equations.

The stepwise search procedures and the equation estimates were accomplished with the assistance of Michigan State University computer facilities.[119] Data sources of variables used in the final equations are given in Appendix H, along with the variable means and standard deviations and the simple correlation matrices of these following equations.

Factors Associated with Differences in Traffic Fines and Costs

The average fine and costs assessed for the ten most frequently committed moving traffic violations was thought to be associated with a combination of institutional, sociological, and administrative variables outlined in the previous section. The average fine and costs assessed in the ten most frequently committed moving traffic violations as described in the previous chapter was specified as

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[119] For a discussion of the mechanics of the stepwise search and estimating procedure used, see Nie, et al., Statistical Package for Social Scientists.

being a function of:[120]

Y_1		X_1,	X_2,	X_3,
Average Traffic Fine & Costs	= F	Judge Selection	Religion of Community	Political Party of Community

X_4,	X_5,	X_6,
Income of Community	Traffic Crime Rate	Court Expenditures Per Case

where: Y_1 = Average moving traffic violation fine and costs for ten most frequently committed offenses taken from individual subjudge traffic fine and cost schedules.

X_1 = Judge selection or the extent to which the court was staffed with judges who were initially appointed or elected. Since the traffic fine and costs schedule reflects the product of all of the judges in the court, values for X_1 were computed by dividing the total number of judges in the court into the number of judges

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[120] Only those aspects of the regression results relevant to hypothesis testing are reported in the text. A summary of all aspects of the regression results is given in Appendix H. The actual form of this and subsequent regression equations is given by: $Y_1 = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + , \ldots , \beta_n X_n + e$ where Y_1 = dependent variable; $X_1 - X_n$ = explanatory variables; β_0 = Y intercept of regression line; $\beta_1 - \beta_n$ = regression slope coefficients showing the magnitude and direction of the relationships; e = error term.

who initially entered office through appointment.[121] The infrequency with which incumbent judges are defeated and the lack of information regarding judicial candidates provided the rationale for classifying judges according to the manner in which they initially took office, regardless of whether they had been returned to office by a subsequent election. It is hypothesized that the manner in which the judge was selected had an influence in the manner in which fines and costs were assessed, either directly to the extent that elected and appointed judges feel a sense of obligation (community) and respond accordingly to groups with different values, beliefs and preferences for law and order or indirectly to the extent that elected judges originate from a different group or pool of candidates than those from which appointed candidates emerge. The implication of these indirect influences is that appointed judges may be more lenient in their decisions, not having initiated or waged political campaigns which tend to be oriented toward harsher law and order policies. These lenient preferences thought to be held by appointed judges will serve to reduce the level of fines and costs in the court's traffic schedules.

X_2 = Religion of the community -- as expressed by the percentage of church membership relative to total church membership

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[121]This index representing the extent to which the court was staffed with appointed judges ranged from 0 (all judges elected) to 1 (all judges appointed). The mean and standard deviation for the 79 observations used in the above equation equaled .28 and .31 respectively. The implicit assumption made by use of this index is that each judge had an equal input into the setting of traffic fine and costs schedules.

registered as Catholic. It is believed that community religion has both an institutional component such as the judge feeling a sense of obligation to the religious sentiments in the community and a psychological component such that the religious character of the community helped to shape the judges system of beliefs, values and preferences. While the direction and the magnitude of the community religion variable is not known from a priori knowledge, observation suggests that this variable incorporates into the model a combination of social, psychological and traditional variables which influence court performance.

X_3 = Political Party of Community -- as expressed by the percentage of the electorate voting Republican in the 1974 Michigan gubernatorial election. More specifically, X_3 was computed by dividing the total number of people voting in the 1974 Michigan gubernatorial election into the number who voted Republican. The political party of the community is thought to incorporate additional institutional and psychological dimensions into the model. Similar to the community religion variable, no a priori knowledge of the nature of the relationship between court performance and community political party affiliations was known.

X_4 = Income of the Community -- as expressed by the median family income of the jurisdiction reported by the 1970 Census. The income of the community is believed to be related to the court's fine and costs policy in a number of different

ways. Informal observation indicates that some judges use an ability to pay criteria in assessing fines and costs, while other judges use a behavioral response criteria whereby fines and costs are assessed at a level which the court feels will alter the defendant's future behavior. The implication of this a priori information is that fine and costs levels should be positively correlated with community income, assuming that other variables associated with fines and costs remain constant.

X_5 = Traffic Crime Rate or the number of traffic offenses per capita heard by the court, computed by dividing the total population of the court's jurisdiction in 1970 into the total number of traffic cases heard by the court during the fiscal year 1974-75. While not all traffic violations are heard by the district court, X_5 is thought to be a close approximation of the traffic crime rate. The time period discrepancies in the data sources do not pose serious problems for cross sectional data. It is hypothesized that judges are cognizant of local traffic crime rates and view the court as an instrument in dealing with this problem. Theory and observation suggest that harsher penalties are handed down in jurisdiction with higher traffic crime rates.

X_6 = Court Operating Expenditures Per Case as computed by dividing the total number of cases heard by the court into the total locally funded expenditures of the court as reported by the local funding unit. In light of the revenue generating

nature of the district court, the relative amounts of district courts revenues and the relationship the court has with the local funding unit, it is hypothesized that the administrative considerations of court operations affect the substantive decisions made by the judge. The nature of the relationship between operating expenditures and fine and costs levels are believed to be such that the fines and costs are assessed in such a manner as to defray some of the per case operating expenditures. Courts with high per case operating expenditures are thought to also assess high fines and costs.

X_7 through X_{10} = Variables Deleted by the stepwise search procedure which include: local judicial supplemental salaries, the number of traffic fatalities per capita, the number of traffic accidents per capita and locally retained net revenues per case.

The application of Ordinary Least Squares (OLS) regression procedures to the above equation gave the following results:

$$\text{Average Traffic Fine \& Costs} = F\left[\underset{\substack{\text{Judge Selection}\\(.037)}}{-[3.47]X_1};\ \underset{\substack{\text{Religion of Community}\\(.043)}}{-[8.39]X_2};\ \underset{\substack{\text{Political Party of Community}\\(.178)}}{-[13.53]X_3};\ \underset{\substack{\text{Income of Community}\\(.001)}}{-[.0012]X_4};\ \underset{\substack{\text{Traffic Crime Rate}\\(.068)}}{+[17.32]X_5};\ \underset{\substack{\text{Court Expenditures Per Case}\\(.074)}}{+[0.19]X_6}\right]$$

$R^2 = .5830$

The results of the above and subsequent equations are interpreted as follows. The positive or negative direction of the relationships between the independent explanatory variables and the dependent average traffic fine and costs are given by the sign immediately above the estimated coefficients which are given in brackets and immediately precede the variable symbols (i.e., X_1, X_2, etc.). These bracketed estimated coefficients represent the magnitude of the relationship between the dependent and the independent variable when other independent variables are held constant. The probability[122] of being wrong in stating that a relationship exists between the independent variable and the dependent variable is given in parentheses immediately below the independent variable name. The proportion of the variation in the dependent moving traffic average fine and costs variable which is explained by the 6 independent variables in the final equation is given by the R^2 (coefficient of multiple determination) value located immediately below the equation.

For example, the above equation estimates indicate that a positive relationship existed between average fines and costs and court expenditures per case. Given that all other independent variables are held constant and no strong relationship exists between X_6 and the other independent variables, a $1.00 increase in court expenditures per case is associated with a $.19 increase in average traffic fines and costs. The probability of being wrong in stating that a relationship exists between court expenditures per case and average traffic fines and costs when it does not exist is 7.4%. The R^2 value

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[122]See footnote 115.

immediately below the equation indicates that over half or approximately 58% of the variation in the dependent variable was explained by the variations in the independent variables.

Interpreting the Results. According to the above OLS regression results, it appears that the average fine and costs assessed in the ten most frequently occurring traffic violations are a function of: whether the judge was initially elected or appointed, the religion and income of the community, the traffic crime rate and the costs of operating the court. The political party of the community was not shown to be strongly significant at the conventional (.10 or .05 level) but its inclusion in the equation was based on the overall behavior of the significant explanatory variables in the final equation.

The negative relationship associated with judge selection indicates that courts with appointed judges tend to be more lenient in their assessment of fines and costs to moving traffic offenders. The general explanation given in the literature is that appointed judges come from a different pool of individuals which would probably not have campaigned for office or have succeeded in an election.[123] Not having personally and publicly sought the judgeship and not having campaigned on the usual law and order issues, appointed judges may not have perceived themselves as having any mandates to keep to those who would like to have harsher enforcement of the law. Another possible explanation for the observed differences in elected and appointed judges, discussed in Chapter III, is that voters and the

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[123]Stuart S. Nagel, Comparing Elected and Appointed Judicial Systems, op. cit., p. 12.

governor making appointments hold different preferences as to how the courts should treat minor traffic offenders, and the candidates are either aware of the feelings of those responsible for their getting into office, or share similar preferences. These preferences tend to have a reducing effect on the court's traffic fine and costs schedules.

The negative relationship between traffic fines and costs and the religion of the community suggests that courts which operated in communities with a higher percentage of Catholics tended to be more lenient in traffic dispositions. While no a priori information was found which would indicate the nature of the relationship between religion and the court's traffic fines and costs policy, the direction of this relationship is consistent with this author's personal experiences. However, further research is needed to discover the mechanics of how community religion affects the court's policy toward certain types of behavior. While nothing conclusive can be said about the relationship between community religion and court policy, the statistical significance level of the community religion gives evidence for further research.

The negative relationship between traffic fines and costs and median family income implies that courts in higher income districts assessed lower fines and costs to traffic violators. The direction of this relationship is inconsistent with expectations based on a priori information. A number of interpretations are in order. To the extent that the judges used some behavioral response criteria, it could be argued that fine and costs penalties were stiffer in low income communities because such policies were required to bring about

desired behavior. A weakness of this interpretation is that the marginal utility of money[124] tends to decline with increases in income, suggesting that progressively higher fines and costs are required to bring about a behavioral response as a person's income increases.

Another interpretation is more psychological and institutional in nature. Since the income of the community is highly correlated with urbanization, the negative relationship between community income and traffic fines and costs could be explained by the conservative nature of rural communities.[125] The judge in lower income communities assesses higher traffic fines and costs because of what the judge perceives as being a conservative court environment.

An interpretation which does not necessarily follow from the negative relationship between community income and traffic fines and costs is that individual judges did not use an ability to pay criteria in disposing of individual traffic cases. Since the variation in traffic fine and costs was obtained from schedule data and measured across subjudges, within subjudge variation and its relationship to the income or the ability to pay of the defendant is not shown by the above equation. To determine the extent to which

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[124]The marginal utility of money is defined as the additional satisfaction a person derives from an additional dollar of income, or conversely, the loss in satisfaction or the incidence of disutility generated by the loss in income due to the payment of fines and costs.

[125]The degree of rurality of the community in which the court is located was purposely omitted from the equation because of multicollinearity problems between rurality and income. The inclusion of a rurality variable would have made it difficult to the separate effects of either the rurality or the income variable.

individual subjudges used an ability to pay criteria in individual cases requires information on defendant's income which was not recorded on court dockets.

For reasons which require further research, it can be argued that while the ability to pay criteria may have been used on a case by case basis, the traffic fines and costs schedules for 1975 did not take into consideration the overall community's ability to pay these fines and costs.

The positive relationship between traffic fines and costs and expenditures per case suggests that the administrative objectives of operating the court were associated with the court's traffic fine and costs policy. It would appear that the courts consciously or unconsciously attempted to offset court operating expenses in their substantive treatment of traffic offenders. Based on the sample of courts surveyed only a portion (19%) of an increase in court expenditures per case would have been recaptured by an increase in traffic fines and costs. The remainder of the increase in court operating expenditures per case would have to be accounted for by fines, costs and fees assessed in other criminal and civil court proceedings and local taxpayers.

The positive relationship between the traffic crime rate and traffic fines and costs suggests that traffic fines and costs policies took into consideration the traffic crime rate of the jurisdiction. Consistent with expectations based on a priori knowledge, courts assessed, on the average, higher fines and costs to traffic offenders in districts with higher traffic crime rates.

Since only 58% of the variation in the traffic fines and costs was explained by the independent variables in the equation, a reasonable question to ask is what accounted for the unexplained variance? While a number of possible reasons exist for this unexplained variation it can be hypothesized that some of this unexplained variation stems from the absence of knowledge on the part of local citizens and local funding units as to relative substantive court performance. The extent to which local input into court policy is forthcoming depends upon whether those who can create costs and benefits for the judge and the court are aware of the substantive outputs of the court in light of community sociological, political and economic factors and relative to what is being done by courts in other jurisdictions. The absence of court performance information results in an absence of local pressure for input into court policy which suggests that some of the unexplained variation may be due to differences in those personal preferences and habits of the judge which are not related to locally felt needs for law and order.

In terms of future research, it would be interesting to note whether a greater proportion of the variation in traffic fines and costs could be explained by the above model after the court performance data in previous chapters is disseminated among groups in a position to have input into substantive court policies. The implications which performance information has on the institutional factors associated with court performance become more evident in subsequent models which attempt to explain the variation in more obscure or less generally known court performance indicators.

Factors Associated with Differences in Court Expenditures Per Case

Stepwise delete search procedures were applied to a series of independent variables which were believed to be associated with locally funded court expenditures per case. The independent variables thought to be associated with locally funded court operating expenditures per case are given by the following equation:

$$(Y)\ \text{Court Expenditures Per Case} = F\left[\begin{array}{lll} X_1; & X_2; & X_3; \\ \text{Judge Selection} & \text{Local Judicial Supplement} & \text{Percent Reduced} \end{array}\right.$$

$$\left.\begin{array}{lll} X_4; & X_5; & X_6 \\ \text{Court Administrator} & \text{Police Travel Time} & \text{Size of Court} \end{array}\right]$$

where: Y = Average Locally Funded Court Expenditures Per Case -- as computed by dividing total locally funded district court expenditures into the total cases disposed by the district court.[126]

X_1 = Judge Selection -- whether the subjudge was initially elected or appointed. Since the court's operating budget reflects a joint product of all of the judges in the court, values for X, were computed by dividing the total number of judges in the court into the number of judges who initially entered office through appointment. Previous

[126] Does not include indirect locally funded expenditures associated with district court operations. See discussion in Chapter VI, section on expenditures per case.

equation estimates give evidence that appointed judges were more lenient in assessing fine and costs to traffic offenders. The probable disposition data available to defendants is thought to influence his/her plea to the charges brought against him/her. Associated with alternative fine and costs levels is a behavioral phenomena which can be described as a price elasticity of defendant effort meaning that the defendant's likelihood of contesting the charges brought against him/her depends upon the expected penalty. Since court expenditures per case are influenced by the defendant's plea, it is hypothesized that courts with appointed judges have lower expenditures per case by virtue of their tendency to more lenient and the effect this leniency has on defendant pleading behavior.

X_2 = Local Judicial Supplemental Salary -- local supplement paid to the subjudge in 1975 as the local funding unit's supplement to the subjudges State's uniform fixed annual salary (expressed in dollars). Under current arrangements, the local funding unit decides periodically whether the judges supplemental salary will be increased. While statute prohibits the reduction of this local supplement, it is believed that the power to withhold increases in the local supplement creates costs for the judge which affects his behavior and the court's performance.[127] This

[127]Local supplemental judicial salaries for the entire district court system ranged from $0 to $12,630 in 1975. The mean and standard deviation for the 138 observations from which the above equation was estimated is $6933 and $3436 respectively.

withholding power granted to the local funding unit can be used to obtain input into the administrative performance of the court as defined by court operating expenditures. The implication of the above is that since courts come under pressure from local funding units to reduce operating expenditures, a negative relationship is expected between locally funded judicial supplements and locally funded court operating expenditures per case.

X_3 = Percent Reduced or the percentage of crimes which were reduced, acquitted, or dismissed in 1975, as reported by the Uniform Crime Report, represents the percentage of total crimes reduced in the jurisdiction. While not all crimes committed in the local area are heard by the district court, X_3 is believed to be a fair representation of the relative amount of charge reduction which occurs among district courts. Since charge reduction or what is more commonly known as plea-bargaining takes place after the defendant has decided to contest the charges brought against him/her, it is believed that the degree of charge reduction is closely related to the degree to which defendants contest the charges brought against them (willing participation). Defendant pleading behavior is thought to be influenced by the expected penalty upon being found guilty. Since charge reduction is an indication of the defendant contesting effort, and since the relative amount of court resources required to process these contesting defendants is high, a positive relationship is

expected between percent charge reduction and court expenditures per case.

X_4 = Court Administrator -- Binary variable for whether the court on which the subjudge sat had a court administrator as defined by the State Court Administrator's Office. Values for X_4 were entered as follows:

$X_4 = 0$: if no court administrator

$X_4 = 1$: if yes.

Court administrators were introduced into the district court system to relieve judges of administrative functions, thereby allowing them to spend more time on substantive matters -- the economic rationale being a reduction in per case operating expenditures through specialization in the court's administrative and substantive functions. Assuming that district courts with administrators were large enough to fully utilize the services of their court administrators and no additional cost incurring activities were initiated by court administrators, a negative relationship is expected between the presence of a court administrator and expenditures per case.

X_5 = Police Travel Time -- or the Michigan State Police ratio of time spent traveling to time spent in court. Values of X_5 were entered as percentages of time spent traveling to time spent in court. Relative court travel time is an indication of where the court is situated in the jurisdiction which is believed to affect defendant effort in contesting his case. Whether the defendant willingly

participates in the litigation process by pleading guilty or no contest is influenced not only by the expected penalty but also the expected associated and direct costs of contesting the charges. Low levels of relative travel time imply that the court is situated within a relatively densely populated jurisdiction where the associated travel costs of contesting a case are relatively low. The above reasoning suggests that a negative relationship should exist between associated costs of going to court as reflected by police travel time and court expenditures per case.

X_6 = Size of Court as measured by the total number of cases disposed during the 1974-75 fiscal year. The general argument made by court reformers in regard to court size, is that court operating expenditures per case can be reduced by consolidation and centralization. In economic terminology, declining average expenditures or costs associated with expansion of court size or in the number of cases heard is generally known as economies of scale. Whether average expenditures per case increase or decrease with case volume depends on the courts' cost structure in general and the ratio of fixed to variable costs in particular. If there are relatively high fixed court expenditures in terms of salaries and payments for court facilities and equipment and relatively low variable court expenditures associated with each case heard by the court, average court expenditures per case would tend to

decline up to court capacity since additional cases heard would allow the court to spread its fixed expenditures over more cases thereby reducing the average total expenditures per case.[128] On the basis of economies of scale arguments made by some court reformers, a negative relationship is expected between court size and locally funded average court expenditures per case.

X_7 through X_{14} = Variables Deleted by the stepwise search procedures include: Average traffic fine and costs, percentage of total cases heard by court disposed by jury trial, percentage of total cases disposed without judge, population density of jurisdiction, percentage of jurisdiction population classified as rural, total cases disposed per capita and State Police relative court waiting time.

The deletion of average traffic fines and costs in light of previous discussions of defendant charge contesting efforts or "unwilling participation" merits further discussion. Informal observation suggests that while there is a degree of simultaneity in the relationship between court expenditures per case and the level of fines and costs it is believed that schedule fine and costs are determined directly with anticipated expenditure levels

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[128] Economies of scale is a production concept based on the assumption that the character of the specifically defined output being produced does not change as more quantity is produced. If the character of the output changes, economies of scale concepts are not applicable since the policy issue is not between size of courts and expenditures per case but rather between two different outputs. Evidence of changes in the character of court outputs are given in subsequent sections.

in mind. While expected fines and costs affect defendant pleading behavior which subsequently affects the amount of court resources required to process a higher percentage of contested cases, the relationship between fines and costs is indirect, depending upon defendant pleading behavior which is itself affected by other factors such as expected non fine and costs penalties and costs associated with being an "unwilling participant". Deletion of the average traffic fines and costs variable from the above equation suggests that it is not the level of fine and costs per se which directly affects court expenditure levels but the extent to which fine and costs affects defendant pleading behavior which affects court expenditures.[129]

OLS estimates of the above equation yielded the following results:

$$\underset{\text{Court Expenditures Per Case}}{(Y)} = F\Big[\underset{\text{Judge Selection (.081)}}{-[.960]X_1};\ \underset{\text{Judicial Supplement (.146)}}{-[.00028]X_2};\ \underset{\text{Percent Reduced (.101)}}{+[11.77]X_3};\ \underset{\text{Court Administrator (.012)}}{+[3.50]X_4};\ \underset{\text{Travel Time (.092)}}{-[1.31]X_5};\ \underset{\text{Size of Court (.101)}}{+[.00074]X_6}\Big]$$

$R^2 = .1055$

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[129] More accurate information on the direction of these relationships would require refinements in equations estimated in this research. Further refinements in model specification using more sophisticated system of simultaneous equations were not attempted at this point due to the absence of theory and a priori knowledge of the nature of relationships within the local legal system.

Interpreting the Results: The above equation estimates suggests that courts staffed by appointed judges operate at lower average expenditures per case. This performance was explained earlier by the indirect relationship between the tendency for appointed judges to be more lenient in their fines and costs, the effect this leniency has on defendant pleading behavior and its effect on amount of resources required to process a case.

An alternative explanation, which would require further research to validate, suggests that appointed judges come from a different pool of talent, skills and obligations which influence the judges' managerial skills. Appointed judges may have in general a different variety of administrative skills and the expenditure performance of the court may be a reflection of these skills rather than some conscious attempt on the part of court and local official efforts to reduce operating costs. More needs to be known about the particular talent and personality pools from which elected and appointed judges emerge in order to explain differences in behavior due to judge selection and to more accurately predict how various judicial appointment schemes affect performance.

Since the judge selection variable was entered as an index of the extent to which the court was staffed with appointed judges, the .96 coefficient associated with the judge selection variable implies that courts staffed exclusively with an appointed judge or judges cost the local funding unit $.96 less per case than courts staffed exclusively with elected judges. Multiple judge courts with judges of mixed selection must be interpreted in light of the mix of judges on the court. For example, according to the above equation

estimates, appointing a judge to fill a vacancy on a two judge court such that the court has a judge selection index of .5 implies that on the average, a $.48 reduction in expenditure per case will be associated with such an appointment.

As expected, charge reduction was positively related with court expenditures per case, giving evidence that the extent to which cases are contested or conversely, the extent to which defendants "willingly participate" in the proceedings of the court, affects court operating costs. It should not be inferred from the positive relationship between charge reduction and court expenditure per case that charge reduction does not save the taxpayers money in terms of court and prosecutorial expenditures, rather that charge reduction is in part a reflection of defendant pleading behavior which affects court expenditures per case. Alternative models would have to be constructed to determine the extent to which the practice of charge reduction itself affects court and prosecutorial expenditures per case.

The negative relationship between local judicial supplemental salary and expenditures per case, e.g., that low supplemental salaries are associated with high expenditures per case, implies that local judicial supplements may have served as an instrument to reduce court operating expenditure performance. The institutional dimension of this negative relationship suggests that some deliberate interaction could have taken place between judges and local funding units and that the local supplement may have been used directly as an incentive to change expenditure performance. Another interpretation which is more long run in nature implies that jurisdictions paying larger judicial supplements seem to attract judges with better

managerial skills. From a policy standpoint, both of these interpretations of the relationship between salary and expenditure performance must be taken into consideration when attempts are made to alter expenditure performance through increases in supplemental judicial salaries. Given sufficient time for adjustments to be made, the above equation indicates that a $1,000 increase in the local judicial supplemental salary will eventually bring about an $.28 per case reduction in locally funded expenditures per case.

To interpret the relationship between any one independent variable and the dependent variable, other independent variables are assumed to remain constant. This assumption places limitations on the statements which can be made with respect to court administrators. Given that all of the other independent variables are held constant, court administrators were associated with a $3.50 increase in locally funded court expenditures per case.

From a policy perspective it is perhaps unrealistic to examine the expenditure per case implications associated with court administrators under such narrow restrictions. A more useful question to ask is under what circumstances can a court justify the hiring of a court administrator from an expenditure per case standpoint? Some rationale for the court administrator can be found by examining what happens to expenditure per case as court size increases. According to the above equation estimates, expenditures per case increased with case loads, implying diseconomies of scale rather than economies of scale, contrary to the notions held by many court reformers. More specifically, a $.74 increase in expenditure per case over all cases was associated with a 10,000 case volume increase. Based on these

estimates a court administrator can be justified on the basis of minimizing expenditures if case volume increases by approximately 47,297 cases where the expenditure per case increase associated with the increase in case volume is equal to the expenditure per case increase associated with the court administrator.[130] Of course, there are other reasons for hiring court administrators which are beyond the scope of this research. The above exercise attempted to demonstrate one particular rationale based on expenditure per case.

Contrary to the economies of scale arguments made in support of court centralization and consolidation, the positive relationship between case load and expenditure per case implies that the average cost of disposing of a case increases with size. Reasons for these diseconomies may partially be due to increases in court congestion leading to more delays which require more local monies for compensating policemen and citizens while in court.[131] Some of these diseconomies may have been due to the fixed nature of many district court facilities despite increases in case load. Increasing costs may be due to courts operating at levels greater than capacity.

The negative relationship between travel time and expenditures per case supports earlier arguments that court travel time affects

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[130]Estimates were computed by dividing the $.000074 expenditure per case coefficient associated with size of court into the $3.50 expenditure per case coefficient associated with court administrators to determine the level of court expansion and its effect on expenditure per case which is comparable to the increase in expenditure per case associated with court administrators.

[131]For evidence of this increase in police waiting time due to centralization, see Josef M. Broder, Selected Impacts of Michigan's 1969 Court Reorganization on Rural Citizens, op. cit.

the associated costs of going to court, defendant pleading effort and expenditure per case. It was argued that defendant pleading behavior is related to the expected penalty and the costs of contesting a case. The lower the court travel time, the lower the associated costs of contesting a case and the more frequent the incidence of "unwilling participation" and its impact on court operating expenditures.

Relative to the previous equation which attempted to explain differences in average traffic fines and costs, this equation had a much lower R^2 value. An R^2 value of .11 indicates that only 11% of the variation in expenditure per case was explained by the independent variables.

Again, one could inquire as to why was there so much unexplained variation? While a number of explanations can be given, it can be argued that the reasons are institutional in their origin. The absence of comparative expenditure performance data implies that local officials lack the necessary comparative information with which to have an administrative input into the operations of the court, thereby leaving administrative policy at the discretion of the judge. Without comparative expenditure performance data public debate over court operating costs is absent since local residents have no basis on which to measure and compare expenditure performance. Variation in expenditure performance becomes more a function of individual judge discretion than community needs as reflected in the preceding explanatory variables.

This institutional argument for the unexplained variation in court performance can be restated as follows: The less the available public information about some court performance variable the more

discretion the individual judge has in decisions associated with that performance and the greater the proportion of unexplained variation in the models which attempt to explain performance variation using institutional and community socio-economic variables.

Based on the above line of reasoning, one would expect a higher R^2 associated with a model attempting to explain commonly known average traffic fines and costs as compared to the R^2 associated with a model attempting to explain the more obscure expenditure per case performance.

Factors Associated With Differences in Net Revenue Per Case

Automatic selection procedures were performed on a series of explanatory variables thought to be associated with the amount of net revenue per case. The equation which best explained the variation in net revenue per case is listed below:

$$\begin{array}{lcl} \text{(Y) Net Revenue Per Case} & = & F\Big[\ X_1;\ \text{Judge Selection} \quad X_2;\ \text{Local Supplement} \quad X_3;\ \text{Political Part of Community} \quad X_4;\ \text{Average Traffic Fine \& Costs} \\ & & X_5;\ \text{Percent Traffic} \quad X_6;\ \text{Percent Non Judge Heard} \quad X_7;\ \text{Exp. Per Case} \quad X_8;\ \text{Court Administrator} \quad X_9\ \text{Waiting Time}\ \Big] \end{array}$$

where Y = Locally retained net revenue per case as computed by subtracting locally funded expenditures per case from locally retained total revenues per case heard in district court.

In addition to being an indicator of the court's administrative performance, Y gives some indication about the courts' explicit or implicit policy on who should bear the operating expenditures of the court.

X_1 = Judge Selection or an index measuring the extent to which the court was staffed with judges who initially entered office through appointment. Again, the general hypothesis is that appointed judges emerge from a different pool of individuals which tend to be less inclined to carry a law and order mandate into office. The leniency which was previously found among appointed judges with respect to average fines and costs assessed in traffic offenses is believed to affect and be reflected in the court's policy on who should pay for the operations of the court. This leniency is believed to manifest itself in an attitude that the burden of operating the court should be shared by the defendants and the local community in the form of taxes. A negative relationship is expected between judge selection and net revenue per case.

X_2 = Judicial Supplement - local judicial supplemental salary paid to the subjudge in 1975 as the local funding unit's supplement to the State's uniform fixed annual salary as expressed in dollars. The general hypothesis being does the local supplement serve as a mechanism for local input into the administrative performance of the court. It is believed that the supplement serves as a short run incentive toward generating greater net revenues per case and/or as

a long run mechanism to attract judges with better managerial skills. A positive relationship is expected between the local supplement and net revenue per case.

X_3 = Political Party of the jurisdiction as expressed by the percentage of the electorate voting Republican in the 1974 Michigan gubernatorial election. Political party is thought to have influenced the judge's beliefs and preferences in addition to characterizing the community in which the court clientele reside. No a priori knowledge of the expected direction of this relationship is available.

X_4 = Average Traffic Fine and Costs assessed in the ten most frequently committed moving traffic violations. The average level of traffic fines and costs gives an indication of per case revenues assessed by district courts. The direction of the relationship between traffic fines and costs and net revenues per case depends upon the relationship between traffic fines and costs and expenditures per case. There is a general belief held by many local officials and judges alike that net revenues per case can be increased by assessing higher fines and costs. Based on this a priori knowledge, a positive relationship is expected between net revenues per case and average traffic fines and costs.

X_5 = Percent Traffic -- or the percentage of cases heard by the court which were classified as traffic cases, computed by dividing the total number of cases heard by the court into the number of traffic cases heard by the court. Traffic

cases are typically disposed of through specialized traffic bureaus and tend to generate higher net revenues per case than non-traffic offenses. A positive relationship is expected between percent traffic and net revenue per case.

X_6 = Percent Non-Judge Heard -- represents the percentage of cases disposed by the court which were not specifically heard by the judge, computed by dividing the total number of cases heard by the court into the cases heard by the traffic bureau and the magistrate. The judge is believed to be the scarcest resource in the district court and the extent to which his direct involvement is required in the disposition of a case affects the court's net revenue performance. A positive relationship is expected between percent non-judge heard and net revenue per case.

X_7 = Expenditure Per Case -- or the locally funded district court expenditures per case as computed by dividing the total cases heard into total locally funded expenditures. Expenditures per case make up one component of net revenues and are indirectly affected by defendant pleading behavior. In general, courts with high expenditures per case are expected to generate low or negative net revenues per case.

X_8 = Court Administrator -- binary variable with values equal to 0 if no court administrator and 1 if yes. Court administrators were introduced to enable courts to take advantage of specialization and comparative advantage. By taking care of many administrative matters, these functionaries enable

the judge to spend more time on substantive matters, improving case scheduling and increasing net revenues per case. A positive relationship is expected between court administrators and net revenue per case.

X_9 = Waiting Time or the ratio of time Michigan State Police spent waiting in court relative to the time they spent in non-idle court activities. Police waiting time is believed to be an indication of case scheduling and court congestion. High ratios of police waiting time increase court expenditures per case in terms of the court resources tied up during such periods as well as in the compensation which must be paid to witnesses, jurors and some off duty law enforcement officials. Total as well as per case revenues are reduced by virtue of fewer cases being heard in the face of such congestion. A negative relationship is expected between waiting time and net revenue per case.

X_{10} through X_{15} - Variables Deleted by automatic search procedures include: the number of cases per capita, the percentage of total cases disposed by jury trial, associated court travel time as expressed by Michigan State Police relative travel time, population density of the court's jurisdiction, number of cases heard per judge and the religion of the jurisdiction as expressed by the percentage of Catholics in the church population.

OLS estimates of the above equation yielded the following results:

$$
\begin{array}{lcl}
\text{(Y) Net Revenue Per Case} & = & F \Bigg[\underset{\text{Judge Selection (.097)}}{[-9.57]X_1;} \quad \underset{\text{Local Supplement (.008)}}{[+.0016]X_2;} \quad \underset{\text{Political Party (.003)}}{[-110.26]X_3;} \\
 & & \underset{\text{Average Traffic Fine \& Costs (.046)}}{[-.90]X_4;} \quad \underset{\text{Percent Traffic (.125)}}{[+63.08]X_5;} \quad \underset{\text{Percent Non-Judge Heard (.011)}}{[+32.40]X_6;} \\
 & & \underset{\text{Exp. Per Case (.001)}}{[-1.32]X_7;} \quad \underset{\text{Court Administration (.007)}}{[+12.94]X_8;} \quad \underset{\text{Waiting Time (.016)}}{[-6.72]X_9} \Bigg]
\end{array}
$$

$R^2 = .5830$

Interpreting the Results: The negative relationship between judge selection and net revenue per case gives evidence that courts with appointed judges explicitly or implicitly pursued different policies on who should bear the costs of operating the court. Courts with judges who initially entered office through appointment generated lower net revenues per case than courts with elected judges. The implications of this relationship are that taxpayers paid a greater proportion of the costs as expressed in there being lower net revenues from the court in jurisdictions with appointed judges as compared to jurisdictions with elected judges. Evidence suggests that courts with appointed judges tended to spread the costs of operating the court over taxpayers and offenders whereas courts with elected judges tended to place this burden more so on the defendants.

The positive relationship between local judicial supplement and net revenue per case indicates that courts with higher local judicial supplements also generated higher net revenues per case, suggesting that local judicial supplements serve as a mechanism for local input into the court's administrative performance. Given the appropriate time for adjustments to be made, a $1000 increase in the local judicial supplement will generate a $1.60 increase in net revenue per case.

Contrary to what was expected, average traffic fines and costs were found to be negatively related to net revenue per case, indicating that courts with high average traffic fines and costs did not generate high net revenues per case. According to the above estimates a $1.00 increase in average traffic fines and costs was associated with a $.90 decrease in net revenue per case. Several reasons can be given for this negative relationship. One possible explanation is that average traffic fines and costs may be high in some courts already with financial problems because relatively few traffic cases are heard in these courts. These courts may be attempting to increase their net revenues per case by assessing higher fines and costs in traffic cases.

Another possible reason and one which has important policy implications for courts attempting to increase net revenues per case is related to changes in defendant pleading behavior in response to increases in expected penalties. This relationship between expected penalties and defendant contesting effort may be such that revenues from increases in average fines and costs are being offset by proportionately higher increases in expenditures per case stemming from

increases in defendant contesting effort.

Still another phenomena which could take place as the court attempts to increase net revenue per case by increasing fines and costs is a reduction in the cases brought before the court due to the deterrant effect of the fines and costs on the crime rate. Theoretically, one could conceive of fines and costs ranges whereby a proportionately greater, fewer or constant number of cases would be brought before the court. For policy makers the question is one of how will increases in penalties affect defendant effort and the crime rate and how will this affect net revenue per case and total revenue.

Although not significant at the conventional .10 level, the percentage of traffic cases was found to be positively related to net revenue per case implying that the greater the proportion of traffic cases, the greater the net revenue per case. This confirms earlier expectations which were based on the reasoning that traffic cases tend to require fewer expenditures per case, generate positive net revenues per case and offset non traffic cases which typically generate negative net revenues per case.

Similarly, the fewer the proportion of cases heard by the judge the higher the net revenue per case as expressed in the positive relationship associated with percentage of non judge heard cases. Cases heard by the judge tend to require more court resources than cases heard by specialized functionaries fo the court. Non judge heard cases usually always involve revenue generating fines and costs while judge heard cases involve, in some instances, non fine and

costs penalties which require more resources to dispose than can be offset by fines and costs paid by the defendant.

Expenditures per case were found to be negatively related to net revenue per case which implies that courts with high expenditure per case tended to generate low net revenues per case. According to the above equation estimates, a $1.00 decrease in expenditures per case was associated with a $1.32 increase in net revenue per case. From the standpoint of net revenues per case, the introduction of some expenditure saving technology would have more than paid for itself.

Courts with court administrators tended to generate higher net revenues per case on the order of about $12.94. It is thought that the introduction of court administrators generally serves to reduce expenditures per case because of improved court management and increased revenues because of improved record keeping systems.[132]

Waiting time was found to be negatively related to net revenue per case. A 1 hour reduction in the ratio Michigan State Police waiting time to time spent in court was associated with a $6.72 increase in net revenues per case. According to the above equation estimates, substantial net revenues per case increases could be generated by improved case scheduling which reduces the length of time law enforcement officials, witnesses and jurors must wait in court.

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[132]This hypothesis derived from observations made during the collection of fine and costs schedules obtained from the courts surveyed. Courts with court administrators tended to keep more sophisticated records which enabled them to systematically use graduated fine and costs in the disposition of repeat offenders.

Factors Associated with Mean Fine and Costs Differences in Selected Misdemeanors

The same general procedure explaining differences in traffic fines and costs is now applied to other types of offenses including driving under the influence, disorderly persons, simple larceny and possession of marijuana. OLS estimates of the equations generated by these procedures are given in Table 7.3. Included in Table 7.3 are the direction of the relationship, magnitude of the relationship as expressed by the β coefficient, the significance level associated with the explanatory variables and the R^2 value or the extent to which the variation in the dependent variable is explained by the variation in the independent variables. Variables deleted by the automatic search procedures are indicated by blank spaces.

An indepth explanation of why each of the independent variables was included in the following equations will not be undertaken. The rationale developed in the specification of earlier equations are believed to be generally applicable here. The rationale associated with any new variables or changes associated with the form in which previous variables are entered will be discussed. Explanatory variables which were thought to be related to selected misdemeanor fine and costs means include:

Mean Fine and Costs -- dependent variables

Local Judicial Supplement as defined in previous equations

Judge Selection -- whether the judge was initially appointed or elected. For the equations in Table 7.3, this variable was entered in binary form, 0 if initially elected and 1 if initially

Table 7.3: Factors Associated with Differences in Mean Fine and Costs Assessed in Selected Criminal Misdemeanors (OLS Estimates)

DEPENDENT VARIABLES	EXPLANATORY VARIABLES												
	Institutional		Community-Sociological				Criminal		Administrative		Substantive		
Mean Fine & Costs	Local Supplement	Judge Selection	% Republican	% Rural	% Catholic	Income	Traffic Accident Rate *	Crime Rate	% Reduced	% Trial	% Probation	% Jailed	R^2
DUIL													
direction	-		+	-		+		+	+		+		
β coefficient	.28		353.11	71.48		.44		.96	.94		.40		.6556
significance	(.000)		(.010)	(.045)		(.000)		(.084)	(.000)		(.044)		
Disorderly Persons													
direction													
β coefficient													
significance													
Simple Larceny													
direction	+			+						+		+	
β coefficient	.44			57.11						3.56		.52	.3800
significance	(.060)			(.026)						(.008)		(.020)	
Possession of Marijuana													
direction	+	-	-			-		+		+	-		
β coefficient	.46	60.96	590.99			.76		.20		11.50	.54		.5000
significance	(.024)	(.005)	(.036)			(.024)		(.010)		(.058)	(.080)		

* Applicable to DUIL equation only.

Source: Computations from Survey Data.

appointed. Since there is no fine and cost schedule available for the disposition of the more serious offenses, the disposition which is handed down in such cases is thought to reflect the unique input of the judge rather than the joint product of the judges as a group (as in the case of traffic fine and cost schedules).

Religion of Community -- or the percentage of Catholics in the community as defined in previous equations.

Political Party -- or the percentage of Republicans in the community as defined in previous equations.

Rurality -- The percentage of the court's population classified as being rural according to the 1970 Census.

Income -- Median family income of the jurisdiction as reported by the 1970 Census.

Crime Rates -- More appropriately referred to as the arrest rate per capita, and computed by dividing the total number of persons arrested for the general crime category by the total population of the court. While all persons committing crimes are not arrested and brought to court, it is believed that the arrest rate is a close approximation of the community's crime rate.[133] Crime rate estimates were based on 1974 data to introduce a lag element into the court's response to the incidence of crime in the community. A slight variant of the crime rate or the traffic accident rate per 10,000 population was included in and limited to the DUIL equation.

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[133]Because of data limitations, crime rates for driving under the influence were computed using all driving under the influence arrests in the jurisdictions, simple larceny were computed on the basis of all larceny arrests in the jurisdiction and possession of marijuana crime rates were computed on the basis of all marijuana arrests in the jurisdiction regardless of whether these arrests lead to actual cases in district court or whether these cases were heard in circuit court.

Percent Reduced -- Percentage of specific misdemeanor category cases which were reduced, computed by dividing the number of specific misdemeanor cases into the number of those specific misdemeanor cases which were reduced. There is a general belief held by many local residents that jurisdictions practicing charge reduction tend to be lenient toward specific types of misdemeanors. From the standpoint of fines and costs a negative relationship is expected between the percent reduced and mean fines and costs.

Percent Trial -- Percentage of specific misdemeanor cases which went to trial, computed by dividing the total number of specific misdemeanor cases into the total number of specific misdemeanor cases which went to trial. The proportion of cases going to trial affects the amount of court resources required to dispose of such cases. To the extent that courts assess fines and costs with expenditure levels in mind, a positive relationship is expected between percent trial and mean fines and costs.

Percent Probation -- Percentage of specific misdemeanor category cases in which the defendants received probation as all or part of their judgement, computed by dividing the total number of specific misdemeanor cases into the number of those cases involving probation. Unlike traffic offenses, courts were more apt to use non fine and cost penalties. The extent to which non fine and cost penalties were used in place of or in addition to fines and costs is thought to influence the mean fines and costs. The variety of disposition policies adopted by the courts with respect to the mix of penalties does not provide sufficient a priori knowledge of the expected relationship between the percent probation and mean fine and costs.

Percent Jailed -- Percentage of specific misdemeanor defendants who received jail as all or part of their judgement, computed by dividing the total number of specific misdemeanor cases into the number of those cases involving jail. Since jail was used in place of or in addition to non jail penalties, fine and costs levels are thought to vary with the extent to which jail was used. As in the case of probation the variety of observed policies precludes any a priori knowledge of the expected direction of the relationship between percent jailed and mean fine and costs.

The inability to explain differences in mean fine and costs assessed to disorderly persons was attributed to the "hodge-podge" nature of this misdemeanor category and a suspicion that courts differed with respect to what types of behavior constitute a disorderly persons offense.

For the assessment of fines and costs in the remaining offenses in Table 7.3, the local supplement was related fine and costs, but the relationship was not consistent across misdemeanor categories. Judge selection was found to be significant in the assessment of fines and costs in possession of marijuana cases and the negative direction of the relationship was consistent with earlier findings that appointed judges tended to be more lenient.

Community sociological variables were found to be significant in some of the offenses, but the direction of the relationship was not consistent. Since the judge is thought to take several factors into account in his decisions and since he probably views various offenses differently with respect of their impact on the community, this inconsistency in the direction of these community sociological

variables is to be expected. As in the case of traffic crime rates, judges seemed to be responsive to local crime rates as shown by the significant positive relationship between crime rates and fine and costs, although there did not appear to be any relationship between the traffic accident rate and the mean fine and costs assessed in DUIL cases.

The positive relationship between the percentage of cases going to trial and the mean fine and costs assessed to defendants of that specific crime category, suggests that courts may be spreading the trial costs associated with operating the court over all of the defendants. This does not indicate that the judge gave more favorable treatment to persons who do not demand trials, rather, that courts with higher percentages of defendants going to trial assess higher average fines and costs to all defendants.[134]

Non fine and costs penalties were found to be significantly related to mean fine and costs levels, although the direction of the relationship differed across misdemeanor categories. According to the equation estimates found in Table 7.3, it appears that courts with high DUIL fines and costs tended to use more probation in DUIL cases while courts with high possession of marijuana fines and costs tended to use probation in possession of marijuana cases more infrequently. Courts with high simple larceny fines and costs tended to use jail more frequently in simple larceny cases.

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[134]The case is analogous to the case of a customer's paying cash for commodities from a retailer who accepts credit cards. The cash paying customers subsidize those who purchase with credit by paying a slightly higher price for the commodity which the retailer charges to offset the costs of providing credit.

Factors Associated with Uniformity in Fine and Costs Assessment

Courts differed not only in the mean level of fines and costs assessed in selected misdemeanor cases but also in the variability with which fines and costs were assessed. Policy makers have proposed and introduced many schemes to alter the variability which exists within a particular court. It is not within the scope of this research to assess the desirability of intra-court variation, rather an attempt is made to explain why differences in variability exists.

Automatic search techniques were applied to a set of variables believed to be related to differences in intra-court fine and costs as measured by the fine and costs variance.[135] The results of those automatic search procedures and the OLS equation estimates are given in Table 7.4. Variables deleted by the automatic search procedures are shown as blanks. Variables which were thought to be significant in explaining differences in fine and costs variances across sub-judges include:

Local Judicial Supplement -- as previously defined. The general hypothesis associated with this variable is whether the local judicial supplement serves as a mechanism to influence the variability in which fines and costs are assessed.

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[135] Variance estimates used as dependent variables were computed as follows:

$$\text{Fine and Costs Variance} = \frac{\sum_{i=1}^{N} (Y_i - \bar{Y})^2}{N - 1}$$

where Y_i = individual case fine Y costs; $\bar{Y}$ = subjudge fine & costs mean; N = total cases sampled.

Table 7.4: Factors Associated With Differences in Fine and Costs Variance in Selected Criminal Misdemeanors (OLS Estimates)

DEPENDENT VARIABLES	EXPLANATORY VARIABLES											
	Institutional		Sociological		Substantive			Administrative				
Fine & Cost Variance	Local Supplement	Judge Selection	% Catholic	% Republican	% Reduced	% Probation	% Jailed	# of Judges	% Trial	Cases Per Judge	% Rural	R^2
DUIL												
direction					+				+	-		
β coefficient					41.18				287.85	.42		.6095
significance					(.046)				(.000)	(.039)		
Disorderly Persons												
direction	+		+	-				-		-	+	
β coefficient	.33		3376.95	7129.10				435.61		.30	1804.73	.4756
significance	(.001)		(.023)	(.094)				(.015)		(.001)	(.030)	
Simple Larceny												
direction	+						+		+		+	
β coefficient	.59						56.43		258.36		5489.05	.4161
significance	(.019)						(.018)		(.049)		(.027)	
Possession of Marijuana												
direction							+					
β coefficient							172.79					.2757
significance							(.004)					

Source: Computations from Survey Data.

Judge Selection -- whether the judge was initially appointed or elected. For the equations in Table 7.4, this variable was entered in binary form, 0 if initially elected and 1 if initially appointed. Since there is no fine and cost schedule available for the disposition of the more serious offenses, the variation in dispositions handed down in such cases is thought to reflect the unique input of the judge rather than the joint product of the judges as a group (as in the case of traffic fine and cost schedules). Among some of the schemes which have been proposed to alter intra-court variation has been a move toward appointment of judges. There is a general belief held by some court reformers that appointed judges exercise greater uniformity in their substantive decisions. Their belief is based on the presumption that since appointed judges are "better qualified" and "non political" they apply greater uniformity. Based on these arguments, a negative relationship is expected between judge selection and fine and costs variance.

Religion and Political Party -- as defined by the percentage of Catholics and Republicans respectively. These community sociological variables are thought to influence fine and costs variance either because the judge is sensitive to some particular preferences for uniformity in the community or the judge's own sense of uniformity has been shaped by such factors. Little a priori information on the expected direction of these relationships is known.

Charge Reduction -- the percentage of the specific offense cases reduced to a lesser offense. By the definition used in this research charge reduction permits the judge to reduce in amount and/or the type of penalties which are handed down. While charge reduction is

initiated at the discretion of the prosecutor, the extent to which cases within a particular misdemeanor category are reduced affects the judges' ability to vary the fines and costs penalties.[136] A positive relationship is expected between charge reduction and fine and costs variance.

Percent Jailed and Percent Probation -- the percentage of the specific misdemeanor category cases involving jail and probation respectively. Since jail and probation were sometimes used in place of fine and costs, variation in fine and costs is thought to be related to the extent to which non fine and costs penalties were used. A positive relationship is expected between percent jailed and fine and cost variance, and percent probation and fine and costs variance.

Number of Judges -- the number of judges on the court in which the case was heard affects the probability that a repeat offender will be heard by the same judge, which subsequently reduces the amount of personal knowledge the judge has regarding defendants brought before him and the amount of information the judge has for handing down a unique judgement. Also, the more judges on the court the more continuity in fine and costs policy there is likely to be in the court because of the staggered election procedures in the district court system. A negative relationship is expected between the number of judges on the court and fine and costs variance.

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[136]The reader is reminded that the case observations from which equations were estimated were classified according to the original misdemeanor charge, some portion of which were subsequently reduced to a lesser charge.

Cases per Judge -- the total number of cases disposed of by the judge as computed by dividing the total number of cases heard by all judges into the total number of judges on the court. The total number of cases per judge is thought to affect the judge's ability to give each case heard by the court his personal discretion by virtue of time limitations. A negative relationship is expected between cases per judge and fine and costs variance.

Trial Percent -- the percentage of defendants going to trial affects the number of defendants which are directly exposed to the judge, the subsequent information from that exposure and the extent to which personal information about the defendant can be used in the judge's decision. A positive relationship is expected between trial percent and fine and costs variance.

Rurality -- The percentage of the jurisdiction's population which was classified as being rural by the 1970 Census. The degree to which the court is rural gives an indication of the personal nature of the relationships in the community. This informal information system is thought to provide the judge with more information about each defendant from which unique judgements can be made. A positive relationship is expected between degree of rurality and fine and costs variance.

The results of the automatic search procedures and the OLS estimates of the fine and costs variance equations are shown in Table 7.4. According to these results, the local judicial supplemental salary was found to be significantly related to fine and costs variance in two of the misdemeanor categories and the direction of the relationship was consistently positive. This relationship

suggests that the local supplement may serve as a means to bring about more variation in fine and costs assessments either directly as a result of interactions with local funding units or indirectly as a result of attracting different types of judges into office via higher supplemental salaries. For the local funding unit the supplemental salary may have served to encourage greater variation in fines and costs through the implementation of a progressive repeat offender fine and cost policies.

While nothing conclusive can be said about the relationship between community religion, political party and fine and cost variance, the rurality of the community seemed to have a positive effect on fine and costs variance. This positive relationship can be explained by the more personal and permanent nature of the relationships between the rural judge and the defendant, enabling, if not encouraging, the judge to apply a greater degree of discrimination.

The extent to which charge reduction takes place in the court appears to have a positive relationship with fine and costs variance as shown by the DUIL equation in Table 7.4. Courts with high degrees of charge reduction in DUIL cases also have greater fine and costs variance in DUIL cases. Another substantive variable found to be related to fine and cost variance was the extent to which jail was used. The positive relationship between the percent jailed and fine and costs variance supports earlier observations that judges may not have assessed all or part of the fines and costs in cases where the defendant was sent to jail.

Among administrative and economic variables associated with fine and costs variance, the number of judges in the court, the percentage

of cases going to trial and the number of cases per judge were all found to be significantly related to fine and costs variance in one or more of the equations of Table 7.4. The negative relationship between the number of judges and fine and cost variance was expected from the rationale that the defendant in repeat offenses will probably not appear before the same judge, therefore diminishing the judge's ability to assess unique judgements in the absence of sophisticated records of repeat offenses.[137] Similarly, the more cases the judge hears, the more sophisticated the information system has to be for the judge to keep track of all of the defendants and the more costly it becomes to maintain a unique character to each judgement. The positive relationship between fine and costs variance and the percentage of cases going to trial is consistent with the hypothesis that the trial itself provides the judge with more information about the defendant from which to discriminate between cases.

The rejection of the judge selection variable from each of the equations implies that in terms of fine and costs variance, appointed judges were comparable to elected judges. From a policy standpoint, this implies that moving to a system of appointing judges is not likely to change the uniformity with which fines and costs are assessed. Contrary to the arguments advanced by advocates of judicial appointment, the skills and attitudes toward uniformity held

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[137] Informal observation of record keeping systems in courts surveyed suggests that many of these systems were not capable of readily informing the judge of repeat offenders except in situations where more serious misdemeanors were involved.

by the pool of individuals from which appointed judges emerge do not seem to be different than those associated with elected judges.

This chapter has been concerned with the broader question of which factors account for differences in court performance. The first part of this chapter demonstrated that despite other factors affecting court performance, the judge makes unique and significant contributions to court performance, as evidenced by substantive differences in multi-judge courts and policy shifts associated with judicial turning points.

The mechanics of model specification were discussed and a general model of judicial behavior and court performance was formulated to facilitate the testing of key relationships within the district court system. Several court performance regression equations were formulated by applying automatic search techniques to a combination of institutional, community-sociological, criminal population, administrative-economic and substantive variables suggested by relevant theories developed in earlier chapters.

Brief interpretations of the OLS estimates of these various equations were discussed in light of expected and realized relationships and alternative explanations were offered in cases where the relationships were found to be different than expected. The implications these relationships have for state and local policymakers were discussed briefly. An attempt will be made in the following chapter to summarize the findings of this research, to discuss in more detail the implications these findings have for policy makers, and to offer suggestions for future research.

CHAPTER VIII

SUMMARY AND POLICY IMPLICATIONS

The purpose of this research has been to describe, document, and explain differences in court performance and to use this information in predicting what rural citizens could expect from proposed court reforms to alter the way in which judges are selected and courts financed. In this chapter, an attempt is made to summarize the findings of this research; to re-examine the policy implications these findings have for local residents, to offer suggestions on how local groups can implement a continuous court performance information system, and to make suggestions for future research in the area of judicial behavior and court performance.

The study attempted to describe how Michigan district courts were operating under existing methods of judge selection and court financing. This was accomplished through the formulation of court performance indicators describing the court's policy in cases involving DUIL and other traffic offenses, disorderly persons, simple larceny, shoplifters and marijuana possession. From an administrative standpoint, an attempt was made to inform local residents of how much it was costing them to operate their courts as well as how much revenue was being generated. An examination of current differences in court performance was used to predict the impact of shifting structural boundaries

of judge selection and compensation within the context of a general model designed to explain differences in court performance across courts.

The allocation of court services was described within a marketing context as an administrative system of resource allocation. Not unlike decision makers in the private sector, it was hypothesized that judges respond to forces which create or have the potential for creating costs and benefits for them and their courts. Similar to producers behaving in response to the cost and benefit creating effects of price changes, the judge is thought to respond to the preferences of groups who can create costs and benefits to him by being instrumental in judge selection and court financing. Using this administrative behavioral model an attempt was made to resolve the following issues: (1) Do judges make a difference in affecting the quality (content) of the outputs produced by the court? (2) Whose preferences are being reflected in the services produced by the court? (3) Does the particular structural organization of the court have an impact on the content of the services produced by the court?

Prior to ascertaining the extent to which judges make a unique input into court output, a survey was made of whether courts themselves differed with respect to the content of services produced. Included in this survey of court performance indicators were fines and costs assessed in the most frequently committed traffic violations; fine, costs, jail and probation used in the disposition of selected misdemeanor offenses; the extent to which plea bargaining was practiced;

expenditures per case; net revenues per case and police waiting and travel time while engaged in court activities.

Do Courts Make A Difference?

One of the more striking features of the local court system is the absence of any systematic and continuous efforts to inform the citizenry of the manner in which the courts are operating. The data which is made available offer little assistance to local residents in making informed choices about their judges, court budgets and the institutional structure of their court system. The findings of this research indicate that courts differ with respect to the costs and benefits they create to defendants and local residents. The "one court of justice concept," developed by the 1969 Court Reorganization, tends to mask the real differences which exist in the Michigan district court system.

The differences in the distribution of costs and benefits go beyond operating expenditures and revenues to include associated costs of using the court and perhaps most importantly, the substantive performance of the court or the manner in which the courts affect the distribution of opportunities among local residents. More specifically, this research found substantial differences in: fines and costs assessed to traffic offenders, court operating expenditures per case, net revenues per case generated by the court, the extent to which charge reduction takes place in the court, costs associated with using the courts, and the substantive decisions made in selected misdemeanors. In disposing of DUIL, disorderly persons, simple larceny and possession of marijuana cases, courts differed with respect

to their first offender policies, their repeat offender policies, the frequency and extent to which jail and probation were used, the average fine and costs assessed to selected offenders and the uniformity or variance with which fines and costs were assessed.

For some groups associated with the local legal system, demonstrating that courts make a difference informs them of what they already know! The purpose of this research has been to not only demonstrate that differences exist, but also in making known what these differences are in hopes that local residents will publicly discuss why the court in their jurisdiction is or is not doing things the way other courts are. It is believed that this type of public discussion will enable local residents to make informed decisions about the state of their local judiciary. The state of the local judiciary presented in this research can also be used as a base from which future changes can be compared.

Do Judges Make a Difference?

The outputs of the local legal system reflect decisions made by several participants, ranging from the citizen who files a complaint to the correction's administrator who is engaged in rehabilitation. In addition to the lack of knowledge as to the differences in court performance, there seems to be a similar lack of knowledge as to which participants in the local legal system account for various performance differences. The judge, as a participant in the local legal system, was found to make a unique contribution to the outputs of the courts.

Since judges are thought to respond to a variety of behavioral incentives, demonstrating that the judge is in effect using his discretion required more than restating the existing statutes on the discretionary power of judges. In other words, a distinction was made between capacity and desire to have a unique input into court policy. A re-examination was made of the often heard argument that cases in a particular jurisdiction would be disposed of in a similar fashion regardless of the judge, since the judge is merely applying the law in an objective fashion.

To test the extent to which judges had a unique input into the court's output, two alternative methodologies were used. One approach employed analysis of variance to test for fine and costs mean and variance differences across judges in multiple judge courts where other factors affecting court performance were held constant. A second approach involved regression discontinuity time series analysis which examined what happens to some court performance measure over time as the judgeship changes personnel. This approach is similar to binary variable techniques used by price analysts to test for seasonal shifts in prices or quantity relationships.

By examining the behavior of judges in multi-judge courts where cases are randomly assigned to judges, it was found that judges exposed to similar community, administrative, economic and legal influences differed significantly in their substantive decisions, both in the level of fines and costs assessed to persons originally charged with drunk driving, disorderly persons, simple larceny and possession of marijuana and in the variation with which these fines and costs were assessed.

Some weak evidence of the judge making a unique contribution to the performance of the court was found by examining policy changes associated with the arrival of a new judge. It was found that incoming judges may have, in the past, changed the court's policy toward specific types of offenses and that such substantive policy changes tended to take place in single judge courts. Such policy changes were confirmed in conversations with judges and court personnel. Since the majority of the courts in rural Michigan are of the single judge type, the propensity of rural judges to alter court performance upon entering office has important policy implications for rural residents. Besides carrying more weight than participation in partisan elections, voting in the non-partisan judicial election in rural areas becomes more than just staffing the court with a passive functionary.[138] Despite the active role which rural judges may have taken in altering the court's policies upon taking office, the electorate is left uninformed of the alternative policies available to them at judicial elections. The policy question which emerges is one of providing local residents with current and proposed court performance information so that they can have an input into the decisions made by their court through local judicial elections.

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[138] According to Michigan Supreme Court Justice John W. Fitzgerald, the non-partisan races are the best place a relatively small group can have impact beyond its proportionate numbers. He explained that in many elections, upwards of 50% of those who vote in the partisan fail to vote the non-partisan ballot that elects judges. Therefore, one vote on the non-partisan ballot carries more weight in terms of the total outcome than it would in the more heavily supported partisan races. Source: Bonnie Pollard, "The Judicial Ballot: Were Your Votes Worth More." Michigan Farmer, October 19, 1974, p. 16.

What Accounts for Differences in Court Performance?

Having established that court performance differences exist and that judges may account for some of these differences, a series of judicial behavioral models were formulated to learn more about various relationships within the local court system. Among some of the specific questions asked included:

1. What can local residents expect from a system of appointed judges?

2. Does the local judicial supplemental salary serve as a mechanism for local input into the courts' substantive and administrative policies?

In the process of resolving what local residents can expect from proposed reforms which would alter the manner in which judges are selected and courts financed, some additional questions were raised and entertained by this research.

3. To what extent are economies of scale present in Michigan's district court system?

4. What is the relationship between administrative considerations associated with court operating expenditures and substantive performance with respect to the court's fine and costs policies?

5. Do local crime rates have any bearing on the types of penalties handed down by the court?

6. What factors account for differences in the uniformity which exists within courts?

7. To what extent can the court's fine and costs policy be manipulated to alter the court's revenue performance?

8. To what extent do associated costs of going to court affect the court's expenditure and revenue performance?

Ordinary least squares multiple regression routines were applied to a series of court performance equations which were specified with the assistance of automatic search procedures. Several findings of

particular relevance to local residents were inferred from relationships within these equations. In terms of court substantive decisions, courts with appointed judges were found to be more lenient in assessing fines and costs to offenders of minor moving traffic violations and appointed judges per se were found to be more lenient in possession of marijuana cases. Courts with appointed judges required fewer expenditures per case, although when considering both expenditures and revenues, these courts fared less well than courts with elected judges in net revenues per case. If the relationships which existed in 1975 remain in the future, the policy implications of these findings is that under a system of appointing judges, courts will tend to be operated with lower expenditures per case, offenders of traffic and marijuana violations can expect lower fines and costs and the taxpayer may have to share a larger burden of the costs of operating the courts.

Contrary to arguments made by reformers in support of a state-wide system of judicial appointment, no difference with respect to fine and costs variation was found between judges who entered office initially through election and judges who entered office initially through appointment. For those groups desiring greater uniformity within courts, it appears doubtful that a move toward state-wide appointment of judges will accomplish these desires.

Evidence was found that the local judicial supplemental salary tends to be related to court operating expenditures per case, net revenue per case generated by the court and the extent to which judges vary fines and costs in selected misdemeanor cases. Courts with larger local judicial supplements required fewer expenditures per

case and created less of a burden on taxpayers through the amount of net revenues per case generated to the local funding unit. The positive relationship between the amount of the local supplement and fine and costs variation suggests that the local supplement may have served as an incentive for the judge to use more discrimination in disposing of selected misdemeanors or that the local supplements served to attract judges which used greater discrimination in disposing of these cases.

To the extent that the local judicial supplement and local court financing facilitate interaction between the judge and members of the local funding unit, it is believed that the relationships between local funding and court performance gives evidence of the local units' ability to have an input into the operations of the court in their area. For whatever narrowly defined cost redistributions which will be forthcoming from a system of the statewide court financing, the relationships between the source of the funding and court performance suggests that local influence into the operations of the court will be decreased by measures which would remove the court financing function from the local government.[139]

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[139]This point was made most vividly by a judge who apparently received no local judicial supplement. Despite his receiving no supplemental salary from the local funding unit, he felt that the local court would operate to his and the local citizen's disadvantage under a system of state-wide financing. His impressions were that the administrative changes associated with statewide financing would curtail his administrative discretion and reduce the operating efficiency of the court to local residents by giving them a court which is "over professionalized" relative to the demands of the local residents.

In much of the court reorganization literature there is a general belief held by some court reformers that expanding the size of the court through centralization and consolidation, saves the taxpayers money because of economies of scale believed to be associated with local courts. Despite court reformer arguments to the contrary, diseconomies rather than economies of scale were found to exist in Michigan's district court system. In light of nation-wide trends to centralize and consolidate local courts, doubts are raised whether such reforms can be justified on the basis of reducing operating expenditures per case.

Any discussion relating court size with expenditures per unit of output begs the question of how are court outputs to be defined. Size and expenditures per unit of output comparisons are valid only to the extent that the content of the output in question remains constant throughout production levels. Evidence found by this research suggests that the content of court outputs change with court size. More specifically, the size of court as expressed in the number of judges on the court and the number of cases heard by each judge was related to the variation in fines and costs assessed in selected misdemeanor cases. It was hypothesized that court size and the number of cases heard per judge affected the court's ability or willingness to use unique judgements in assessing fines and costs in each case. In large multiple judge courts, with fewer percentages of cases going to trial and large numbers of cases per judge, there was a tendency to assess more uniform fines and costs.

The relationship between the court's fine and costs policies and court operating expenditure levels suggests that courts are not immune

to the economic forces which confront decision makers in the private sector. Courts requiring high expenditures per case tended to assess higher levels of fines and costs, suggesting that the fine and costs the defendant received was among other considerations, related to the average amount of resources required to dispose of a case. To the extent that courts take expenditure requirements into consideration in their fine and costs policies, court reform measures designed to achieve greater uniformity in fines and costs across courts must deal with differences in court expenditure performance. Greater fine and costs uniformity across courts in the face of differences in expenditure per case requirements would alter incidence of burden as to who pays for the operations of the court. Greater uniformity in fines and costs paid by defendants would result in less uniformity in the jurisdiction's policies as to the ratio of the taxpayers to the defendants' contribution to court operating expenditures. Freedom on the part of defendants to receive the same fine and costs regardless of where the crime is committed means a loss of freedom on the part of the local community in deciding how the court operating expenditure burden will be shared.

Courts are often criticized for being too lenient on criminals relative to other participants in the local legal system. While the assessment of each participant contribution to the local legal system was beyond the scope of this research, a general statement can be made regarding the court's awareness and responsiveness to local crime rates. Courts were found to be responsive to local crime rates as evidenced by courts in jurisdictions with higher crime rates having assessed higher fines and costs.

There is evidence that increasing costs to stricter law enforcement may have taken place in courts which assessed high fine and costs. The negative relationship found to exist between net revenue per case and the average fine and costs assessed in moving traffic cases suggests that higher fines and costs may be more costly to assess because of the greater incidence of defendants' contesting their cases at higher fine and costs levels. To the extent that this relationship is an accurate description of what is taking place in the courts, the taxpayer is faced with the tradeoff between bearing some of the costs of operating the court and having laws strictly enforced.

Median family income of the jurisdiction was also found to be related to average fines and costs assessed in moving traffic cases such that courts in poor communities tended to assess higher fines and costs. While this does not preclude the possibility that judges took "ability to pay" into account when assessing fines and costs on an individual case basis, the traffic fine and costs schedules across courts in general did not appear to be established with the community's "ability to pay" in mind.

From a court financing standpoint, the negative relationship between traffic fines and costs and net revenues per case raises the question of to what extent will an increase in fine and costs levels increase court revenues. Evidence suggests that increases in fine and costs were associated with reductions in net revenues per case. Not only could it be costing the court proportionately more to assess and collect higher fines and costs, but the higher fines and costs may serve to deter criminal behavior and reduce the

supply of defendants from which fines and costs can be collected. For policy makers, the implications of these relationships is not that net revenue performance is the only criteria with which to establish court fine and costs levels, rather, attempts to alter net revenue performance through changes in fine and costs levels must take into account the consequences which changes in fines and costs have on defendant pleading behavior and the crime rate.

Related to evidence of diseconomies of scale in Michigan's local court system is the impact which police waiting time has on the court's revenue performance. It was found that courts with large relative amounts of Michigan State Police waiting time also generated poor net revenue performance records. While the reasons for police waiting time were not fully explored in this research, informal observation suggests that police waiting time is an indication of court congestion due to inadequate court staffing and court facilities. From the standpoint of the entire local legal system, decision makers should weigh losses in revenues attributable to court congestion resulting from police waiting cost and other associated costs of utilizing the court against the costs of adding court personnel or expanding of physical court facilities.

This research has been an attempt to raise the level of understanding about the operations of the local court. Not only do courts differ with respect to their substantive and administrative decisions, but judges make significant contributions to differences between courts. For local and non-local residents, this means that the kind of justice delivered by the local court depends to a certain extent upon the judge. While there is much about the judge's behavior which

is not known, evidence suggests that the institutions which surround the judge's office affect the type of judge which gets into office and the decisions made by the judge while in office. Court reforms which would alter the manner in which judges are selected and courts financed should take into consideration the effects which the interaction between the judge, local residents and local governing units have on the court's responsiveness to local needs.

This author hopes that these efforts to systematically describe, document and ascertain reasons for differences in court performance will be of assistance to local and state policy makers so that these groups can make more informed choices about the kind of local justice they want to live with.

Suggestions for Improved Local Court Information

Current local court information systems leave much to be desired by local decision makers who must choose among judicial candidates, annual court budgets or alternative court reform measures. Citizens are generally uninformed as to how courts in their jurisdiction are operating, how additional court expenditures affect court outputs and how court outputs will be affected by structural changes in the institutions surrounding the local court. Deficiencies in local court information systems lead some reformers to the conclusion that local residents are uncapable of constructive input into the local legal system and such matters are best left to legal professionals. The normative position taken by this research is that the current institutional structure of the local court in Michigan along with the public nature of substantive and administrative court activities were

designed to facilitate local input which can be effective only to the extent that the necessary court performance information is made available to the public. Maintaining local input into court policies in the face of recent trends in court centralization and consolidation requires a more sophisticated court information system than currently exists.

From a theoretical standpoint, the burden of learning about local court operations or the local court information costs fall mainly on local residents. The distribution of information costs affects the distribution of property rights and opportunities. For local residents the manner in which local court information costs are shared affects their opportunities to have an input into local court policies. Proposed changes in the local court information system will in effect shift the incidence of information costs from local residents to local legal system agencies.

The current local court information system in Michigan consists of (1) Uniform Crime Reports compiled by local and state police which include crime and arrest data along with aggregated statistics on charge reduction; (2) Judicial Statistics compiled by the State Court Administrator's Office which include data on the quantity of court business classified by nature and type of litigation; (3) Periodic reportings of criminal arraignment and disposition activities in local newspapers; (4) Ad hoc surveys done by non profit public information groups such as the League of Women Voters and Common Cause.

One of the major criticisms of the systematic reporting efforts currently being done is that they are primarily concerned with quantities of inputs and intermediate outputs rather than with more final outputs of the local courts. Local decision-makers have an interest not only in how many cases the court hears but also in the manner in which various types of cases are being disposed. Some of the periodic reportings of court activities attempt to monitor these more final court outputs but they tend to lack an element of continuity necessary to measure performance changes over time and comprehensiveness necessary for court performance comparisons across jurisdictions. In general the current local court information system does not systematically keep track of the types of performance information which would facilitate public debate on how local courts are operating. It is thought that the court performance information generated by this research serves to better inform decision-makers of the content of more final court outputs and that the research itself will serve as a model to assist public agencies and private citizens in future attempts to learn more about the operations of local courts.

While a comprehensive study such as this may not be feasible, selected performance comparisons between judges and courts located in communities of similar characteristics can be made by examining public records kept by courts and local funding units or by asking the courts and funding units directly. Questions regarding some specific performance measure should be directed at learning more about how some particular court activity affects various groups associated with the courts. Among the types of questions addressed by this research

which can reasonably be addressed by private citizens and public decision-makers include:

1. From an administrative stand point.

    a. How much is it costing the local court to process a case (expenditures per case)?

    b. How is the burden of the court operating costs being shared among litigants and taxpayers (net revenue per case)?

    c. What are the associated waiting costs or how long will a litigant be expected to wait in court before court activities are commenced?

2. From a substantive stand point.

    a. On what basis does the local court establish its traffic fines and costs schedule?

    b. Does the court use a progressive fine and costs policy in the disposition of repeat offenders?

    c. What is the court's policy toward various types of criminal misdemeanors, i.e., what represents a probable disposition for a first offender and how much variation in dispositions exists when first and repeat offenders are included?

    d. How extensively and under what circumstances does the court use jail, probation and other forms of non-fine and costs penalties?

    e. What type of arraignment policy does the court have, i.e., what does the bond schedule look like?

    f. To what extent are milder penalties handed down in cases in which charge reduction or plea-bargaining took place?

    g. What percentage of cases heard in the local court appealed to some higher court?

While many of the answers to the above questions can be inferred from existing primary data sources, it would be useful if certain

changes were made in the manner in which court records are being kept and reported. It would be useful if greater uniformity were implemented into district court record keeping systems. Very few of the courts surveyed kept readily available records on defendant status (first and repeat offender), making it difficult to discover the court's probable first offender policy. More sophisticated case record keeping would simplify the task of ascertaining probable first offender dispositions and could enable some courts to more systematically employ a progressive fine and costs repeat offender policy.

In comparing fiscal court data across different size jurisdictions, considerable research resources had to be invested verifying the comparability of accounting procedures across some jurisdictions. At the time this research was undertaken, rural court funding unit accounting procedures varied considerably from those used by urban courts, making fiscal performance comparisons difficult. A move toward greater uniformity across all courts and local funding units would enable citizens, local funding units and courts themselves to readily compare administrative court performance.

The uniform crime reporting concept was implemented on a national basis to give decision makers an indication of criminal activity across jurisdictions. This information network attempts to measure not only the magnitude of criminal activity but also gives some indication on the extent to which criminal activity is being enforced. With the exception of some aggregated plea bargaining information, Uniform Crime Reports stop short of recording substantive court performance information. The expansion of Uniform Crime Reports statistics to include case arraignment and disposition data would enable

private and public officials to more readily make substantive comparisons across jurisdictions.

A major obstacle which will confront future researchers attempting to learn more about the operations of local courts is the physical separation between agencies which report various aspects of court activities. Judicial Statistics compiled by the State Court Administrator primarily consist of caseload information, giving no indication of expenditures and revenues associated with these cases while court fiscal data are compiled by the Bureau of Local Government Services, Department of State Treasury, giving no indication of court caseloads. Research assessing the fiscal impact of state-wide financing, the decriminalization of some particular revenue generating misdemeanor, or some other type of reform could be carried out with fewer resources if court caseload statistics were compiled and reported with court fiscal data. Displaying caseload information in conjunction with fiscal data would give decision makers a better indication of how much it is costing taxpayers and litigants to operate the local court relative to number of cases heard by the court. The accomplishment of these changes would require greater collaboration between the Bureau of Local Government Services and the State Court Administrator.

Needed Research

Like many research efforts, this research has uncovered as many questions as it has attempted to answer. Short of knowing all there is to know about a problem area, the research effort must inevitably come to an end, leaving some wiser but perhaps more curious and frustrated than before. This closing section discusses some of the

unanswered questions raised by this research and makes suggestions with respect to future research in the area of judicial behavior and court performance.

In general, this research has been concerned with describing "whose preferences count" in the performance delivered by the court. This fundamental question was approached by creating and collecting data on various performance dimensions thought to be of interest to local residents. It is hoped that the information generated by this research will serve as a basis for public discussion on how courts are operating. In specifying various performance dimensions, no systematic efforts were made to measure how closely the performance of the local court approximated the preferences of selected interests in the local community. The distinction to be drawn here is one of measuring what courts are doing (whose preferences count?) and measuring how consistent this performance is with the preferences of various groups in the local community (whose preferences are counting?). In other words, it was demonstrated that appointed judges tended to be more lenient in certain types of cases. Does this mean that a system of appointing judges gives local residents more of what they want from their courts? At this stage it is not known. Without further research, it cannot be said which groups in the community or the community when taken as a whole will be better or worse off by the system of appointment.

Similarly, how do local residents fare from the interactions between the judge and the local funding unit? It is suspected that local supplements affect judicial behavior but we are not sure whether this behavior and its contribution to court performance gives

local residents more of what they want from their courts. To what extent do local residents derive satisfaction from knowing that they elected the person that sits in judgement and to what extent do defendants more willingly participate in the legal system for knowing that the judge is locally elected, receives money from local taxpayers as part of his salary, and sits on a court operated with local funds. This task involves measuring the satisfaction local residents receive from the intermediate structural and more final substantive and administrative outputs of the court. One hypothesis raised by this research for future research states that local judicial elections could give citizens more of what they want from their courts if voters had more information on court performance. The task of measuring citizen satisfaction from local courts is certainly not an easy one since it requires obtaining facts about local citizens' values which are not easily articulated and which are dynamic in nature.

This research attempted to predict some substantive and administrative consequences of altering the way in which local courts are financed and staffed. Largely ignored by this research are the fiscal redistributive consequences associated with a move toward state-wide financing and judicial appointment. Depending upon how state wide financing is implemented visable, direct shifts in the incidence of costs and benefits across jurisdictions and income groups will be forthcoming. Such studies have been done informally by the State Court Administrator and the results of these studies have been the basis for legislative debate on state-wide financing. The omission of the findings of these studies from this research is not intended to undermind the relevance of these findings. In light of limited

research resources, this research chose to concentrate on those consequences of state-wide financing and judicial appointment which do not flow directly from the reorganization but indirectly from the impact these reforms have on judicial behavior and court personnel changes and its long run consequences on court performance. In considering the move toward state-wide financing, decision-makers should take into account not only direct fiscal redistributive consequences but also the court performance consequences which stem from behavioral and personnel changes.

With respect to a move toward state-wide judicial appointments, some evidence exists that judges who initially entered office through appointment were associated with different court performance than judges who initially took office through election. It was argued that reasons for these performance differences are attributable to differences in the pool of individuals from which elected and appointed judges emerge. Little, beyond hypothesizing that such talent pools exist, was discussed in this research. More research is needed on the nature of such talent pools before informed decisions can be made as to whether the state should adopt a system of appointing district court judges. To the extent that there are substantial differences in the skills, attitudes and preferences of individuals which would enter judicial positions under local elections as compared with appointment by the Governor, appointed by the Legislature or by the Supreme Court, research is needed on how these differences will affect judicial behavior and court performance. If the intention of reforms to alter current methods of judge selection is to achieve more of particular court performance (i.e., uniformity), then such

reforms should be compared with other reforms which will generate comparable ends (i.e., statutory reductions the range of judicial discretion).

While the relationship between the judge and various institutions surrounding the court are becoming clearer, the court's relationship with other participants in the local legal system deserves further research. More specifically, how do the substantive and administrative decisions of the court affect the behavior of citizens, law enforcement officials, attorneys and prosecutors? To what extent do the sentences handed down by the judge in drug related cases for example, affect the citizens', policeman's or prosecutor's behavior in bringing drug cases to court? To what extent do the costs associated with going to court affect the behavior of litigants and witnesses?

A topic worthy of further research which was touched on briefly in this research involves the limits to law enforcement. To what extent do stiffer penalties serve as a deterrant to certain forms of behavior and how do the added costs of metting out stiffer penalties compare to the benefits derived from the deterrance of these types of behavior? The relationship between penalties and the costs of carrying out those penalties are typically ignored by the "mandatory sentence mentality." Are there increasing costs of stricter law enforcement to taxpayers resulting from the court's handing down various types and levels of penalties? Answers to these questions require further investigation into how defendants react to charges brought against them. What are the factors which affect the defendant's "willing participation" and how does "willing participation" affect who bears the operating costs of the court? Why do some

courts have high levels of "willing participation" while others have high incidents of defendants demanding their rights to juries and court appointed attorneys.

Related to defendant "willing participation" is the extent to which litigants accept the decisions handed down by the lower courts. Some defendants not only refuse to "willingly participate" in the proceedings of the lower courts but also refuse to go along with lower court decisions by appealing their case to higher courts. These indirect local court costs were not measured in this research because of conceptual and empirical problems. From the overall legal system stand point local residents should take into account not only direct operating expenditure requirements of local courts but also the indirect expenditures associated with appeals from these lower courts.

What effect does court centralization and consolidation have on the defendant's perception of the decision made by the court on his behalf? Do citizens and defendants derive a different level of satisfaction from different size courts, or courts which are staffed with judges with different backgrounds and levels of training? Do defendants more willingly participate in small decentralized courts or do they feel that such small courts encourage "speed traps" and harass outsiders? Further research is needed on how court performance and people's perception of that performance are affected by centralization and consolidation.

In closing this research, I would like to leave the reader with the understanding that the law is not some mysterious creature which transcends human intellects. It is not some sacred truth which cannot

be questioned or some oppressive force which must be eluded at every instance. Rather, law is the product of people as they try to preserve those things which they find good and discourage those things which they find destructive to themselves, their community, or some higher ideal. Questions of law have meaning only in relation to how resources and opportunities are allocated among people. The true spirit of the law, if one should exist, lies in the belief that laws are made by people and that people are better off knowing that the liberties which they share and the constraints which they must bear are a part of their own creation.

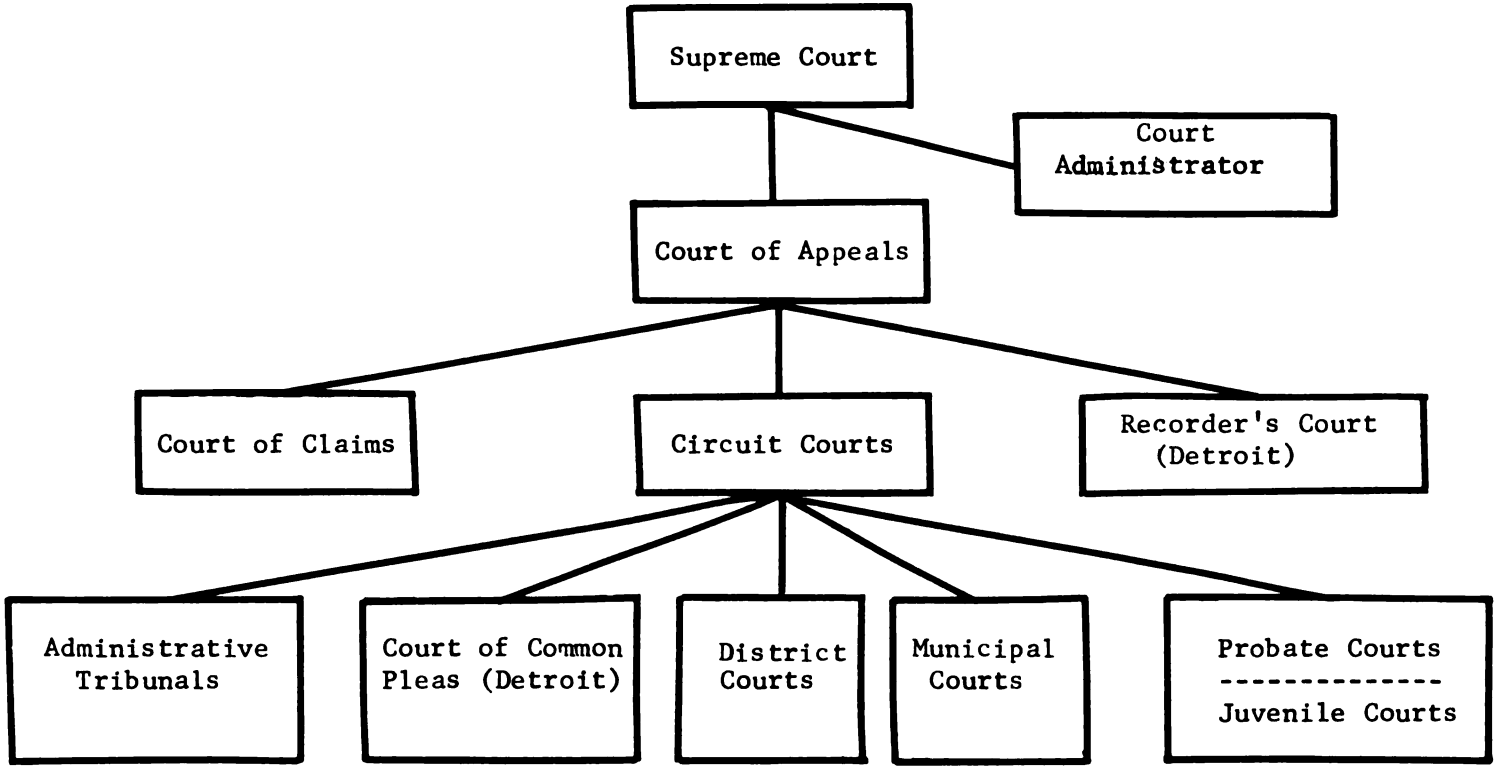
APPENDICES

APPENDIX A

THE JUDICIAL SYSTEM OF MICHIGAN

Appendix A

Figure A.1: The Judicial System of Michigan, 1975



Source: "The Judicial System of Michigan," Michigan State Library, Law Division (Lansing, Michigan: State of Michigan, 1965), Mimeographed.

APPENDIX A

Figure A.2: The District Court System in Michigan (1975)



* Multiple Court Counties are shown in detail on following pages.

Source: Focus, June, 1975 (Lansing, MI: Office of Court Administrator).

Figure A.2 - Continued

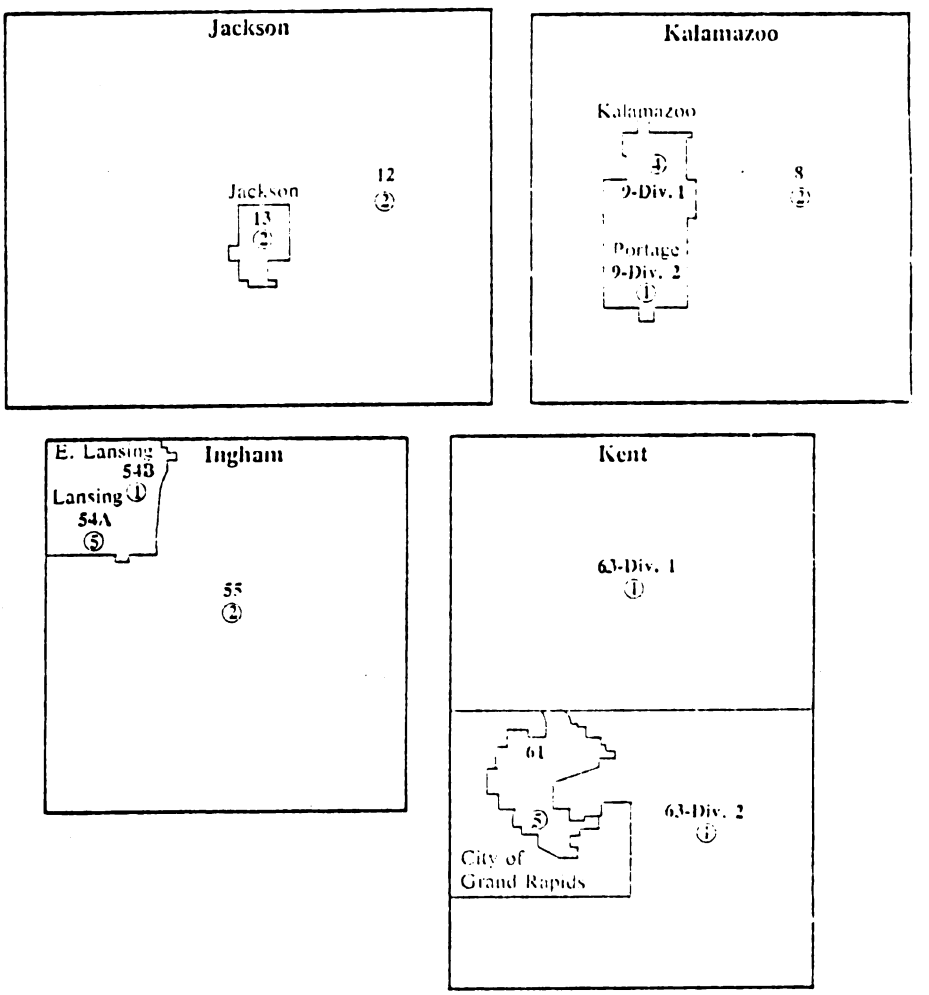
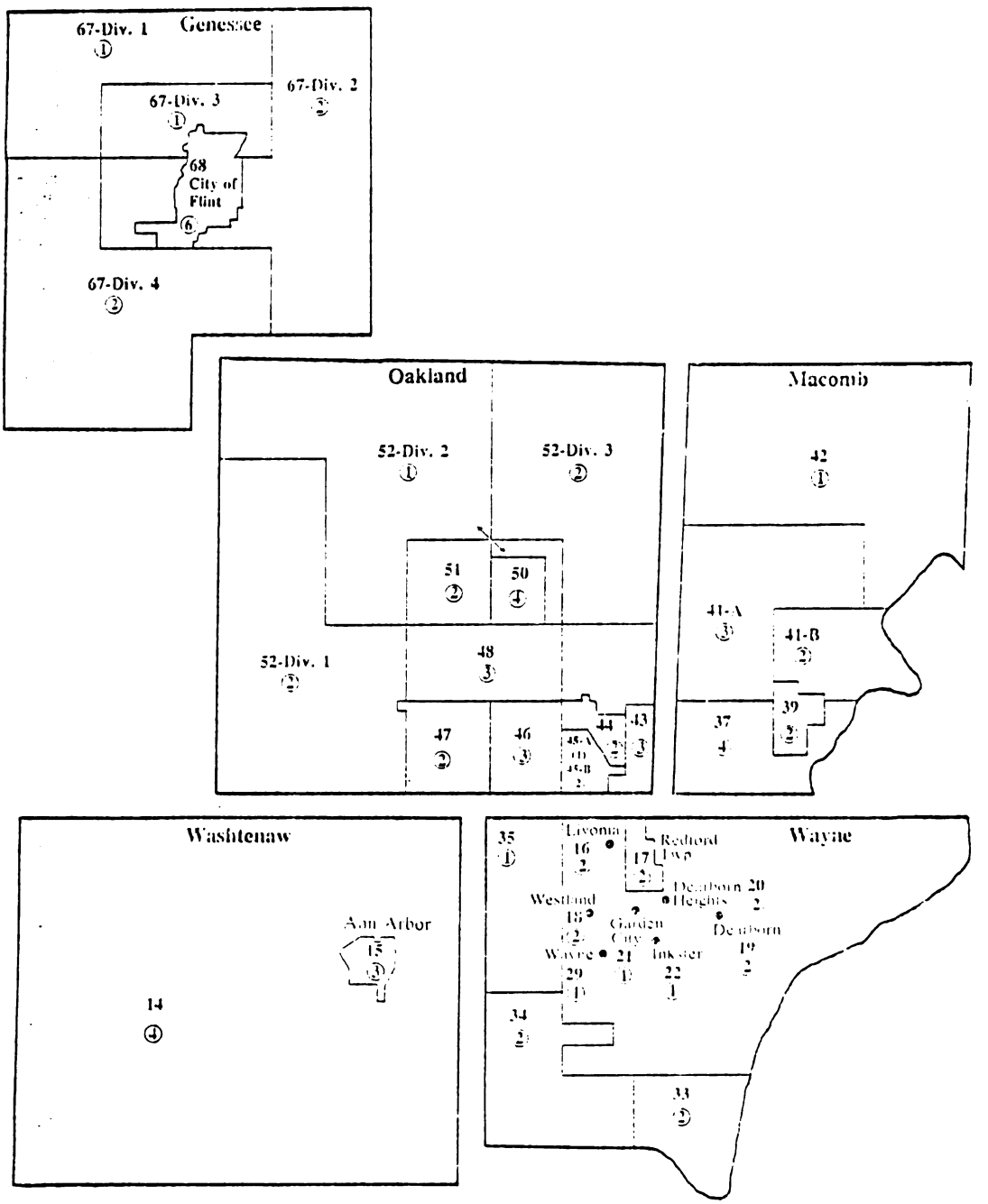


Figure A.2 - Continued



APPENDIX B

EXPLANATION OF MICHIGAN DISTRICT COURT FINANCING RESPONSIBILITIES AND REVENUE COLLECTION AND DISBURSEMENT PROCEDURES

APPENDIX B

EXPLANATION OF MICHIGAN DISTRICT COURT FINANCING RESPONSIBILITIES

Definition:

The term "district control unit" means:

(A) The county in districts of the first and second class

(B) The city or the township in districts of the third class

Distribution of Court Expenses to District Control Units:

A district control unit shall be responsible for maintaining, financing, and operating the court only within its political subdivision. In districts of the third class a political subdivision shall not be responsible for the expenses of maintaining, financing, or operating the district court, traffic bureau (office) or small claims division incurred in any other political subdivision.

The exceptions to this include the sharing of the court recorder's salary by all control units where such recorder serves more than one district control unit, and certain expenses paid by the State.

Local Agreements - Sharing of Expenses:

One or more district control units within any district may agree among themselves to share any or all of the expenses of maintaining, financing, or operating the district court. To become effective such agreements must be approved by resolution adopted by the

governing body of the respective political subdivisions entering into the agreement, and upon approval such agreements shall become effective and binding in accordance with, to the extent of and for such period stated in that agreement.

State Participation, Financing Districts Courts:

The State is responsible for the financial support of the District Courts to the following extent:

(1) Payment of an annual salary to each District Court Judge in the amount of $21,500.

(2) Payment of actual and necessary expenses of District Court Judges in holding court in a county other than the county of his residence.

Note: Does not apply to visiting judges.

(3) Payment of the actual and necessary expenses incurred by District Judges in attending the annual statewide meeting of the District Judges and such other meetings as are called by the Supreme Court.

(4) Payment for a recording device for each District Court Judge for use by the Court Recorder.

Facilities, District Courts:

Court facilities shall be provided at those places where the court sits. In districts of the first and second class they shall be provided by the county and in districts of the third class they shall be provided by each political subdivision where the court sits.

Law Books and Legal
Reference Materials:

The district control unit(s) shall supply such law books and legal reference resources as it deems necessary. No state funds shall be required.

Source: Bureau of Local Government Service, Michigan District Courts, (Lansing, Michigan: Department of Treasury, 1975).

APPENDIX B

EXPLANATION OF MICHIGAN DISTRICT COURT REVENUE COLLECTION AND DISBURSEMENTS

FINES AND COSTS:

All fines and costs assessed in the District Court will be paid to the clerk of the court.

District Courts may assess the same costs as are permitted in Circuit Courts.

Distribution of Costs Collected:

Districts of the First Class:

Violation of the Penal Laws of the State:

In Districts of the First Class all costs imposed for violation of a penal law of this State shall be paid to the treasurer of the county in which the action was commenced.

Districts of the Second Class:

Violation of a Penal Law of this State:

Costs collected for a violation of a penal law of this State will be paid to the treasurer of the county in which the action was commenced.

Districts of the Third Class:

Violations of a Penal Law of this State:

Costs collected for a violation of a penal law of this State will be paid to the treasurer of the political subdivision where the guilty plea was entered or where the trial took place.

Fines - State Penal Laws:

Payment to County Treasurer for Library Purposes:

All fines for violation of a penal law of the State shall be paid to the county treasurer and applied for library and law library purposes.

Ordinance Violations:

Fines and Costs:

Districts of the First and Second Class:

One-third (1/3) of all fines and costs, other than those imposed for violation of a penal law of this State, shall be paid to the political subdivision whose law was violated and two-thirds (2/3) thereof shall be paid to the county in which the political subdivision is located.

Districts of the Third Class:

All fines and costs other than those imposed for violation of a penal law of this State shall be paid to the political subdivision whose law was violated except that where fines and costs are assessed in a political subdivision other than the political subdivision whose law was violated then two-thirds (2/3) of such fines and costs shall be paid to the political subdivision where the guilty plea was entered or where the trial took place and the balance of one-third (1/3) shall be paid to the political subdivision whose law was violated.

If each political subdivision within the District of the Third Class, by resolution of its governing body, agrees to a distribution of fines and costs for ordinance and charter violations differently than as provided above, then such distribution among

the political subdivisions of that district shall be as agreed to.

STATE COSTS:

Whenever any fines and costs are assessed by a magistrate, a traffic bureau, or a judge of the District Court, not less than $5.00 shall be assessed as costs and collected for each such conviction and each such guilty plea except for parking violations. Of the costs so assessed and collected for each such conviction and such guilty plea, $5.00 will be transmitted to the State Treasurer on or before the fifteenth (15th) day of each month.

Simply stated, the State will receive a $5.00 fee for each case where a guilty plea is entered, or conviction secured, with the only exception being parking violations. The $5.00 fee is applicable to criminal actions, including traffic cases and ordinance as well as state law violations.*

BOND FORFEITURES:

In all District Courts, forfeited cash bonds and cash bond deposits and collected cash bond judgements for violations of the state penal laws will be deposited with the county treasurer for deposit in the county General Fund.

Forfeited cash bonds and cash bond deposits posted for violation of local ordinances will be deposited with the treasurer of the unit wherein the court is located as an offset against court costs.

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* 1/16 of the $5.00 will be credited to the legislative retirement system by the State Treasurer.

Bond forfeiture distribution for violations of the state penal code may also be distributed as directed by the court.

Source: Bureau of Local Government Service, Michigan District Courts (Lansing, Michigan: Department of Treasury, 1975).

APPENDIX C

DISCUSSION OF DATA COLLECTION EXPERIENCES

APPENDIX C

DISCUSSION OF DATA COLLECTION EXPERIENCES

A variety of data collection problems are encountered when an analyst attempts to learn more about a subject matter area which has heretofore not been extensively researched and which is not characterized by a well developed information system. The following discussion is intended to give a description of some of the data collection problems encountered by this researcher. It is thought that a priori knowledge of such problems will expedite future investigations.

The present condition of Michigan's District Court information system is such that the interested party must invest considerable resources in discovering meaningful performance information about local courts. Theoretically speaking, under current arrangements the local citizen or public official bears a large burden of the information costs of learning about local court performance and these costs serve to discourage public inquiries into court performance. Begging the question of coordination for whom, local court data are compiled by physically and administratively divorced uncoordinated agencies. This lack of coordination not only creates problems for researchers, but informal observation suggested that these agencies themselves often ask more questions about the local court system than could be answered by the data collected by a single agency.

Information on Judges

The policy questions addressed by this research required collecting data from various agencies which differed as much in their reception to this researcher's requests as they did in the manner in which records were kept.

Having made some earlier contact with the State Court Administrator, data collection was initiated with this agency. It was thought that this Office compiled sufficient administrative and substantive data for the research. It was discovered that only court caseload statistics were systematically reported by this Office to the general public. This Office also produced annual local judicial supplemental salaries which it compiles but does not report publically. This Office was able, only in a limited manner, to produce information on the judges and dates associated with each of the judicial turning points of the research or when and how each judge (current and former) came into or left office.

Information on judicial turning points associated with appointed judges was collected from press releases made by the Governor's Office. Information about judicial turning points, how and when elected judges entered and left office had to be inferred from State Court Administrator reports of district court judge names published along with annual court caseload statistics. Some of this data had to be supplemented and verified by the State Court Administrator. As of fiscal year 1973-74, the names of district court judges are no longer published as part of these reports.

The collection of district court judge biographical data proved to be an exercise in futility. With the exception of a few press

releases, information about the judge's age, previous occupation, law school attended, religion or political party affiliation was not available from any of the agencies contacted in this study. This researcher was advised that little success would be obtained from an in-person or mailed biographical survey. Proxy variables for judge biographical variables had to be constructed. The irony of this experience is that while much is published about high level judges who indirectly touch most people's lives, very little is published on lower court judges who directly affect local law and order.

Information on Prosecutors

During the initial stages of this research, an attempt was made to learn more about differences in plea bargaining rates across jurisdictions. This required learning more about local prosecutor's biographical data, including when and how they took office. Short of personal interviews, very little can be learned about local prosecutors from a central administrative agency. Contact was made with the Michigan Prosecutors' Association, an informal service organization to local prosecutors, but no such information is compiled by this agency. Attempts to learn more about local prosecutors left the impression that these people are perhaps the most autonomous group in the local legal system.

Crime Rates, Arrest Rates and Charge Reduction Information

Most of the crime rate, arrest rate, and charge reduction data were obtained with the assistance of the Michigan State Police, from

Uniform Crime Reports (UCR). Since disaggregated data were needed in this analysis, some of the data were compiled by the Michigan State Police but did not appear in their annual report. The general impression received from working with UCR data is that there are some suspected local police reporting inconsistencies associated with these data, the seriousness of which was not known. This research was thought to have been one of the first systematic attempts to utilize Michigan's UCR data. Newspapers periodically report excerpts from UCR data and the Traffic and Safety of Michigan, a non profit service organization publishes on an annual basis, drunk driving plea bargaining data by counties.

Fiscal Court Data

Rather than survey each court individually, an attempt was made to discover some secondary data source for district court fiscal data. It was discovered that the Bureau of Local Government Services, Michigan Department of Treasury, compiles such information on an annual basis. While the Bureau had guidelines for a uniform reporting format to be used by district control units, collecting comparable data across some courts required subsequent telephone conversations with particular courts or district control units. In some cases, data were omitted or categories were labeled with unique names or aggregated in a different fashion.

The greatest problems were experienced with collecting fiscal data from urban courts which typically hired a certified public accounting firm to prepare their annual reports. County courts reported generally to the district control unit which reported court

fiscal data along with other public activity fiscal data. In some instances, verification of expenditure or revenue item comparability across jurisdiction involved opinions made by accountants at the Bureau.

Additional problems were encountered in combining court fiscal statistics from the Bureau with caseload statistics from the State Court Administrator. The Bureau reported on a calendar year while the State Court Administrator reported on a fiscal year.

Primary Court Data

Personal visits to local courts proved to be the most instructive part of data collection. The initial intention was to survey all district courts in the state, but it was soon discovered that too much time would be involved. A sample of courts was selected in such a manner as to get a representation of courts across the state and some balance between courts with judges who were initially elected and courts with judges who were initially appointed.

Considerable variation was found both in the amount of data recorded by courts and the manner in which these data were compiled, stored, retreived and reported. Of the courts surveyed, this researcher was most impressed by the record system developed in the Jackson City Court by Edward Chmielewski, under the direction of Judges Robert Crary and Joseph McCollom; the St. Joseph County Court by David Recher, under the direction of Judge William L. McManus; and the Montcalm County Court under the direction of Judge Benjamin W. Franklin.

Of the substantive issues decided by the court, an attempt was made to capture differences in the manner in which civil, small claims, and landlord / tenant decisions were being handled. This effort was soon abandoned because of empirical problems involving difficulties in categorizing these cases and limitations of small populations.

Most of the courts surveyed had minor moving traffic fines and costs schedules which were comparable to a large extent. Very few courts had schedules or were prepared to give a probable sentence for more serious misdemeanors. Very few courts had bond schedules, although most of the courts were able to quote a probable bond for various offenses.

In general, this researcher's experiences with bond data was discouraging. Some courts recorded bond data along with the case disposition data; others kept them separated, while others did not systematically record bond information. Caution had to be used in associating bonds with a particular judge in multiple judge courts because the bond judge was not necessarily the disposition judge. Bond data were further complicated by the four categories of bonds used in the district court system including: cash bonds paid directly to the court; interim cash bonds paid to police; surety bonds paid by a bonding agency for a ten percent fee; personal recognizance bonds where the defendant does not post any cash but promises to pay if he fails to appear.

For the bond data which were collected, further research would have to be done to determine whether the recorded data reflects the total bond paid or ten percent of the actual cash bond allowed by Michigan Law. In some courts a $100 recorded bond figure in a DUIL

case reflected a 10% of a bond which was initially set at $1000 while in another court a $100 recorded bond figure was equal to the initial bond and the defendant only posted $10. Not all courts used the 10% bond program, which in practice may make little difference since the judge has wide discretion with respect to bond levels. From a research standpoint, it would be useful if all courts used the same bond recording format.

With respect to case disposition, a number of record system variations were encountered. Individual case records ranged from a collection of bond, fine and costs receipts to an elaborate system of cross-referenced dockets which were kept in duplicate in case one set of records was destroyed. Only one judge was found to keep a personal log of his dispositions. The most general case format used was the file jackets which were kept alphabetically and chronologically, and in one court, separated according to first and repeat offenders. In some courts, open cases were kept separate from closed cases such that cases on probation or cases in which fines and costs were outstanding were kept in separate files. Smaller courts were able to keep several years of court activity readily available while larger courts were forced to keep previous years' files in storage.

While the more commonly used case file jackets were designed so that summary case information could be recorded on the face of the file jacket, most courts used other types of information retrieval schemes in place of or in addition to these file jackets including: index cards for each case; ledgers of cases recorded chronologically; trial sheets; and docket sheets or cards. While these retrieval schemes were useful for obtaining individual case information quickly,

the information kept on these schemes differed to a certain extent. Some courts practically duplicated all case arraignment and disposition data on these retrieval schemes, while others kept only defendant's names, offense committed, dates and judgements.

Related specifically to case disposition data, some courts recorded penal fines, court costs and state costs separately, while others reported one combined figure. This did not create problems in separating fines and costs in courts with fixed established policies on how to separate fines and costs (i.e., 60% fine and 40% costs) but only a few courts had such policies. In one particular multiple judge court, one judge's fine and costs figure included state costs while the other judge's figure omitted state costs. Likewise, some courts included state costs in their fine and costs figures while others did not.

In a few courts, it was difficult to distinguish between fines and costs and probation or surveillence fees, since some courts were not careful in recording this distinction. In many instances, the terms of jail and probation recorded by the court were not equivalent to the amount of time actually served because of early termination. In those courts which had early jail or probation period termination, seldom was there a distinction made between the jail and/or probation handed down and jail and/or probation actually served. In some courts, the jail time ordered was to be served at the end of some specified probation period with the intention that if the defendant successfully completed probation, the jail time would be dismissed.

In choosing categories of offenses to survey, a distinction had to be made between ordinance and statute violations. While this

distinction is recorded on court records, caution had to be used when examining case files so as not to confuse the two.

Other Problems

Next to comparing data from different agencies or agencies with different reporting formats, the greatest dilemma encountered in this research involved aggregating and disaggregating data to fit some desired unit of observation. Michigan's District Court consists of single county districts, single judge courts, multiple district counties and multiple county districts. Selecting an appropriate level of observation was both conceptually and empirically difficult, requiring aggregation and disaggregation of data from different sources.

While the reception from most of the agencies and courts contacted was generally cooperative, future researchers should be prepared for some "less than warm" receptions. To the extent that research produces information about previously unknown interdependencies which creates costs and benefits for some individuals, some resistance to that research can be anticipated. Some courts perceived this phenomena and made it difficult for this researcher to obtain the necessary data. Future researchers should bear in mind that judges are very sensitive to what goes on in their court and appreciate being informed of any inquiries into court activities which involve examining public records or interviewing court personnel.

This discussion of data collection problems associated with this research is not intended to discourage future research in the area of judicial behavior and court performance, rather it is intended to

prepare and perhaps guide future efforts through these problems. It is thought that this knowledge of the data collection experience will enable future researchers to expedite their efforts.

APPENDIX D

GRAPHIC ILLUSTRATION OF STATISTICAL KURTOSIS AND SKEWNESS USING HYPOTHETICAL DISTRIBUTIONS OF FINES AND COSTS

APPENDIX D

Figure D.1: Graphic Illustration of Statistical Skewness Using Hypothetical Distributions of Fines and Costs

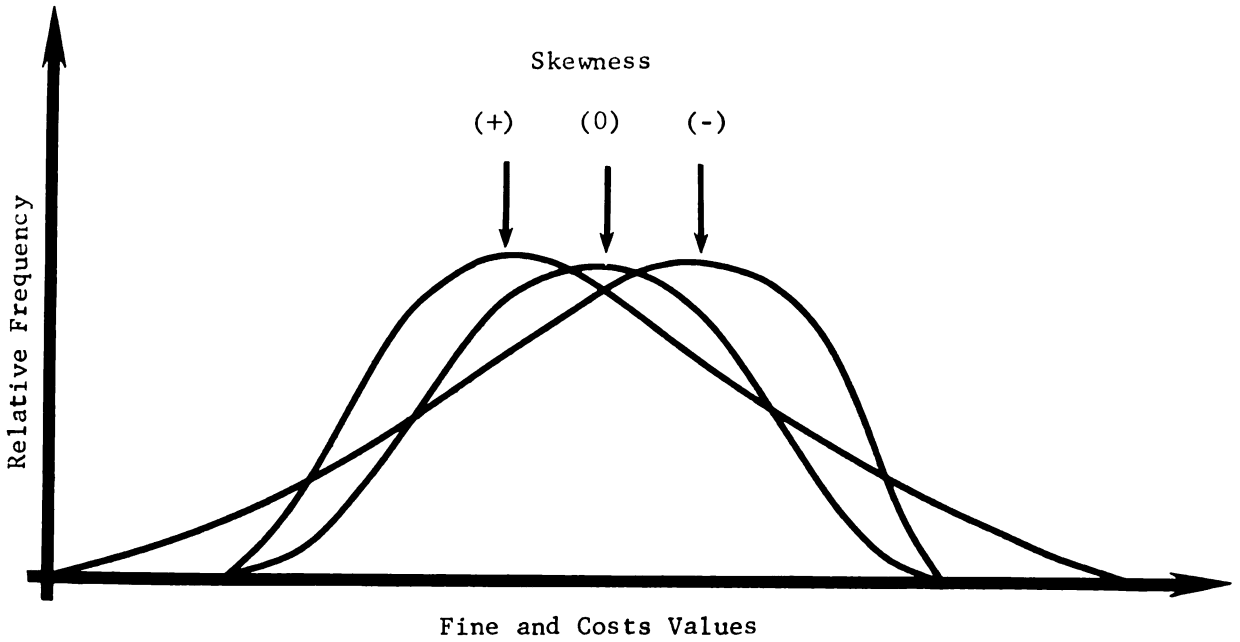
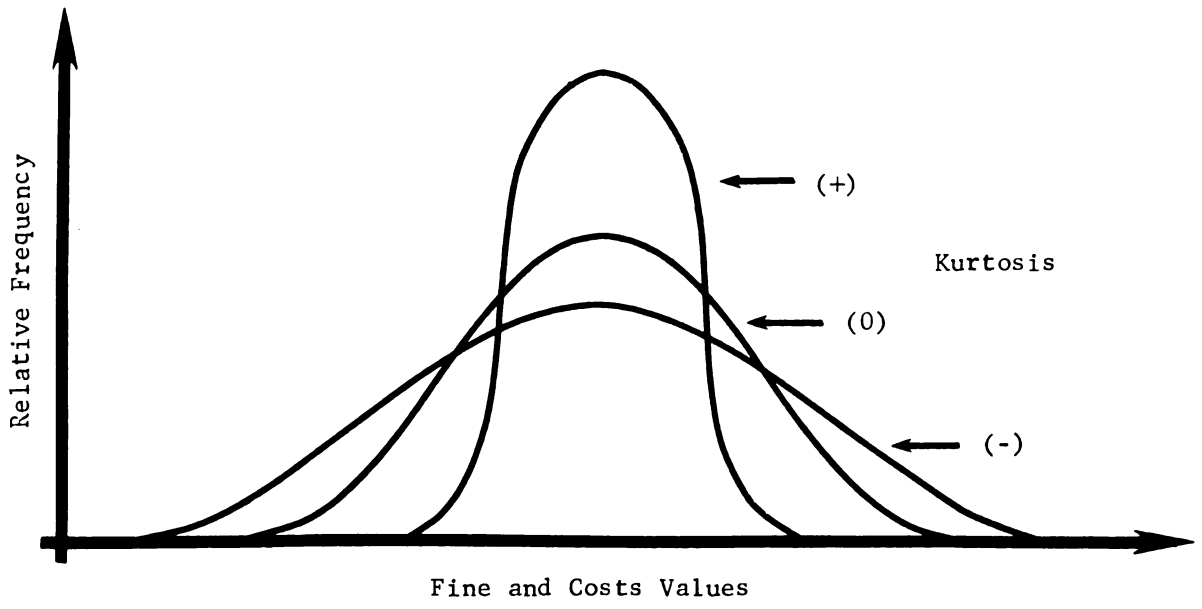


Figure D.2: Graphic Illustration of Statistical Kurtosis Using Hypothetical Distributions of Fine and Costs



APPENDIX E

STATUTORY DESCRIPTION OF SELECTED CRIMINAL MISDEMEANORS SURVEYED IN THIS STUDY

APPENDIX E

STATUTORY DESCRIPTION OF SELECTED CRIMINAL MISDEMEANORS SURVEYED IN THIS STUDY *

Driving While Intoxicated, and Reckless Driving

257.625 Drug addict or intoxicated person, driving on highway or parking area prohibited

Sec. 625 (a) Persons proscribed. It shall be unlawful and punishable as provided in paragraph (c) of this section for any person whether licensed or not who is an habitual user of narcotic drugs, barbital or any derivative of barbital, or any person who is under the influence of intoxicating liquor or narcotic drugs, barbital or any derivative of barbital, to drive any vehicle upon any highway or any other place open to the general public, including any area designated for the parking of motor vehicles, within this state.

(b) Permitting drug addict or intoxicated person to drive. It shall also be unlawful and punishable as provided in paragraph (c) of this section, for the owner of any motor vehicle or any person having such in charge or in control thereof to authorize or knowingly permit the same to be driven or operated upon any highway or any other place open to the general public, including any area designated for the parking of motor vehicles, within this state by any person who is an habitual user of narcotic drugs, barbital or any derivative of barbital or any person who is under the influence of intoxicating liquor or narcotic drugs, barbital or any derivative of barbital.

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* Source: Michigan Compiled Laws Annotated, (St. Paul, Minnesota: West Publishing Co., 1968).

(c) Penalty. Any person who is convicted of a violation of paragraph (a) or (b) of this section shall be punished by imprisonment in the county jail or Detroit house of correction for not more than 90 days or by a fine of not less than $50.00 nor more than $100.00 or both such fine and imprisonment in the discretion of the court, together with costs of the prosecution.

Same; second conviction. On a second conviction under this section or a local ordinance substantially corresponding thereto, he shall be guilty of a misdemeanor and punished by imprisonment for not more than 1 year and, in the discretion of the court, a fine of not more than $1,000.00.

Same; third or subsequent conviction, felony. On a third or subsequent conviction within a period of 10 years under this section or a local ordinance substantially corresponding thereto, he shall be guilty of a felony.

(d) Acceptance of plea of guilty, advising accused. It shall be the duty of the magistrate before accepting a plea of guilty under this section to advise the accused of the statutory consequences possible as the result of a plea of guilty in respect to suspension of his operator's or chauffeur's license, financial responsibility, the penalty imposed for violation of this section, and the limitation on his right of appeal.

(e) Surrender of operator's or chauffeur's license. The operator's or chauffeur's license of any person found guilty of violating the provisions of this section or a local ordinance substantially corresponding thereto shall be thereupon surrendered to the court in which such conviction shall be had; and the judge before

whom such conviction was had shall immediately after the expiration of the appeal period notify the secretary of state thereof and the said court shall then cause the license so surrendered to be forwarded with a certificate of conviction to the secretary of state, who shall suspend the license as required under section 319 of this act.** If the license is not forwarded, an explanation of the reason why it is absent shall be attached. P.A. 1949, No. 300, Sec. 625, Eff. Sept. 23, as amended P.A. 1951, No. 270, Sec. 1, Eff. Sept. 28; P.A. 1954, No. 10, Sec. 1, Eff. Aug. 13; P.A. 1956, No. 34, Sec. 1, Eff. Aug. 11; P.A. 1958, No. 113, Sec. 1, Eff. Sept. 13.

257.625a Driving under influence of intoxicating liquor; tests, evidence

Sec. 625a (1) In any criminal prosecution relating to driving a vehicle while under the influence of intoxicating liquor, the amount of alcohol in such person's blood at the time alleged as shown by chemical analysis of the person's blood, urine, breath or other bodily substance, shall be admissible and shall give rise to the following presumptions, and in the event any such tests are given, the results of such tests shall be made available to the person so charged or his attorney prior to the day of the trial and must be introduced into evidence by the prosecution upon the demand of the defendant:

(a) If there was at that time 0.05% or less by weight of alcohol in the defendant's blood, it shall be presumed that the defendant's blood, it shall be presumed that the defendant was not under the influence of intoxicating liquor.

** Section 257.319.

(b) If there was at that time in excess of 0.05% but less than 0.15% by weight of alcohol in the defendant's blood, such fact shall not give rise to any presumption that the defendant was or was not under the influence of intoxicating liquor, but such fact may be considered with other competent evidence in determining the guilt or innocence of the defendant.

(c) If there was at that time 0.15% or more by weight of alcohol in the defendant's blood, it shall be presumed that the defendant was under the influence of intoxicating liquor.

(2) Only a duly licensed physician, or a licensed nurse or medical technician under the direction of a licensed physician, acting at the request of a police officer, can withdraw blood for the purpose of determining the alcoholic content therein under the provisions of this act.

(3) A person charged with driving a vehicle while under the influence of intoxicating liquor who takes a chemical test administered under the direction of a police officer as provided in paragraphs (1) and (2) hereof, shall be given a reasonable opportunity to have a person of his own choosing, administer one of the chemical tests as provided in this section within a reasonable time after his detention, and the results of such test shall be admissible if offered by the defendant and shall be considered with other competent evidence in determining the innocence or guilt of the defendant. Any person charged with driving a vehicle while under the influence of intoxicating liquor shall have the right to demand that one of the tests provided for in paragraph (1) must be given him, provided facilities are reasonably available to administer such test, and the

results of such test shall be admissible if offered by the defendant and shall be considered with other competent evidence in determining the innocence or guilt of the defendant.

(4) The person charged shall be advised of his right to refuse to take any test provided for in this act and the refusal on the part of any person to submit to any such test shall not be admissible in any criminal prosecution relating to driving a vehicle while under the influence of intoxicating liquor.

(5) The provision of this section shall not be construed as limiting the introduction of any other competent evidence bearing upon the question of whether or not the defendant was under the influence of intoxicating liquor. P.A. 1949, No. 300, Sec. 625a, added by P.A. 1960, No. 148, Sec. 1, Eff. Aug. 17, 1960, as amended P.A. 1964, No. 104, Sec. 1, Eff. Aug. 28.

257.625b Operation of vehicle after impairment of ability due to consumption of intoxicating liquor or drugs; violation; penalty

Sec. 625b (a) It is unlawful and punishable as provided in this section for any person to operate a vehicle upon any highway or any other place open to the general public, including any area designated for the parking of motor vehicles, within this state when, due to consumption of intoxicating liquor, narcotic drugs, barbital or any derivative of barbital, he has visably impaired his ability to operate the vehicle. Where a person is charged with violating section 625, a finding of guilty shall be permissible under this section.

(b) Any person convicted of a violation of this section may be imprisoned in the county jail for not more than 90 days or

fined not more than $100.00, or both, together with costs of the prosecution. On a second and subsequent conviction under this section or a local ordinance substantially corresponding thereto, he may be imprisoned for not more than 1 year or fined not to exceed $1,000.00, or both. The division of driver and vehicle services, within 10 days after the receipt of a properly prepared abstract, shall record 4 points for each conviction under this section. P.A. 1949, No. 300, Sec. 625b, added by P.A. 1966, No. 243, Sec. 1, Eff. March 10, 1967.

Disorderly Persons

750.167 Definition, subsequent offenses

Sec. 167. Any person of sufficient ability, who shall refuse or neglect to support his family; any common prostitute; any window peeper; any person who engages in an illegal occupation or business; any person who shall be drunk or intoxicated or engaged in any public place; any vagrant; any person found begging in a public place; any person found loitering in a house of ill-fame or prostitution or place where prostitution or lewdness is practiced, encouraged or allowed; any person who shall knowingly loiter in or about any place where an illegal occupation or business is being conducted; any person who shall loiter in or about any police station, police headquarters building, county jail, hospital, court building or any other public building or place for the purpose of soliciting employment of legal services or the services of sureties upon criminal recognizances; any person who shall be found jostling or roughly crowding people unnecessarily in a public place; any person who telephones any other person or causes any other person to be

telephoned and uses any vulgar, indecent, obscene, threatening or offensive language, or suggesting any lewd or lascivious act over any telephone, shall be deemed a disorderly person. When any person, who has been convicted of refusing or neglecting to support his family under the provisions of this section, is then charged with subsequent violations within a period of 2 years, such person shall be prosecuted as a second offender or third and subsequent offender as provided in section 168 of this act,# if the family of such person is then receiving any form of public relief or support. As amended P.A. 1956, No. 110, Sec. 1, Eff. Aug. 11; P.A. 1964, No. 144, Sec. 1, Eff. Aug. 28.

750.356 Larceny

Sec. 356. Any person who shall commit the offense of larceny, by stealing, of the property of another, any money, goods or chattels, or any bank note, bank bill, bond, promissory note, due bill, bill of exchange or other bill, draft, order or certificate, or any book of accounts for or concerning money or goods due or to become due, or to be delivered, or any deed or writing containing a conveyance of land, or any other valuable contract in force, or any receipt, release or defeasance, or any writ, process or public record, if the property stolen exceed the value of $100.00, shall be guilty of a felony, punishable by imprisonment in the state prison not more than 5 years or by fine of not more than $2,500.00. If the property stolen shall be of the value of $100.00 or less, such person shall be guilty of a misdemeanor. As amended P.A. 1957, No. 69, Sec. 1, Eff. Sept. 27.

Section 750.168

335.341 Unlawful manufacture, delivery, or possession with intent to manufacture or deliver

Sec. 41. (1) Penalties. Except as authorized by this act, it is unlawful for any person to manufacture, deliver or possess with intent to manufacture or deliver, a controlled substance. Any person who violates this subsection with respect to:

(a) A controlled substance classified in schedules 1 or 2 which is a narcotic drug, is guilty of a felony and upon conviction may be imprisoned for not more than 20 years or fined not more than $25,000.00 or both.

(b) Any other controlled substance classified in schedules 1, 2, or 3, except marihuana, is guilty of a felony and upon conviction may be imprisoned for not more than 7 years or fined not more than $5,000.00, or both.

(c) A substance classified in schedule 4, or marihuana, is guilty of a felony and upon conviction may be imprisoned for not more than 4 years or fined not more than $2,000.00, or both.

(d) A substance classified in schedule 5, is guilty of a felony and upon conviction may be imprisoned for not more than 2 years or fined not more than $2,000.00, or both.

(2) Prima facie evidence of possession. Possession of more than 2 ounces of marihuana is prima facie evidence of possession with intent to deliver.

(3) Counterfeit substances. Except as authorized by this act, it is unlawful for any person to create, deliver or possess with intent to deliver, a counterfeit substance. Any person who violates this subsection with respect to:

(a) A counterfeit substance classified in schedules 1 or 2 which is a narcotic drug, is guilty of a felony and upon conviction may be imprisoned for not more than 10 years or fined not more than $10,000.00, or both.

(b) Any other counterfeit substance classified in schedules 1, 2 or 3, is guilty of a felony and upon conviction may be imprisoned for not more than 5 years or fined not more than $5,000.00, or both.

(c) A counterfeit substance classified in schedule 4, is guilty of a felony and upon conviction may be imprisoned for not more than 4 years or fined not more than $2,000.00, or both.

(d) A counterfeit substance classified in schedule 5, is guilty of a felony and upon conviction may be imprisoned for not more than 2 years or fined not more than $2,000.00, or both.

(4) Penalties. It is unlawful for any person knowingly or intentionally to possess a controlled substance unless the substance was obtained directly from, or pursuant to, a valid prescription or order of a practitioner while acting in the course of his professional practice, or except as otherwise authorized by this act. Any person who violates this subsection with respect to:

(a) A controlled substance classified in schedules 1 or 2 which is a narcotic drug, is guilty of a felony punishable by imprisonment for not more than 4 years or by a fine of not more than $2,000.00, or both.

(b) A controlled substance classified in schedules 1, 2, 3 or 4 except a controlled substance classified in schedule 1 for which a penalty is prescribed in subdivisions (a), (c) or (d), is guilty of a felony punishable by imprisonment for not more than 2 years

or by a fine of not more than $2,000.00 or both.

(c) Lysergic acid diethylamide, peyote, mescaline, dimethyltryptamine, psilocyn, psilocybin or a controlled substance classified in schedule 5, is guilty of a misdemeanor punishable by imprisonment for not more than 1 year or by a fine of not more than $1,000.00, or both.

(d) Marihuana, is guilty of a misdemeanor punishable by imprisonment for not more than 1 year in the county jail or by a fine of not more than $1,000.00 or both.

(5) Use, penalties. It is unlawful for a person to use a controlled substance unless the substance was obtained directly from, or pursuant to, a valid prescription or order of a practitioner while acting in the course of his professional practice, or except as otherwise authorized by this act. Any person who violates this subsection with respect to:

(a) A controlled substance classified in schedules 1 or 2 which is a narcotic drug, is guilty of a misdemeanor punishable by imprisonment for not more than 1 year or by a fine of not more than $2,000.00, or both.

(b) A controlled substance classified in schedules 1, 2, 3 or 4 except a controlled substance classified in schedule 1 for which a penalty is prescribed in subdivisions (a), (c) or (d), is guilty of a misdemeanor punishable by imprisonment for not more than 1 year in the county jail or by a fine of not more than $1,000.00 or both.

(c) Lysergic acid diethylamide, peyote, msecaline, dimethyltryptamine, psilocyn, psilocybin or a controlled substance classified in schedule 5, is guilty of a misdemeanor punishable by imprisonment for

not more than 6 months in the county jail or by a fine of not more than $500.00, or both.

(d) Marihuana is guilty of a misdemeanor punishable by imprisonment for not more than 90 days in the county jail or by a fine of not more than $100.00, or both.

APPENDIX F

SELECTED MICHIGAN DISTRICT COURT SUBSTANTIVE AND ADMINISTRATIVE PERFORMANCE DATA (1974-75)

Table F.1: Selected Michigan District Court Substantive and Administrative Data - 1974-75

County	Court #	1975 Fine and Costs [b/] 10 MPH Over	1975 Fine and Costs [b/] 15 MPH Over	1975 Fine and Costs [b/] Ten Offense Average	1974-75 Expenditure Per Case	1974-75 Net Revenue Per Case	1975 DUIL % Reduced	1974-75 MI State Police Ratio of Time Waiting to Time in Court	1974-75 MI State Police Ratio of Time Traveling to Time in Court
Alcona	82	25	30	27.50	37.12	-50.68	50	.37	.12
Alger	93	20	30	19.44	9.36	- 8.76	50	.80	.57
Allegan	57	15	25	17.22	5.55	9.78	4	.56	.78
Alpena	88	25	30	19.44	16.09	-17.04	41	.95	.23
Antrim	87	17	25	19.22	7.68	- 8.47	0	.63	.48
Arenac	74	15	20	16.50	10.76	- 8.63	38	.81	.64
Baraga	97	24	29	21.50	10.67	- 1.97	44	.54	.41
Barry	56	14	19	14.50	5.69	.23	55	1.06	.99
Bay	74	13	23	15.50	0	a.	46	.80	.17
Benzie	85	16	21	15.88	11.44	-18.30	8	1.25	1.06
Berrien	5	10	25	22.30	12.25	3.39	25	.84	.45
Branch	3-1	25	30	26.33	17.84	3.01	36	.90	.52
Calhoun	10	24	34	23.70	7.57	2.16	49	1.03	.93
Cass	4	25	30	23.30	7.28	14.84	48	.18	.84
Charlevoix	90	16	21	14.70	a.	a.	42	.56	.57
Cheboygan	89	30	35	30.56	16.04	-21.95	11	.60	.45
Chippewa	91	10	30	14.44	4.24	18.73	8	.13	.07
Clare	80	20	30	17.00	25.90	-34.69	14	.88	1.16
Clinton	65-2	15	25	17.22	13.74	3.41	51	.70	1.00
Crawford	83	21	26	17.22	8.88	a.	82	1.07	1.14
Delta	94	13	26	15.11	a.	a.	25	.57	.78
Dickinson	95-B	25	30	24.90	10.12	- 5.53	0	.87	.44
Eaton	56	14	19	14.50	11.71	-16.70	61	1.06	.99
Emmet	90	16	21	14.70	15.38	-22.20	59	.56	.57
Genesee	67-68	15	25	16.50	20.04	a.	57	3.25	.89
Gladwin	80	20	30	17.00	12.09	-12.44	78	.88	1.16
Gogebic	98	20	30	21.00	11.73	-10.70	41	1.19	1.33
Grand Traverse	86	12	25	20.20	11.76	- 5.91	20	.29	.55
Gratiot	65-1	16	20	17.80	7.92	7.05	22	.77	.25
Hillsdale	2-2	33	23	22.00	15.74	27.11	8	.62	.48
Houghton	97	24	29	21.50	11.38	-12.03	45	.54	.41
Huron	73-1	15	35	19.44	8.40	- 1.55	38	.28	.25
Ingham	54 & 55	15	23	14.20	8.32	4.88	53	1.05	.70
Ionia	64-A	19	99	16.71	11.66	5.00	57	1.62	.51
Iosco	81	15	20	16.50	9.06	a.	27	.81	.64
Iron	95-B	25	30	24.90	13.91	-10.24	0	.87	.44
Isabella	76	13	23	15.40	9.61	5.55	1	.81	.40
Jackson	12 & 13	16	21	18.44	9.44	9.43	1	3.52	.48
Kalamazoo	8 & 9	13	17	12.13	11.20	3.54	58	1.34	1.51
Kalkaska	87	17	25	19.22	11.29	3.21	13	.63	.48
Kent	61 & 63	15	20	18.00	a.	a.	14	1.19	.44

a. Data not available
b. Includes state penal fines, court costs and state costs, formerly called judgement fees (1975-$4.00).
Source: See end of table.

Table F.1: Continued

County	Court #	1975 Fine and Costs[b] 10 MPH Over	15 MPH Over	Ten Offense Average	1974-75 Expenditure Per Case	1974-75 Net Revenue Per Case	1975 DUIL % Reduced	1975-75 MI State Police Ratio of Time Waiting to Time in Court	Time Traveling to Time in Court
Keweenaw	97	24	29	21.50	17.45	-27.43	99	.54	.41
Lake	78	25	30	27.50	12.95	- 9.01	29	.34	.60
Lapeer	71-A	20	30	22.22	7.98	2.63	33	1.01	.38
Leelanau	86	12	25	20.20	15.88	-23.89	56	.29	.55
Lenawee	2-1	25	30	24.00	14.37	- 3.04	30	.65	.66
Livingston	53	20	30	22.50	8.46	6.17	4	2.35	1.45
Luce	92	20	30	19.38	11.52	-12.80	0	.69	.25
Mackinac	92	20	30	19.38	13.40	- 5.17	12	.69	.25
Macomb	37-42	17	26	16.12	11.76	5.12	54	1.44	1.31
Manistee	85	16	21	15.88	10.40	- 5.10	13	1.25	1.06
Marquette	96	15	20	15.67	10.51	2.67	28	.38	.46
Mason	79	22	27	18.78	8.37	a.	58	.57	.54
Mecosta	77	15	25	15.00	8.17	- 4.81	11	.43	.48
Menominee	95-A	39	54	36.78	12.56	7.77	0	.60	1.10
Midland	75	13	25	15.33	15.81	- 2.57	50	.96	1.45
Missaukee	84	13	23	24.12	5.22	7.02	9	.32	.51
Monroe	1	20	25	20.00	12.03	a.	45	.51	.45
Montcalm	64-B	17	30	24.57	10.32	2.19	13	.60	.58
Montmorency	88	25	30	19.44	a.	.47	52	.95	.23
Muskegon	60	24	29	25.50	9.97	- .01	52	1.05	1.19
Newaygo	78	25	30	27.50	5.66	- 5.76	9	.34	.60
Oakland	43-52	21	29	19.44	18.26	1.24	57	2.00	1.38
Oceana	79	22	27	18.78	10.35	- 6.07	7	.57	.54
Ogemaw	82	25	30	27.50	13.85	-15.68	76	.37	.12
Ontonogon	98	20	30	21.00	25.00	-31.43	38	1.19	1.33
Osceola	77	15	25	15.00	a.	6.53	17	.43	.48
Oscoda	82	25	30	27.50	11.50	- 2.08	56	.37	.12
Otsego	87	17	25	19.22	16.41	- 4.29	27	.63	.48
Ottawa	58	15	20	14.38	10.58	3.10	36	1.31	.55
Presque Isle	89	30	35	30.56	10.69	-16.60	21	.60	.45
Roscommon	83	21	26	17.22	9.27	- 1.85	50	1.07	1.14
Saginaw	70	13	23	18.44	10.93	.04	8	1.31	1.51
St. Clair	72	16	31	18.80	13.15	4.10	63	.99	1.07
St. Joseph	3-2	19	25	17.70	10.18	1.02	37	.92	1.24
Sanilac	73-2	16	22	26.33	9.64	2.95	52	.39	.15
Schoolcraft	93	20	30	19.44	9.87	- 1.50	17	.80	.57
Shiawassee	66	31	37	19.38	12.52	1.50	63	.28	.25
Tuscola	71-B	20	30	20.11	11.60	2.81	55	1.83	.48
Van Buren	7	19	34	23.44	10.43	5.76	9	.47	.17
Washtenaw	14 & 15	23	30	22.00	16.13	4.67	58	1.96	.73
Wayne	16-35	13	23	18.40	14.21	4.10	21	1.30	.74
Wexford	84	13	23	24.12	6.92	5.52	13	.32	.51

a. Data not available.
b. Includes state penal fines, court costs and state costs, formerly called judgement fees (in 1975=$4.00).

Source: see end of table

Table F.1: Continued

Selected Michigan District Court Substantive and Administrative Performance Data, 1974-75

Data Sources

Fine & Costs 10 MPH Over Fine & Costs 15 MPH Over Average Traffic Fines & Costs	Survey Data
Expenditures per case Net Revenues per case (Revenues & Expenditures)	Bureau of Local Government Services, State Treasury
(Case load)	State Court Administrator
DUIL % Reduced	Uniform Crime Reports
Michigan State Police Waiting Time and Travel Time	Michigan State Police Court Crime Study

APPENDIX G

ALTERNATIVE STATISTICAL TECHNIQUES FOR REGRESSION DISCONTINUITY TIME-SERIES ANALYSIS

APPENDIX G

BINARY AND SPECTRAL APPROACHES TO REGRESSION DISCONTINUITY TIME SERIES ANALYSIS

In reporting research results, there is a tendency to stress those particular techniques which worked well in answering questions of interest. Research techniques which were tried and rejected because of their poor performance are typically ignored or given little attention. The following discussion will compare and contrast alternative techniques used in this research to measure the extent to which fine and costs policy changes were associated with a turn over in judicial personnel (judicial turning point).

For convenience, these alternative techniques are referred to as the binary approach and the spectral approach to regression discontinuity time series analysis. The binary approach was discussed in Chapter 5 and an illustration of this approach applied to an actual case is given in this appendix. Test results using the binary approach to measure fine and costs policy changes were given in Chapter 7. The spectral approach was applied to the same set of data and the results were found to be unsatisfactory.

The main difference between the binary and the spectral approach is that the binary approach utilizes the relationship between a dependent and independent variables to measure discontinuities in the dependent time series where as the spectral approach utilizes patterns and cycles within a single time series to measure discontinuities in that particular time series. Spectral analysis treats a series of observations over time as a complex wave pattern consisting of

weighted simple waves. Spectral analytic techniques decompose a time series into frequency bands which account for variance in the series over time. Once these patterns of waves or variance are discovered, the researcher can utilize this information to measure if the pattern is disturbed by some intervention along the series or in the instant case, by the arrival of a new judge.

Spectral analysis was applied to several time series of fine and costs assessed in DUIL cases during a period in which the judgeship changed personnel. Conceptually, the arrival of the new judge to replace the former judge was defined as the intervention effect. Spectral regression discontinuity tests were performed on Michigan State University computing facilities with a pair of computer packages entitled TMS, developed by Gene V. Glass, et al., University of Colorado. The mechanics of TMS are described briefly in a manual which was purchased along with the package from the University of Colorado, and in more detail in Gene V. Glass, et al., Design and Analysis of Time-Series Experiments (Boulder: Colorado Associated Press, 1975).

TMS provides an inferential statistical analysis of the effect of some intervention by first identifying a stochastic model capturing certain wave characteristics of the particular time series (program CORREL) and second using this stochastic model in an ordinary least squares routine along with the time series data to test for intervention effects. Stochastic model identification is accomplished by the first of the pair of TSM programs, CORREL which subjects the time series to a correlogram and partial autocorrelation analysis which enables the analyst to identify dependence or autocorrelations among

lagged individual observations in the time series. The two types of dependence are identifiable from the correlogram and incorporated into the stochastic model and are generally referred to as autoregressive and moving averages processes. The second of the pair of TSM programs, TSX, employs a series to T statistics to measure changes in the level and direction of the time series resulting from intervention effects.

Dependence or auto correlation with the time series can be determined by examining the chi square statistic which is computed along with the correlogram. A computed chi square value greater than the theoretical chi square is taken as evidence of dependence in the series while a computed chi square value less than the theoretical chi square value is taken as evidence of an independent or "white noise" series. An independent series implies that no identifiable dependence among lagged observations are present for identifying a stochastic model with which to test intervention effects.

Correlograms produced by the CORREL package of TSM on three DUIL fine and costs time series encompassing judicial turning points in three courts surveyed in this study are found in Figures G.2 through G.7. The reader will note insignificant chi squares statistics at the .10 level associated with each of the correlograms which implies independence within these series and which precludes stochastic model identification and testing for intervention effects via the TSX package of TSM.

Summary

For purposes of testing the extent to which fine and costs policy changes were associated with a judicial turning point, spectral analysis has not been a useful technique. One possible explanation lies with the inadequacy of the data as characterized by independent time series. Evidence that fines and costs are independent with respect to lagged observations does, however, suggest that fine and cost assessments are not influenced by seasons or holidays and that the fines and costs assessed in one period are not dependent, in a statistical sense, upon fines and costs assessed in previous periods.

From a methodological standpoint, the spectral approach to regression discontinuity time series analysis is useful in cases where the time series is characterized by dependence among lagged observations. The results from using the binary approach to regression discontinuity are questionable when a high degree of dependence or auto correlation is present within the series since the use of ordinary least squares (OLS) routines to measure the intervention effects on an auto correlated time series violates one of the assumptions of OLS and introduces a positive bias into tests of significance.* The binary approach to regression discontinuity is more suitable for examining intervention effects in time series data characterized by independence with respect to lagged observations while the spectral approach is precluded by independence within the time series.

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* Jan Kamenta, op. cit., p. 282.

APPENDIX G

AN ILLUSTRATION OF THE BINARY APPROACH TO REGRESSION DISCONTINUITY FOR MEASURING FINE AND COSTS POLICY CHANGES ASSOCIATED WITH A JUDICIAL TURNING POINT

The results of the following illustration can be found in Table 7.2 of the text.

Results from Table 7.1

Geographic Jurisdiction	Lenawee County
District Court Number	2-1
Number of Judges	2
Judicial Turning Point	January, 1971
Misdemeanor	Disorderly Persons
SUM OF SQUARES	
Continuous Equation	
Regression	571
Residuals	6520
Discontinuous Equation	
Regression	974
Residuals	6118
Number of Months	15
F Value	.79
Minimum Approximate	
Significance Level	.50

Data used in the Equations

(Y) Monthly Average Fine and Costs	X_1 Time (Months)	X_2 Judge (Binary)
(Pre Judicial Turning Point)		
$48	1 (1-70)	0
20	2 (2-70)	0
33	3 (3-70)	0
99	4 (4-70)	0
38	8 (8-70)	0
33	9 (9-70)	0
30	10 (10-70)	0
64	11 (11-70)	0
32	12 (12-70)	0
(Post Judicial Turning Point)		
$33	13 (1-71)	1
27	14 (2-71)	1
24	15 (3-71)	1
0	16 (4-71)	1
29	17 (5-71)	1
54	18 (6-71)	1

Regression Equation Estimates

CONTINUOUS EQUATION:

$$\underset{\substack{\text{Monthly Average}\\ \text{Fine \& Costs}}}{Y} = F\left[\text{(Constant)};\ \underset{\text{Time}}{X_1}\right]$$

$$Y = 53 - 1.4\ X_1$$

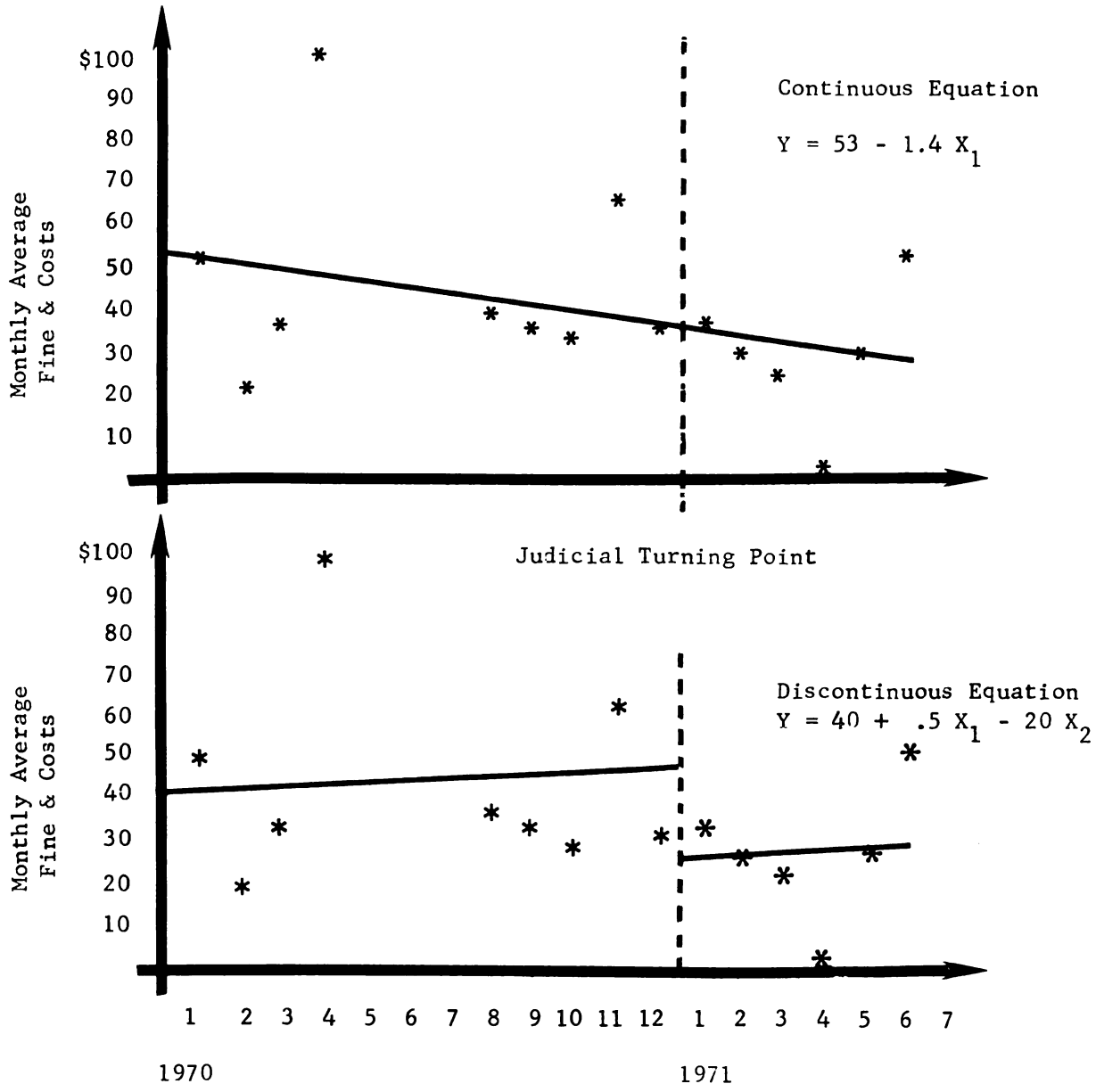
DISCONTINUOUS EQUATION:

$$\underset{\substack{\text{Monthly Average}\\ \text{Fine \& Costs}}}{Y} = F\left[\text{(Constant)};\ \underset{\text{Time}}{X_1};\ \underset{\text{Judge}}{X_2}\right]$$

$$Y = 40 + .5\ X_1 - 20\ X_2$$

Graphic Analysis

Figure G.1: Graphic Illustration of Continuous and Discontinuous Regression Lines Representing Lenawee County District Court's Monthly Average Disorderly Persons Fines and Costs During a Judicial Turning Point Period



Computation of F Value

$$\text{F Value} = \left[\frac{\begin{pmatrix}\text{Sum of Squares}\\ \text{Regression Q}\end{pmatrix} - \begin{pmatrix}\text{Sum of Squares}\\ \text{Regression K}\end{pmatrix}}{\begin{matrix}\text{Sum of Squares}\\ \text{Residuals Q}\end{matrix}}\right] \times \left[\frac{\begin{pmatrix}\text{Total}\\ \text{Cases}\end{pmatrix} - \begin{pmatrix}\#\text{ of Variables}\\ \text{in Q}\end{pmatrix}}{\begin{pmatrix}\#\text{ of Variables}\\ \text{in Q}\end{pmatrix} - \begin{pmatrix}\#\text{ of Variables}\\ \text{in K}\end{pmatrix}}\right]$$

where K = Continuous Equation

Q = Discontinuous Equation

$$\text{F Value} = \left[\frac{(974) - (571)}{6118}\right] \times \left[\frac{(15-3)}{(3-2)}\right]$$

F Value = .790

Table F Values

$V_2 = 12$	$X_2 = 12$
$V_1 = 1$	$X_1 = 1$
Probability = .50	Probability = .75
F Value = .484	F Value = 1.46

Figure G.2: Correlogram for DUIL Fine and Costs Assessed in Lenawee County District Court Before January, 1971, Judicial Turning Point

```
 AUTOCORRELATIONS FOR PRE-INTERVENTION DATA

THE DATA IS OF DIFFERENCE ORDER  0  FOR LAGS 1 TO 14
MEAN=    115.8571       VARIANCE=    741.2653
 R=       .0067          .1731         -.0470         -.1338         -.0399         -.3641          .0607         -.1262
      .3223          .2214         -.1281         -.0027         -.1563         -.0449
STANDARD ERROR
      .1890          .1890          .1946          .1950          .1982          .1985          .2211          .2217
      .2242          .2402          .2474          .2497          .2497          .2532
CHI-SQUARE STATISTIC =   11.13
      DEGREES OF FREEDOM ARE 14 -1(IF MEAN INCLUDED, 0 OTHERWISE) - P - Q - P(SEASONAL) - Q(SEASONAL)

THE DATA IS OF DIFFERENCE ORDER  1  FOR LAGS 1 TO 13
MEAN=      .4444        VARIANCE=   1488.9136
 R=       -.5788          .2330         -.1069         -.0877          .2077         -.3698          .3110         -.3434
      .3047          .0789         -.1369          .0850         -.1322
STANDARD ERROR
      .1925          .2487          .2567          .2584          .2595          .2656          .2840          .2963
      .3107          .3216          .3223          .3245          .3253
CHI-SQUARE STATISTIC =   25.07
      DEGREES OF FREEDOM ARE 13 -1(IF MEAN INCLUDED, 0 OTHERWISE) - P - Q - P(SEASONAL) - Q(SEASONAL)

THE DATA IS OF DIFFERENCE ORDER  2  FOR LAGS 1 TO 13
MEAN=     -.7308        VARIANCE=   4805.2737
 R=       -.7518          .3829         -.1275         -.0871          .2778         -.4036          .4247         -.4261
      .3020         -.0516         -.0802          .1200         -.1629
STANDARD ERROR
      .1961          .2862          .3053          .3074          .3083          .3178          .3369          .3569
      .3760          .3852          .3855          .3861          .3875
CHI-SQUARE STATISTIC =   37.76
      DEGREES OF FREEDOM ARE 13 -1(IF MEAN INCLUDED, 0 OTHERWISE) - P - Q - P(SEASONAL) - Q(SEASONAL)

THE DATA IS OF DIFFERENCE ORDER  3  FOR LAGS 1 TO 12
MEAN=      3.6000        VARIANCE=  17281.0400
 R=       -.8151          .4657         -.1547         -.0991          .3089         -.4351          .4777         -.4524
      .3085         -.0946         -.0642          .1474
STANDARD ERROR
      .2000          .3052          .3324          .3353          .3364          .3476          .3687          .3927
      .4130          .4222          .4230          .4234
CHI-SQUARE STATISTIC =   43.52
      DEGREES OF FREEDOM ARE 12 -1(IF MEAN INCLUDED, 0 OTHERWISE) - P - Q - P(SEASONAL) - Q(SEASONAL)

THE DATA IS OF DIFFERENCE ORDER  4  FOR LAGS 1 TO 12
MEAN=      7.6250        VARIANCE=  64463.9010
 R=       -.8386          .5125         -.1782         -.1090          .3274         -.4567          .4982         -.4435
      .2809         -.0805         -.0730          .1684
STANDARD ERROR
      .2041          .3167          .3495          .3533          .3547          .3671          .3900          .4157
      .4350          .4424          .4431          .4436
CHI-SQUARE STATISTIC =   44.66
      DEGREES OF FREEDOM ARE 12 -1(IF MEAN INCLUDED, 0 OTHERWISE) - P - Q - P(SEASONAL) - Q(SEASONAL)


PRE-INTERVENTION OBSERVATIONS     N1= 28
    88.0000     129.0000     148.0000      99.0000      99.0000      88.0000      99.0000      93.0000      88.0000     119.0000
    66.0000     203.0000     124.0000     124.0000     124.0000     112.0000     123.0000      86.0000     123.0000     124.0000
   153.0000     153.0000     128.0000     128.0000     113.0000     128.0000      79.0000     100.0000
```

Figure G.3: Correlogram for DUIL Fine and Costs Assessed in Lenawee County District Court After January, 1971, Judicial Turning Point

```
 AUTOCORRELATIONS FOR POST-INTERVENTION DATA

THE DATA IS OF DIFFERENCE ORDER  0  FOR LAGS 1 TO 12
MEAN=     110.6400        VARIANCE=    1290.5504
 R=          .2581            -.2270            -.2266            -.1329            .0620            .0312            .1675            .1457
     -.1641           -.2357            -.0372            .2575
STANDARD ERROR
          .2000            .2129            .2224            .2314            .2345            .2351            .2353            .2400
      .2435            .2479            .2567            .2569
CHI-SQUARE STATISTIC =      8.13
      DEGREES OF FREEDOM ARE 12 -1(IF MEAN INCLUDED, 0 OTHERWISE) - P - Q - P(SEASONAL) - Q(SEASONAL)

THE DATA IS OF DIFFERENCE ORDER  1  FOR LAGS 1 TO 12
MEAN=      -2.0833        VARIANCE=    1910.3264
 R=          -.1917           -.3079            -.0786            -.0352            .1511           -.1087            .1034            .1573
     -.1335           -.1555            -.0875            .2517
STANDARD ERROR
          .2041            .2115            .2294            .2305            .2308            .2348            .2369            .2388
      .2431            .2461            .2502            .2514
CHI-SQUARE STATISTIC =      6.21
      DEGREES OF FREEDOM ARE 12 -1(IF MEAN INCLUDED, 0 OTHERWISE) - P - Q - P(SEASONAL) - Q(SEASONAL)

THE DATA IS OF DIFFERENCE ORDER  2  FOR LAGS 1 TO 11
MEAN=       1.9565        VARIANCE=    4650.5633
 R=          -.4682           -.0709             .0483           -.1025            .2360           -.2474            .0895            .1301
     -.0804           -.0342            -.1381
STANDARD ERROR
          .2085            .2501            .2510            .2514            .2532            .2626            .2725            .2738
      .2765            .2775            .2777
CHI-SQUARE STATISTIC =      8.89
      DEGREES OF FREEDOM ARE 11 -1(IF MEAN INCLUDED, 0 OTHERWISE) - P - Q - P(SEASONAL) - Q(SEASONAL)

THE DATA IS OF DIFFERENCE ORDER  3  FOR LAGS 1 TO 11
MEAN=       1.6364        VARIANCE=   14139.7769
 R=          -.6106            .0596            .1077           -.1641            .2728           -.2669            .0744            .1096
     -.0842            .0421           -.1553
STANDARD ERROR
          .2132            .2817            .2823            .2841            .2884            .2999            .3105            .3113
      .3131            .3141            .3144
CHI-SQUARE STATISTIC =     12.91
      DEGREES OF FREEDOM ARE 11 -1(IF MEAN INCLUDED, 0 OTHERWISE) - P - Q - P(SEASONAL) - Q(SEASONAL)

THE DATA IS OF DIFFERENCE ORDER  4  FOR LAGS 1 TO 10
MEAN=     -15.0952        VARIANCE=   45010.3719
 R=          -.6214            .1258            .0771           -.1572            .2411           -.2154            .0209            .1139
     -.0964            .0973
STANDARD ERROR
          .2182            .2905            .2931            .2941            .2980            .3072            .3143            .3144
      .3165            .3179
CHI-SQUARE STATISTIC =     11.79
      DEGREES OF FREEDOM ARE 10 -1(IF MEAN INCLUDED, 0 OTHERWISE) - P - Q - P(SEASONAL) - Q(SEASONAL)


POST-INTERVENTION OBSERVATIONS     N2= 25
   154.0000     154.0000     104.0000     134.0000     104.0000     104.0000     104.0000     104.0000     149.0000     104.0000
    74.0000     144.0000     154.0000     154.0000     104.0000      64.0000     104.0000     104.0000     154.0000     104.0000
   154.0000     114.0000       0.0000      59.0000     104.0000
```

Figure G.4: Correlogram for DUIL Fine and Costs Assessed in Barry County District Court Before August, 1971, Judicial Turning Point

```
 AUTOCORRELATIONS FOR POST-INTERVENTION DATA

THE DATA IS OF DIFFERENCE ORDER  0  FOR LAGS 1 TO  5
MEAN=      66.3000        VARIANCE=     263.4101
 R=         .0001          -.3219          .2638          -.2363          -.4622
STANDARD ERROR
           .3162           .3162          .3475           .3669           .3818
CHI-SQUARE STATISTIC =     2.29
      DEGREES OF FREEDOM ARE   5 -1(IF MEAN INCLUDED, 0 OTHERWISE) - P - Q - P(SEASONAL) - Q(SEASONAL)

THE DATA IS OF DIFFERENCE ORDER  1  FOR LAGS 1 TO  4
MEAN=      -2.2222        VARIANCE=     483.7284
 R=         -.1496          -.4799          .4836           .0465
STANDARD ERROR
           .3333           .3407          .4090           .4692
CHI-SQUARE STATISTIC =     4.39
      DEGREES OF FREEDOM ARE   4 -1(IF MEAN INCLUDED, 0 OTHERWISE) - P - Q - P(SEASONAL) - Q(SEASONAL)

THE DATA IS OF DIFFERENCE ORDER  2  FOR LAGS 1 TO  4
MEAN=      -5.7500        VARIANCE=    1051.1875
 R=         -.2313          -.5219          .4219           .1512
STANDARD ERROR
           .3536           .3824          .4629           .5087
CHI-SQUARE STATISTIC =     4.28
      DEGREES OF FREEDOM ARE   4 -1(IF MEAN INCLUDED, 0 OTHERWISE) - P - Q - P(SEASONAL) - Q(SEASONAL)

THE DATA IS OF DIFFERENCE ORDER  3  FOR LAGS 1 TO  3
MEAN=       .2857         VARIANCE=    2936.4899
 R=         -.3929          -.3844          .3612
STANDARD ERROR
           .3780           .4324          .4787
CHI-SQUARE STATISTIC =     2.11
      DEGREES OF FREEDOM ARE   3 -1(IF MEAN INCLUDED, 0 OTHERWISE) - P - Q - P(SEASONAL) - Q(SEASONAL)

THE DATA IS OF DIFFERENCE ORDER  4  FOR LAGS 1 TO  3
MEAN=      -5.1667        VARIANCE=    9246.4722
 R=         -.4683          -.2544          .3292
STANDARD ERROR
           .4082           .4997          .5112
CHI-SQUARE STATISTIC =     1.70
      DEGREES OF FREEDOM ARE   3 -1(IF MEAN INCLUDED, 0 OTHERWISE) - P - Q - P(SEASONAL) - Q(SEASONAL)



POST-INTERVENTION OBSERVATIONS      N2= 10
    54.0000      67.0000      56.0000      55.0000      93.0000      94.0000      60.0000      88.0000      75.0000      38.0000
```

Figure G.5: Correlogram for DUIL Fine & Costs Assessed in Barry County District Court After August, 1971, Judicial Turning Point

```
 AUTOCORRELATIONS FOR PRE-INTERVENTION DATA

THE DATA IS OF DIFFERENCE ORDER  0  FOR LAGS 1 TO  4
MEAN=      48.5556        VARIANCE=     54.6914
 R=        -.5191          -.0227          .0943          -.1172
STANDARD ERROR
           .3333           .4135          .4137           .4160
CHI-SQUARE STATISTIC =     2.51
      DEGREES OF FREEDOM ARE  4 -1(IF MEAN INCLUDED, 0 OTHERWISE) - P - Q - P(SEASONAL) - Q(SEASONAL)

THE DATA IS OF DIFFERENCE ORDER  1  FOR LAGS 1 TO  4
MEAN=      -1.3750        VARIANCE=    157.4844
 R=        -.4177          -.0453          .1074          -.1679
STANDARD ERROR
           .3536           .4106          .4113           .4148
CHI-SQUARE STATISTIC =     1.50
      DEGREES OF FREEDOM ARE  4 -1(IF MEAN INCLUDED, 0 OTHERWISE) - P - Q - P(SEASONAL) - Q(SEASONAL)

THE DATA IS OF DIFFERENCE ORDER  2  FOR LAGS 1 TO  3
MEAN=       4.8571        VARIANCE=    355.5510
 R=        -.3402          -.0680          .1192
STANDARD ERROR
           .3780           .4194          .4210
CHI-SQUARE STATISTIC =      .84
      DEGREES OF FREEDOM ARE  3 -1(IF MEAN INCLUDED, 0 OTHERWISE) - P - Q - P(SEASONAL) - Q(SEASONAL)

THE DATA IS OF DIFFERENCE ORDER  3  FOR LAGS 1 TO  3
MEAN=      -7.8333        VARIANCE=    781.8055
 R=        -.2622          -.1353          .2029
STANDARD ERROR
           .4082           .4354          .4424
CHI-SQUARE STATISTIC =      .52
      DEGREES OF FREEDOM ARE  3 -1(IF MEAN INCLUDED, 0 OTHERWISE) - P - Q - P(SEASONAL) - Q(SEASONAL)

THE DATA IS OF DIFFERENCE ORDER  4  FOR LAGS 1 TO  2
MEAN=      10.8000        VARIANCE=   1619.7600
 R=        -.2769          -.1630
STANDARD ERROR
           .4472           .4803
CHI-SQUARE STATISTIC =      .38
      DEGREES OF FREEDOM ARE  2 -1(IF MEAN INCLUDED, 0 OTHERWISE) - P - Q - P(SEASONAL) - Q(SEASONAL)



PRE-INTERVENTION OBSERVATIONS     N1=  9
    63.0000     33.0000     50.0000     50.0000     47.0000     50.0000     44.0000     48.0000     52.0000
```

Figure G.6: Correlogram for DUIL Fines and Costs Assessed in Branch County District Court Before January, 1975, Judicial Turning Point

AUTOCORRELATIONS FOR PRE-INTERVENTION DATA

THE DATA IS OF DIFFERENCE ORDER 0 FOR LAGS 1 TO 9
MEAN= 190.2105 VARIANCE= 17139.2188
R= -.1391 -.2672 -.1789 .0990 -.0382 -.0467 .0151 -.1904
.3989
STANDARD ERROR
.2294 .2338 .2494 .2560 .2580 .2583 .2588 .2668
.2605
CHI-SQUARE STATISTIC = 2.75
DEGREES OF FREEDOM ARE 9 -1(IF MEAN INCLUDED, 0 OTHERWISE) - P - Q - P(SEASONAL) - Q(SEASONAL)

THE DATA IS OF DIFFERENCE ORDER 1 FOR LAGS 1 TO 9
MEAN= 8.1111 VARIANCE= 40407.3210
R= -.4205 -.1005 -.0948 .1315 .0254 -.0654 .0819 -.2670
.3951
STANDARD ERROR
.2357 .2742 .2763 .2781 .2815 .2816 .2825 .2838
.2974
CHI-SQUARE STATISTIC = 5.33
DEGREES OF FREEDOM ARE 9 -1(IF MEAN INCLUDED, 0 OTHERWISE) - P - Q - P(SEASONAL) - Q(SEASONAL)

THE DATA IS OF DIFFERENCE ORDER 2 FOR LAGS 1 TO 8
MEAN= 12.5882 VARIANCE= 118989.5363
R= -.6023 .1091 -.0343 .0394 .0365 -.0974 .1829 -.3562
STANDARD ERROR
.2425 .3186 .3208 .3210 .3213 .3215 .3233 .3293
CHI-SQUARE STATISTIC = 7.17
DEGREES OF FREEDOM ARE 8 -1(IF MEAN INCLUDED, 0 OTHERWISE) - P - Q - P(SEASONAL) - Q(SEASONAL)

THE DATA IS OF DIFFERENCE ORDER 3 FOR LAGS 1 TO 8
MEAN= 14.4375 VARIANCE= 401844.1211
R= -.7196 .2551 -.0250 -.0248 .0694 -.1378 .2582 -.4010
STANDARD ERROR
.2500 .3567 .3679 .3680 .3681 .3689 .3721 .3831
CHI-SQUARE STATISTIC = 10.79
DEGREES OF FREEDOM ARE 8 -1(IF MEAN INCLUDED, 0 OTHERWISE) - P - Q - P(SEASONAL) - Q(SEASONAL)

THE DATA IS OF DIFFERENCE ORDER 4 FOR LAGS 1 TO 7
MEAN= 27.2667 VARIANCE=1467695.9289
R= -.7734 .3417 -.0596 -.0311 .0822 -.1738 .3044
STANDARD ERROR
.2582 .3827 .4025 .4031 .4032 .4043 .4093
CHI-SQUARE STATISTIC = 11.35
DEGREES OF FREEDOM ARE 7 -1(IF MEAN INCLUDED, 0 OTHERWISE) - P - Q - P(SEASONAL) - Q(SEASONAL)

PRE-INTERVENTION OBSERVATIONS N1= 19
154.0000 150.0000 150.0000 0.0000 200.0000 350.0000 150.0000 150.0000 150.0000 200.0000
150.0000 150.0000 200.0000 115.0000 520.0000 120.0000 115.0000 90.0000 300.0000

Figure G.7: Correlogram for DUIL Fines and Costs Assessed in Branch County District Court After January, 1975, Judicial Turning Point

```
AUTOCORRELATIONS FOR POST-INTERVENTION DATA

THE DATA IS OF DIFFERENCE ORDER  0  FOR LAGS 1 TO 13
MEAN=     118.7037        VARIANCE=    1245.9122
 R=          .0886            .0317            .0413           -.1322           -.1468           -.1871           .2842           .1624
    -.0097           -.0602           -.3180            .0469           -.0201
STANDARD ERROR
          .1925            .1940            .1941            .1945            .1978            .2018           .2081           .2270
     .2264            .2264            .2270            .2429            .2432
CHI-SQUARE STATISTIC =     8.07
      DEGREES OF FREEDOM ARE 13 -1(IF MEAN INCLUDED, 0 OTHERWISE) - P - Q - P(SEASONAL) - Q(SEASONAL)

THE DATA IS OF DIFFERENCE ORDER  1  FOR LAGS 1 TO 13
MEAN=       2.2692        VARIANCE=    2283.7352
 R=          -.4675            .0116            .0200           -.2441            .3429           -.4357           .3343           -.1072
    -.0168            .1170           -.3597            .2342           -.0816
STANDARD ERROR
          .1961            .2351            .2351            .2352            .2447            .2626           .2890           .3035
     .3036            .3036            .3053            .3212            .3277
CHI-SQUARE STATISTIC =    23.30
      DEGREES OF FREEDOM ARE 13 -1(IF MEAN INCLUDED, 0 OTHERWISE) - P - Q - P(SEASONAL) - Q(SEASONAL)

THE DATA IS OF DIFFERENCE ORDER  2  FOR LAGS 1 TO 12
MEAN=       1.2000        VARIANCE=    6938.2403
 R=          -.6749            .1964            .0675           -.2863            .4704           -.5434           .3975           -.1795
    -.0357            .2106           -.3656            .3204
STANDARD ERROR
          .2000            .2765            .2820            .2826            .2940            .3227           .3575           .3747
     .3767            .3768            .3815            .3953
CHI-SQUARE STATISTIC =    36.32
      DEGREES OF FREEDOM ARE 12 -1(IF MEAN INCLUDED, 0 OTHERWISE) - P - Q - P(SEASONAL) - Q(SEASONAL)

THE DATA IS OF DIFFERENCE ORDER  3  FOR LAGS 1 TO 12
MEAN=      -2.0833        VARIANCE=   24096.3264
 R=          -.7395            .2662            .0845           -.3352            .5243           -.5712           .4206           -.1701
    -.0506            .2462           -.3751            .3417
STANDARD ERROR
          .2041            .2954            .3052            .3062            .3211            .3550           .3914           .4098
     .4127            .4130            .4191            .4328
CHI-SQUARE STATISTIC =    41.95
      DEGREES OF FREEDOM ARE 12 -1(IF MEAN INCLUDED, 0 OTHERWISE) - P - Q - P(SEASONAL) - Q(SEASONAL)

THE DATA IS OF DIFFERENCE ORDER  4  FOR LAGS 1 TO 11
MEAN=     -11.5217        VARIANCE=   94335.7278
 R=          -.7295            .2760            .0993           -.3725            .5474           -.5664           .4384           -.1719
    -.0629            .2662           -.3672
STANDARD ERROR
          .2085            .2996            .3105            .3118            .3506            .3879           .4041           .4215
     .4247            .4251            .4322
CHI-SQUARE STATISTIC =    37.92
      DEGREES OF FREEDOM ARE 11 -1(IF MEAN INCLUDED, 0 OTHERWISE) - P - Q - P(SEASONAL) - Q(SEASONAL)



POST-INTERVENTION OBSERVATIONS     N2= 27
    95.0000          95.0000          95.0000          95.0000          95.0000          100.0000         175.0000         100.0000         25.0000          100.0000
   100.0000         100.0000         100.0000         175.0000         115.0000         100.0000         90.0000          90.0000          175.0000         125.0000
   175.0000         160.0000         154.0000         179.0000          44.0000         124.0000         150.0000
```

APPENDIX H

EQUATION ESTIMATES AND MEANS, STANDARD DEVIATIONS, CORRELATION MATRICES AND DATA SOURCES OF EQUATION VARIABLES

APPENDIX H

EQUATION ESTIMATES AND MEANS, STANDARD DEVIATIONS, CORRELATION MATRICES AND DATA SOURCES OF EQUATION VARIABLES

Dependent Variable = AVERAGE TRAFFIC FINES AND COSTS

Variable	Mean	Std. Dev.	Cases	Data Source
Avg. Trf. F & C	20.79	4.55	79	S*
Traffic Offense Rate	.17	.06	79	SCA/C
Selection	.28	.31	79	SCA*/GO*
% Catholic	.44	.14	79	MCC
% Republican	.54	.05	79	SOM
Exp/Case	11.89	5.14	79	ST/SCA
Income	9721.84	1691.99	79	C

Simple Correlation Matrix

Traffic Crime Rate	.03924					
Selection	-.15966	.22447				
% Catholic	.03648	-.08385	-.13108			
% Republican	-.16693	-.12513	.16729	-.29863		
Exp/Case	.11457	-.40820	-.12653	.28314	.09202	
Income	-.29287	.19444	-.11116	-.41160	.09807	-.10655
	Avg.Trf. F & C	Traffic Crime Rate	Judge Selection	% Cath.	% Rep.	Exp/ Case

Variables in the Equation

Variable	B	Std Error B	F Value	F Significance
Traffic Rate	17.3165	9.3397	3.4376	(.068)
Selection	- 3.4650	1.6337	4.4986	(.037)
% Catholic	- 8.3977	4.0744	4.2480	(.043)
% Republican	-13.5262	9.9486	1.8985	(.173)
Exp/Case	.1937	.1070	3.2766	(.074)
Income	- .11645-02	.3234E-03	12.9631	(.001)
(Constant)	38.7746	7.1746	29.2078	(.000)

		ANOVA	DF	Sum of Squares	Mean Square
Multiple R	.46365	Regression	6	347.7503	57.9584
R Square	.21497	Residual	72	1269.8894	17.6374
Std. Deviation	4.19968				

F	Significance
3.28612	.006

Coefficient of Variability 20.197%

* *

Dependent Variable = EXPENDITURES/CASE

Variable	Mean	Std. Dev.	Cases	Data Source
Exp/Case	10.28	5.75	138	ST/SCA
% Reduce	22.92	8.03	138	UCR
Ct Adm	.27	.04	138	SCA*
Caseload	21043.70	14971.63	138	SCA
Selection	.30	.89	138	SCA*/GO*
Supplement	6933.67	3435.52	138	SCA*
Travel	.8683	.6872	138	MSP

Dependent Variable - EXPENDITURES/CASE Continued

Simple Correlation Matrix

% Reduce	.08962					
Ct. Adm.	.11467	.32892				
Case load	-.06288	.31999	.50824			
Selection	-.13996	-.14249	-.08162	-.11602		
Supplement	-.05046	.54633	.52091	.44261	-.11602	
Travel	-.12965	.28069	.30345	.27040	-.05877	.43024
	Exp/Case	% Reduce	Ct Adm	Caseload	Selection	Supplement

Variables in the Equation

Variable	B	Std Error B	F Value	F Significance
% Reduce	11.7789	7.1228	2.7339	(.101)
Ct. Adm.	3.4956	1.3694	6.5164	(.012)
Caseload	.74E-04	.4477E-04	2.7322	(.101)
Selection	- .9660	.5455	3.0969	(.081)
Supplement	- .2822E-03	.1929E-03	2.1398	(.146)
Travel	- 1.312	.7721	2.8892	(.092)
(Constant)	6.8412	1.7883	19.2239	(.000)

		ANOVA	DF	Sum of Squares	Mean Square
Multiple R	.32484				
R Square	.10552	Regression	6	478.54556	79.75759
Std Deviation	5.56403	Residual	131	4056.43123	30.96512

F	Significance
2.57572	.022

Coefficient of Variability 54.101%

* *

Dependent Variable = NET REVENUE/CASE

Variable	Mean	Std. Dev.	Cases	Data Source
Net Revenue/Case	3.58	19.17	70	ST/SCA
Supplement	7268.17	3830.16	70	SCA*
Avg Trf F & C	20.52	4.05	70	S*
% Non Judge Heard	53.06	15.53	70	SCA
Selection	.27	.30	70	SCA*/GO*
% Waiting	1.0218	.6861	70	MSP
% Republican	53.51	4.37	70	SOM
Ct Adm	.37	.05	70	SCA*
% Traffic	.75	.05	70	SCA
Exp/Case	11.52	4.40	70	ST/SCA

Simple Correlation Matrix

Supplement	.49610								
Avg. Trf F & C	-.08196	-.06332							
% Non Judge	.10724	-.21404	.15956						
Selection	-.25063	-.24371	-.13922	.09462					
% Waiting	-.06939	.25795	-.03671	-.27226	.01263				
% Republican	-.15748	.04632	-.21134	.13045	.19613	.11075			
Ct. Adm.	.38127	.56763	-.13922	-.27025	-.10308	.46641	.02829		
% Traffic	.51050	.47108	-.18815	.17240	.09462	.09086	.13045	37193	
Exp Case	-.23945	.00593	.01409	.04402	-.05916	-.05008	-.18752	.00509	-.15760
	Net Rev Case	Supple-ment	Avg Trf F & C	% Non Judge Heard	Selection	% Waiting	% Republ-ican	Ct. Adm.	% Traffic

Dependent Variable - NET REVENUE/CASE - Continued

Variable	B	Std Error B	F Value	F Significance
Supplement	.1569E-02	.5710E-03	7.5486	(.008)
Exp/Case	- 1.323	.3829	11.9435	(.001)
Avg Trf F & C	- .8980	.4408	4.1497	(.046)
% Non Judge	32.3973	12.3738	6.8551	(.011)
Selection	- 9.5750	5.6874	2.834	(.097)
% Waiting	- 6.7217	2.7157	6.1260	(.016)
% Republican	-110.2566	35.7084	9.5338	(.003)
Ct. Adm.	12.9377	4.6395	7.7761	(.007)
% Traffic	63.0799	40.5709	2.4174	(.125)
(Constant)	10.9654	36.9877	.10465	(.747)

		ANOVA	DF	Sum of Squares	Mean Square
Multiple R	.7653				
R Square	.58598	Regression	9	14783.6555	1642.62839
Std. Dev.	13.27597	Residual	60	10575.07482	176.25125

F	Significance
9.31981	.000

Coefficient of Variability 370.654%

* *

Dependent Variable = FINE AND COSTS MEAN - DUIL

Variable	Mean	Std. Dev.	Cases	Data Source
Supplement	6334.45	2481.73	44	SCA*
% Probation	16.99	25.27	44	S*
% Reduce	63.14	26.09	44	S*
% Republican	55.75	4.77	44	SOM
% Rural	62.52	26.91	44	C
Crime Rate	112.55	172.53	44	UCR
Income	9772.86	1483.56	44	C
DUIL F C Mean	128.69	42.52	44	

Simple Correlation Matrix

	DUIL F & C Mean	Supplement	% Probation	% Reduce	% Republican	% Rural	Crime Rate
Supplement	-.33660						
% Probation	.14426	.16530					
% Reduce	.37838	.38891	.12231				
% Republican	.04423	-.18379	.27190	-.21849			
% Rural	.15058	-.75189	.09455	-.33286	.39890		
Crime Rate	-.05574	.57716	-.26361	.38154	-.64931	-.80427	
Income	-.32965	.99955	.16691	.38722	-.18747	-.74388	.57179

Variables in the Equation

Variable	B	Std Error B	F Value	F Significance
Supplement	-.2822	.6598E-01	18.2898	(.000)
% Probation	.3972	.1900	4.3649	(.044)
% Reduce	.9395	.1805	27.1039	(.000)
% Republican	353.1068	129.8293	7.397	(.010)
% Rural	-71.4833	34.4737	4.2996	(.045)
Crime Rate	.9596E-01	.5394E-01	3.165	(.084)
Income	.4409	.1086	16.497	(.000)
(Constant)	-2621.8762	668.0726	15.4019	(.000)

Dependent Variable - FINE AND COSTS MEAN - DUIL - Continued

		ANOVA	DF	Sum of Squares	Mean Square
Multiple R	.80969	Regression	7	50970.50743	7281.50106
R Square	.65559	Residual	36	26776.68449	743.79679
Std. Dev.	27.27264				

F	Significance
9.70964	(.000)

Coefficient of Variability 21.132

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Dependent Variable = FINE & COSTS MEAN - DISORDERLY PERSONS

Variable	Mean	Std. Dev.	Cases	Data Source
DP F & C Mean	45.17	23.52	43	S*

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Dependent Variable = FINE & COSTS MEAN - SIMPLE LARCENY

Variable	Mean	Std. Dev.	Cases	Data Source
S.L. F & C Mean	55.58	28.37	37	S*
Supplement	5868.76	2440.39	37	SCA*
% Trial	1.49	3.19	37	S*
% Jailed	16.86	20.03	37	S*
% Rural	70.07	22.30	37	C

Simple Correlation Matrix

Supplement	-.01778			
% Trial	.35156	.08633		
% Jailed	.30786	-.33394	-.18678	
% Rural	.29310	-.68504	-.02757	.30963
	S.L. F & C Mean	Supple-ment	% Trial	% Jailed

Variables in the Equation

Variable	B	Std. Error B	F Value	F Significance
Supplement	4404E-02	.2261E-02	3.7937	(.060)
% Trial	3.5626	1.2643	7.9403	(.008)
% Jailed	.5242	.2140	6.0015	(.020)
% Rural	57.1129	24.5386	5.422	(.026)
(Constant)	-24.4073	28.1901	.7496	(.393)

		ANOVA	DF	Sum of Squares	Mean Square
Multiple R	.61610	Regression	4	10904.67773	2748.66943
R Square	.37958	Residual	32	17970.37325	561.57416
Std. Dev.	23.69756				

F	Significance
4.89438	(.003)

Coefficient of Variability 42.634%

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Dependent Variable = FINE & COSTS MEAN - POSSESSION OF MARIJUANA

Variable	Mean	Std. Dev.	Cases	Data Source
P.O.M., F & C Mean	97.59	70.49	37	S*
Supplement	5868.76	2440.39	37	SCA*
% Trial	.45	1.60	37	S*
% Probation	53.97	32.55	37	S*
Selection	.32	.47	37	SCA*/GO*
% Republican	57.22	3.65	37	SOM
Crime Rate	130.42	247.63	37	UCR
Income	9492.46	1456.36	37	C

Simple Correlation Matrix

	P.O.M. F & C Mean	Supplement	% Trial	% Probation	Selection	% Republican	Crime
Supplement	-.20819						
% Trial	.29536	-.00850					
% Probation	-.23549	.16420	-.07162				
Selection	-.43752	.09471	-.05850	.02005			
% Republican	-.25400	.20306	.02798	-.04028	.10265		
Crime	-.22101	.44641	-.07649	.18328	-.10757	.01071	
Income	-.20888	.99945	-.00509	.15711	.09945	.20113	.47371

Variables in the Equation

Variable	B	Std Error B	F Value	Significance
Supplement	.4596	.1932	5.6601	(.024)
% Trial	11.5042	5.8165	3.9119	(.058)
% Probation	- .5419	.2983	3.3016	(.080)
Selection	-60.9601	20.0347	9.2581	(.005)
% Republican	-590.9868	269.3893	4.8127	(.036)
Crime	- .1946	.7095	7.5524	(.010)
Income	- .7572	.3186	5.6493	(.024)
(Constant)	5055.4230	1942.9137	6.7730	(.014)

		ANOVA	DF	Sum of Squares	Mean Square
Multiple R	.70716	Regression	7	89449.48233	12778.49748
R Square	.50007	Residual	29	89424.40534	3083.60019
Std. Dev.	55.53017				

F	Significance
4.14402	(.003)

Coefficient of Variability 56.899%

* *

Dependent Variable = FINE & COSTS VARIANCE DUIL

Variable	Mean	Std. Dev.	Cases	Data Source
F & C Variance	2462.97	2746.58	28	S*
% Reduce	59.08	18.62	28	S*
% Trial	1.64	6.32	28	S*
Cases/Judge	3999.34	1918.38	28	SCA

Dependent Variable - FINE & COSTS VARIANCE - DUIL - Continued

Simple Correlation Matrix

% Reduce	.22 29		
% Trial	.70205	.03670	
Cases/Judge	-.28274	.27223	-.10273
	F & C Variance	% Reduce	% Trial

Variables in the Equation

Variable	B	Std Error B	F Value	Significance
% Reduce	41.1829	19.6031	4.4135	(.046)
% Trial	287.8547	55.8910	26.525	(.000)
Cases/Judge	- .4162	.1911	4.7437	(.039)
(Constant)	1223.2446	1250.0487	.9576	(.338)

		ANOVA	DF	Sum of Squares	Mean Square
Multiple R	.78072				
R Square	.60952	Regression	3	124147385.70124	41382461.90041
Std. Deviation	1820.40500	Residual	24	79532984.83324	3313874.36889

F	Significance
12.48764	(.000)

Coefficient of Variability 73.911%

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Dependent Variable = FINE & COST VARIANCE - DISORDERLY PERSONS

Variable	Mean	Std. Dev.	Cases	Data Source
DP F & C Var.	619.62	383.25	36	S*
% Rural	60.02	27.19	36	C
Cases/Judge	3674.1806	2007.74	36	SCA
% Republican	55.47	5.20	36	SOM
% Catholic	37.92	10.85	36	MCC
# of Judges	2.36	1.87	36	SCA
Supplement	6671.75	2261.33	36	SCA*

Simple Correlation Matrix

% Rural	.00703					
Cases/Judge	-.33362	.36310				
% Republican	.01066	.40004	.11683			
% Catholic	.19017	-.49814	-.12520	-.52226		
# of Judges	.03994	-.74600	-.48827	-.70931	.57624	
Supplement	.24944	-.73653	-.25023	-.17985	.33409	.60927
	DP F & C Var.	% Rural	Cases/ Judge	% Repub.	% Catholic	# of Judges

Variables in the Equation

Variable	B	Std Error B	F Value	Significance
% Rural	1804.7292	790.3188	5.2146	(.030)
Cases/Judge	- .2969	.7717E-01	14.8098	(.001)
% Republican	-7129.1013	4115.1555	3.0012	(.094)
% Catholic	3376.9531	1408.4403	5.7487	(.023)
# of Judges	- 435.6102	168.4149	6.6901	(.015)
Supplement	.3271	.8777E-01	13.8884	(.001)
(Constant)	2147.9899	2773.8522	.5996	(.445)

Dependent Variable - FINE & COST VARIANCE - DISORDERLY PERSONS - Continued

		ANOVA	DF	Sum of Squares	Mean Square
Multiple R	.68963	Regression	6	12985364.94596	2164260.8433
R Square	.47559	Residual	29	14318739.81514	493749.04880
Std. Dev.	702.67322				

F	Significance
4.38332	(.003)

Coefficient of Variability 113.405%

* *

Dependent Variable = FINE & COSTS VARIANCE - SIMPLE LARCENY

Variable	Mean	Std. Dev.	Cases	Data Source
S.L. F & C Var.	1568.38	2477.98	28	S*
% Rural	68.38	22.26	28	C
% Trial	1.66	3.34	28	S*
% Jail	18.39	19.50	28	S*
Supplement	6252.43	2216.75	28	SCA*

Simple Correlation Matrix

	S.L. F & C Var.	% Rural	% Trial	% Jail
% Rural	.30983			
% Trial	.23481	.10719		
% Jail	.34382	.26142	-.23466	
Supplement	.05468	-.63403	-.11605	-.27767

Variables in the Equation

Variable	B	Std Error B	F Value	Significance
% Rural	5489.0526	2315.8972	5.6177	(.027)
% Trial	258.3590	124.5304	4.3042	(.049)
% Jail	56.4255	22.1518	6.4883	(.018)
Supplement	.5936	.2343	6.4153	(.019)
(Constant)	-7363.9292	2803.0669	6.9017	(.015)

		ANOVA	DF	Sum of Squares	Mean Square
Multiple R	.64507	Regression	4	68968839.56559	17242209.89140
R Square	.41612	Residual	23	96801531.64543	4208762.24545
Std. Dev.	2051.52681				

F	Significance
4.09793	(.012)

Coefficient of Variability 130.805%

* *

Dependent Variable = FINE & COSTS VARIANCE - POSSESSION OF MARIJUANA

Variable	Mean	Std. Dev.	Cases	Data Source
POM F & C Var.	4029.79	5538.67	28	S*
% Jailed	15.22	16.83	28	S*

Dependent Variable - FINE & COSTS VARIANCE - POSSESSION OF MARIJUANA - Continued

Simple Correlation Matrix

% Jailed	.52503
	POM F & C Variance

Variables in the Equation

Variable	B	Std Error B	F Value	F Significance
% Jailed	172.7882	54.9312	9.8944	(.004)
(Constant)	1400.8295	1233.9534	1.2888	(.267)

		ANOVA	DF	Sum of Squares	Mean Square
Multiple R	.52503	Regression	1	228316947.89954	228316947.89954
R Square	.27565	Residual	26	599459232.96684	23056355.11411
Std. Dev.	4803.6814				

F	Significance
9.8944	(.004)

Coefficient of Variability 119.204%

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