

AN ECONOMIC ANALYSIS OF STATE CRIMINAL COURTS

by

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TABLE OF CONTENTS

ACKNOWLEDGMENTS . . . . . ii

LIST OF ILLUSTRATIONS . . . . . iv

LIST OF TABLES . . . . . v

Chapter

    I. Introduction . . . . . 1

    II. The Institutional Structure of State Courts . . . . . 12

    III. Property Rights and the Economic Analysis of Courts . . . . . 30

    IV. A Property Rights Model of the Criminal Courts . . . . . 49

    V. Cross Sectional Tests: The Monitoring Hypotheses . . . . . 68

    VI. Time Series Tests: The Caseload Pressure Hypothesis . . . . . 84

    VII. Conclusions . . . . . 121

    . . . . .

    SELECTED BIBLIOGRAPHY . . . . . 126

    APPENDIX I . . . . . 130

    APPENDIX II . . . . . 148

    VITA . . . . . 151

LIST OF ILLUSTRATIONS

A-1. Arkansas . . . . . 131  
A-2. California . . . . . 133  
A-3. Illinois . . . . . 136  
A-4. New Jersey . . . . . 138  
A-5. New York . . . . . 141  
A-6. Minnesota . . . . . 143  
A-7. Ohio . . . . . 145

LIST OF TABLES

II-1.	Number of Courts at Each Jurisdictional Level. . . . .	16
II-2.	Control Mechanisms Facing Original Jurisdiction Judges . . . . .	22
V-1.	Control Mechanisms . . . . .	77
V-2.	Cross Sectional Results . . . . .	79
VI-1.	Information on Statistical Sample . . . . .	87
VI-2.	Arkansas . . . . .	92
VI-3.	California . . . . .	97
VI-4.	Illinois . . . . .	104
VI-5.	New Jersey . . . . .	111
VI-6.	New York . . . . .	116
AII-1.	Weighted Cross-Sectional Results . . . . .	149

## CHAPTER I

### Introduction

This dissertation is an analysis of the activities of state criminal courts, and focuses on decision making within these courts. Using the economics of property rights as a framework for analysis, this study contends that a court's output, both quantity and composition, is largely determined by its property rights structure.

Court systems have long been studied by disciplines such as political science and sociology as well as by legal scholars. More recently the courts have been scrutinized by economists.<sup>1</sup> This economic research has led to valuable insights into the operation of the courts and about the likelihood of trials or guilty pleas. These studies, however, have not explicitly considered the ramifications of the property rights structure on the operation of the courts. In failing to consider the effects of the property rights structure, the work of researchers in this area is incomplete. This body of research (implicitly) assumes that the incentive structure leads decision makers to make socially optimal choices.<sup>2</sup> This is a strong assumption and, if the implications of studies on the behavior of decision makers in public agencies have broad validity, then it is unwarranted.

If the findings of court research in other disciplines are to be believed, the assumption about criminal courts is clearly unwarranted. Many of these studies describe criminal courts as organizations run for

the benefit of their principal actors (i.e., judge, prosecutor and defense counsel) rather than systems which adjudicate charges (or provide justice to society).<sup>3</sup> The assertion made by these researchers is that there is little or no control exercised over court decision makers, and that these actors possess enormous amounts of discretion in making their choices.

One may question the validity of these studies, but there are clear indications that court decision makers possess some level of discretion. Discretionary power can be recast to fit the implications of the economics of property rights: the weaker are the controls on the decision maker, the stronger are the incentives to make choices aimed at utility maximization (which may differ from the organization's stated functions). Such an assertion differs sharply from the assumption of a socially optimal incentive structure which is embedded in the previous economic analyses of the courts.

The focus of the previous economic literature is on the decision to go to trial or to plead guilty. This process is clearly amenable to economic analysis--it strongly resembles the operation of a market, but there is a difficulty. The market analogy does not yield a determinate solution since the outcome depends upon the bargaining power possessed by each side, the problem of bilateral monopoly.

This study focuses on the effects of (differences in) the property rights structure on the actions of the court, and thus suffers from no such defect. The seminal work of William Landes (as well as the work derived from his model) can simply be regarded as a special case of a

more general model, one in which the property rights structure is an endogenous part. Formulation of a general model is not the undertaking of this dissertation. Rather, its purpose is to formulate and test a model which considers the effects of different property rights structure.

That the property rights of an organization affect decision making is clearly established by a large body of research.<sup>4</sup> It has been shown that one can differentiate public and private organizational forms on the basis of the distribution of costs and rewards resulting from the decisions made by the organization. A corollary is that in organizations performing similar functions, the property rights arrangement of the particular organization determines the level and nature of its output. This is shown in empirical studies comparing the performance of public and private organizations.<sup>5</sup> This body of literature provides a foundation for this study, in that criminal courts should display the characteristics of public organizations. However, across courts with different property rights structures, one should detect differences in the output that these courts produce.

Differences in the property rights structure can lead to differences in the monitoring of the organization's (and its decision makers') performance. This is evident in the case of public versus private organizations, and should also be true for different public organizations if the monitoring arrangements differ. The work of Cotton M. Lindsay shows that strong incentives exist for decision makers to invest in those aspects of production which are easily monitored, and little (or no) incentive exists to invest in other, difficult to monitor aspects of

production.<sup>6</sup> The former are facets of output which are regarded as productive and are thus rewarded; the latter are not monitored and thus cost nothing to the decision maker who does not produce them. Generally, quantitative aspects of production are easier to monitor than qualitative aspects, and such a tendency is more pronounced in public agencies, where the private firm's single measure of performance (profit) is absent.

For the criminal courts, this implies that the monitoring of court output will be done primarily on the basis of quantitative factors, and secondarily on the basis of quality. Since different property rights structures possess differing capacities for monitoring, the qualitative aspects of output, the production of qualitative factors will vary with the type of property rights structure present. (One should note that the term "qualitative factors" cannot be equated to the quality of justice. Rather, the term connotes those aspects of production which the monitors regard as proxies for the quality of justice. For instance, plea bargaining and case backlogs are thought by some to reduce the quality of justice rendered.)<sup>7</sup> This is the major hypothesis of this dissertation: differences in the property rights structure will not affect a court's output quantity but will produce differences in the composition of that output.

This hypothesis labelled the "monitoring hypothesis," implies that any property rights structure will monitor case turnover effectively. Further, if guilty pleas and trials can be thought of as qualitative measures used by court monitors, some courts will turn over their caseload with a relatively higher proportion of trials. This is because

their monitors use trials as a measure of output quality and thus their decision makers move cases accordingly. Other court property rights structures do not equate trial usage to quality, and their decision makers choose a higher proportion of guilty pleas to dispose of cases.

The empirical chapters of this dissertation test these implications. Central to the empirical work in this study is the assertion that one can use the judge and the property rights structure facing him, as analogous to that for the court itself. Hence the statistical tests focus on how a court's output is affected by those institutional factors that impinge on judges.

The statistical work is divided into two chapters. The first chapter (V) directly examines the implications of the monitoring hypothesis; that is, that (i) a court's property rights structure is unlikely to affect quantitative measures of output and (ii) there are differences in the monitoring capabilities of property rights structures with respect to the qualitative aspects of a court's output. These implications are examined cross sectionally using a sample of the general jurisdictional level courts for seven U.S. states in a multiple regression analysis.<sup>8</sup> The aspects of the property rights structure that are used in this investigation are those mechanisms which seek to control judicial behavior: selection, tenure and removal.<sup>9</sup> These mechanisms vary widely across states and thus allow comparison of different institutional structures affecting judges.

The findings of this study largely confirm the predictions of the monitoring hypothesis: first, there is no statistically significant

relationship between case turnover (measuring output quantity) and the form of the control mechanism present. Second, and notably, there are statistically significant relationships between the qualitative proxies used and particular forms of judicial control mechanisms. While by no means conclusive, these findings indicate that control mechanisms relying on popular or electoral processes result in relatively more trials and fewer guilty pleas; those control mechanisms using largely administrative procedures bring about relatively more guilty pleas and fewer trials. In sum, the monitoring hypothesis' implications are borne out in the empirical tests conducted in this dissertation.

The second empirical chapter (VI) examines what may be considered a competing hypothesis: that the production of court output and qualitative factors is largely determined by external forces operating on the courts. That is, case turnover and the mix of guilty pleas and trials are an outgrowth of caseload pressure and insufficient resources to deal with caseloads. Intense caseload pressure and lack of resources are widely regarded as leading to the situation deplored by many scholars in this area: heavy usage of guilty pleas (i.e., plea bargaining) to deal with heavy caseloads. However, if this "caseload pressure" hypothesis is not supported by empirical evidence, then credence is lent to the notion that property rights structures are a major determinant of court output.

This latter investigation takes several of the states considered in Chapter V and individually examines the operation of the courts in these states over a longer period of time. If court output is determined by

caseload pressure and resource employment, then it is less likely that property rights structures play a major role in decision making in the courts.

These tests are conducted for five states for which at least ten years of data was available. The measures of court output and qualitative factors employed in Chapter V are also used here, but are examined with respect to the effects of (i) caseload level and (ii) resource employment. The measure of caseload level investigates the hypothesis that greater criminal caseloads tend to reduce processing efficiency (case turnover) and lead to the heavier usage of guilty pleas to turn over cases. Resource employment, measured through the assignment of judges (which is generally accompanied by other case processing resources), is widely suggested as a means of reducing case backlogs and reducing dependence on plea bargaining.

The empirical results obtained do not support the external forces hypothesis consistently. Although there is variation among the results by state, the multiple regression equations estimated indicate that the effect of caseload pressure does not reduce the level of cases turned over. In certain states workload increases actually imply greater output. Further, there are not consistent results in the impact of caseload level on the guilty plea to trial ratio. In some state court systems, greater levels of caseload imply fewer guilty pleas and more trials. The effects of resource allocation are similarly notable. Increases in the allocation of judges do not bring about the changes generally attributed to them, either in terms of case turnover or

qualitative factors. At best, more judges have almost no effect on output or output quality measures used. An additional factor considered, one tied to the property rights structure of a state court system, differences in judicial independence, does affect the number and types of cases that are disposed by these courts.

Taken together, the two empirical chapters largely support the thesis propounded: that the property rights structure is significantly related to decision making in state general jurisdictional criminal courts. In specific terms, electoral or popularly structured control mechanisms lead to more trials and fewer guilty pleas, apparently at virtually no expense in terms of case turnover. One, however, should not infer from this that these control mechanisms are to be preferred to other structural arrangements. The criteria (more trials, fewer guilty pleas and high output) underlying such a judgment may not be an appropriate benchmark for determining court structure. It is quite possible that such a criteria can conflict with the achievement of justice and other desired ends (e.g., crime deterrence).

This dissertation is organized into seven chapters. The second chapter briefly considers the state criminal court system and discusses the relevant characteristics of its institutional structure. Chapter III discusses two bodies of economic literature which pertain to the subject considered in this study: i) the economics of property rights and (ii) the economic analysis of the courts. This is followed by a chapter modeling a property rights theory of the criminal courts. Chapter V tests the implications of the property rights theory, and Chapter VI

tests a competing hypothesis. Both of these hypotheses are examined empirically through multiple regression analysis, using data from the general jurisdiction courts from several states. The monitoring hypothesis is tested cross sectionally, while the caseload pressure hypothesis is tested over time within a given state. Finally, Chapter VII summarizes the empirical findings, draws the major conclusions and delineates the implications for court systems. Two appendices cover additional information about individual state court structures and give the results from additional statistical tests.

## REFERENCES

<sup>1</sup>Some good examples of these considerations are William M. Landes, "An Economic Analysis of the Courts," Journal of Law and Economics 78 (1971), 61-107; Gordon Tullock, The Logic of the Law (New York: Basic Books, 1971); Richard Posner, "An Economic Approach to Legal Procedure and Judicial Administration," Journal of Legal Studies 2 (1973), 399-458; Posner, Economic Analysis of Law 2nd ed. (Boston: Little, Brown and Co., 1977).

<sup>2</sup>This assumption stems from Landes, "Economic Analysis of the Courts," and generally extends to other papers which are based upon Landes. For a discussion of this research, see Chapter III.

<sup>3</sup>See, for instance, Abraham S. Blumberg Criminal Justice (Chicago: Quadrangle Books, 1967); Donald J. Newman, Conviction: The Determination of Guilt or Innocence Without Trial (Boston: Little, Brown and Co., 1966); A. L. Alschuler, "The Prosecutor's Role in Plea Bargaining," University of Chicago Law Review 36 (1968), 50-112.

<sup>4</sup>The seminal work in this area is Armen A. Alchian, "Some Economics of Property Rights," Il Politico 30, no. 4 (1965), 816-29. For a good, though somewhat dated review of this literature, see, E. G. Furubotn and S. Pejovich, "Property Rights and Economic Theory: A Survey of Recent Literature," Journal of Economic Literature 80 (1972), 1137-62.

<sup>5</sup>Some good examples of this research are W. M. Crain and A. Zardkoohi, "A Test of the Property Rights Theory of the Firm," Journal of Law and Economics 21 (1978), 395-408; David G. Davies, "The Efficiency of Public versus Private Firms: The Case of Australia's Two Airlines," Journal of Law and Economics 14 (1971), 149-65; Louis DeAlessi, "Managerial Tenure under Private and Government Ownership in the Electric Power Industry," Journal of Political Economy 82 (1974), 645-53; Kenneth W. Clarkson, "Some Implications of Property Rights in Hospital Management," Journal of Law and Economics 15 (1972), 362-84; Sam Peltzman, "Pricing in Public and Private Enterprises: Electric Utilities in the United States," Journal of Law and Economics 15 (1971), 109-47; and Robert M. Spann, "Public vs. Private Provision of Government Services," in Budgets and Bureaucrats: The Sources of Government Growth, ed., Thomas E. Borcherding (Durham, N.C.: Duke University Press, 1977).

<sup>6</sup>Cotton M. Lindsay, "A Theory of Government Enterprise," Journal of Political Economy 84 (1976), 1061-77. See also the discussion of Lindsay's model in Chapter III.

<sup>7</sup>That these are actually accurate measures of court output quality is less important than the fact that these measures are regarded as measures of quality. Evidence for the latter can be found in President's Commission on Crime and Law Enforcement, Task Force Reports: The Courts (Washington: Government Printing Office, 1967).

<sup>8</sup>As is discussed in the next chapter, the general jurisdiction courts were selected because of their importance in the judicial process. That is, the preponderance of cases begin and end at this level; this is where most people have their contact with the judicial system. The seven states chosen are: Arkansas, California, Illinois, Minnesota, New York, New Jersey and Ohio. These states were chosen primarily for the differences among them in their institutional structure.

<sup>9</sup>These control mechanisms are discussed in Chapter II, where it is established that these do indeed affect behavior in an organizational setting.

## CHAPTER II

### The Institutional Structure of State Courts

#### Introduction

This chapter considers specific institutional characteristics of the state court system as a background for the work to follow and also serves to delineate what is considered in both the analysis and the empirical studies. Primary attention is given to the general jurisdiction court--that is, the court in most cases (both civil and criminal) where the judicial sequence typically begins, regardless of whether there is a trial. (More often than not, it is also where the sequence ends.) The appellate courts, in contrast, generally hear cases only on the record, that is, these courts determine whether the trial court made an error in its actions. Additionally, at the general jurisdictional level, this chapter gives attention to the major decision makers--the judge, prosecutor and defense counsel--who are the individuals who control the movement of cases. Specifically, the focus is on the factors affecting the behavior of these decision makers, that is, those institutional characteristics which determine the property rights structure. Finally, other institutional information is furnished to locate the general jurisdiction court within the legal system. This material is not intended to be a comprehensive review of the legal system, nor is one necessary to analyze the institutional organization of state courts from a property rights perspective.

## I. State Court Systems

### The Dual Court System and Jurisdiction

The courts of the United States are comprised of two independent systems, the federal court system and a state system. Such a division is called a dual court system, and jurisdiction between the two systems is determined by the U.S. Constitution: the state courts handle all legal matters except those which are assigned to the federal courts by the constitution or federal statute. The courts within a state may decide all cases, limited only by state law.

The rules of conduct for an individual are largely regulated by the states through Common Law, which means that criminal violations usually are tried by state courts. Criminal violations are tried in federal court only when (i) federal statutes are violated; (ii) there is a diversity of citizenship involved; or (iii) there is concurrent jurisdiction of state and federal law enforcement systems (for the same act).

### Criminal Procedure

Once state jurisdiction has been determined, the handling of a case is according to by the state's substantive and procedural requirements. In general, these requirements are rules that have been established so as to assure that an individual (suspected, charged or convicted of a criminal offense) is accorded the rights guaranteed to him through the Bill of Rights, through the due process of law.

These rules determine such areas as how and for what reason the individual may be arrested, charged, tried, convicted, and sentenced. In addition, the procedural rules establish the means by which convictions may be appealed, and the degree (burden) of proof required to convict the individual charged with an offense. The rules for criminal procedure thus determine how the criminal courts within the particular jurisdiction may operate.

### Court Structure

Where there is great diversity in the organization of court systems across the fifty states, there is much similarity in the structure of these systems. All fifty states have a three-tiered structure: an appellate level, courts of general jurisdiction, and courts of limited jurisdiction. It is within each of these levels that one finds the diversity between states. For instance, at the appellate level all states have courts of last resort, but only twenty-three states have intermediate courts of appeal. Moreover, in Oklahoma, Tennessee and Texas there are two appellate courts, which split criminal and civil cases.

At the general jurisdiction level, there are differences in the type of jurisdiction. Some general jurisdictional level courts handle civil, criminal, equity and probate. Four states (Arkansas, Mississippi, Delaware and Tennessee) have separate courts to deal with criminal and equity cases. At present, thirty-nine states have one type of court of general jurisdiction, eight states have two types, two states have three types, and one state has four types of courts.

Finally, there is the court of limited or special jurisdiction. These courts hear what are termed "petty" or "small cause" litigation or petty criminal cases. These courts have grown out of the courts of justices of the peace. These justices were often elected officials, with some states not requiring that the official be an attorney, and were compensated by the fees they collected. In some states, these courts have changed little, but in urban areas, these courts have been replaced with magistrates or municipal judges, largely handling minor civil matters or traffic violations. Presently eleven states have only one or two of these kinds of courts, six states have three different types of these courts, nineteen have four or five types and twelve states have six or more different kinds (two states have none).<sup>1</sup> (For comparisons at all levels, see Table II-1).

## II. Actors at the General Jurisdictional Level

This section considers in more detail the factors affecting the behavior of the major participants at the trial level. This consideration deals with the functions performed by these individuals with special attention given to the institutional controls placed upon them. These controls represent the structural characteristics of the judicial system which affect the decision maker's tenure in office. Tenure, and the mechanisms affecting tenure, have an important effect on the choices made by the decision maker. Clearly, the research on the behavior of decision makers in public enterprises has shown that the output choices made by the enterprise management are an outgrowth of how

Table II-1  
 Number of Courts  
 at Each Jurisdictional Level

<u>State</u>	<u>Limited</u>	<u>Original</u>	<u>Intermediate Appellate</u>	<u>Court of Last Resort</u>
Alabama	6	1	2	1
Alaska	2	1	0	1
Arizona	2	1	1	1
Arkansas	6	2	0	1
California	2	1	1	1
Colorado	5	1	1	1
Connecticut	4	1	0	1
Delaware	6	2	0	1
Florida	8	1	1	1
Georgia	9	1	1	1
Hawaii	1	1	0	1
Idaho	0	1	0	1
Illinois	0	1	1	1
Indian	7	3	1	1
Iowa	4	1	0	1
Kansas	8	1	0	1
Kentucky	4	1	0	1
Louisiana	5	1	1	1
Maine	2	1	0	1
Maryland	2	1	1	1
Massachusetts	5	1	0	1
Michigan	5	2	1	1
Minnesota	5	1	0	1
Mississippi	4	2	0	1
Missouri	5	2	1	1
Montana	3	1	0	1
Nebraska	5	1	0	1
Nevada	2	1	0	1
New Hampshire	3	1	0	1
New Jersey	4	1*	1	1
New Mexico	4	1	1	1
New York	11	1*	1	1
North Carolina	1	1	1	1
North Dakota	3	1	0	1
Ohio	5	1	1	1
Oklahoma	2	1	1	2
Oregon	4	1	1	1
Pennsylvania	6	1	2	1
Rhode Island	4	1	0	1
South Carolina	6	1	0	1
South Dakota	4	1	0	1
Tennessee	7	4	2	1

Table II-1 (contd.)

Number of Courts  
at Each Jurisdictional Level

<u>State</u>	<u>Limited</u>	<u>Original</u>	<u>Intermediate Appellate</u>	<u>Court of Last Resort</u>
Texas	5	1	1	2
Utah	3	1	0	1
Vermont	3	1	0	1
Virginia	4	3	0	1
Washington	3	1	1	1
West Virginia	7	2	0	1
Wisconsin	1	1	0	1
Wyoming	2	1	0	1

\*In New Jersey and New York, there are actually two courts of general jurisdiction, but they normally operate concurrently so that there is in effect only one general jurisdiction court.

SOURCE: United States, Department of Justice, National Criminal Justice Information and Statistics Service, National Survey of Court Organization (Washington, D.C.: Government Printing Office, 1973).

these choices affect management tenure.<sup>2</sup> Since public managers cannot act as wealth maximizers (see Chapter III, below), their decisions are those which maximize utility (in areas other than wealth), generally at the expense of the taxpayer.<sup>3</sup> This impact can only be obtained while in office, hence those actions directly affecting (positively) job security will be undertaken. In certain circumstances this has been shown to affect pricing,<sup>4</sup> production techniques and factor usage,<sup>5</sup> and investment decisions.<sup>6</sup>

Controls on tenure clearly affect the discretion that the decision maker has and thus, by implication, differences in tenure-affecting factors are likely to elicit differences in decision making and court performance. While the focus of this dissertation is analytically on the judge, attention is also given to actors affecting the tenure of prosecutors and defense counselors, for the sake of a more complete depiction of the court system.

#### A. The Judge

##### (1) Function

The judge's role in the processing of criminal cases is significant, particularly for those cases which come to trial.<sup>7</sup> The judge controls proceedings of the trial, determines what information may be introduced into evidence, oversees the conduct of the defense counsel and prosecution, and if the case is a court trial, he renders a verdict. Because of his impact on case processing, considerable attention will be

devoted to examining how and for what period an individual may serve as a judge.

(2) Tenure

(a) Selection Process

There are presently five different methods by which state judges are selected. Most methods can be separated into either appointment or electoral processes, but such a division fails to describe the differences existing between the five methods adequately. The methods are:

- 1) Gubernatorial appointment--selection is a direct appointment by the state governor, based upon the criteria set by the state constitution or statute.
- 2) Legislative election--selection is made by the state legislature based upon given criteria.
- 3) Nonpartisan election--judges are selected in elections which formally exclude political parties from participation.
- 4) Partisan election--candidates for judicial position run with party affiliation, the process follows typical electoral procedure, including party primaries.
- 5) The "Missouri" plan--a selection process generally involving three separate steps: (1) a slate of candidates is chosen by a nominating committee appointed by the governor; (2) the governor selects a judge from this panel of nominations, the judge serves for one term; and (3) then the voters review the appointment by means of a referendum, in which the judge is

reelected or removed according to how the electorate regards his record.<sup>8</sup>

(b) Term

In general, the term of office for state judges, even at the general jurisdictional level, is based upon the belief that such tenure promotes judicial independence and security in the office holder, and frees him from the responsibility of having to campaign for office. Such a belief is not held to the same degree throughout all states, as the range of term length varies from four years to life. Maintenance of office depends not only upon the selection method, but also upon the judge's "good behavior".<sup>9</sup>

(c) Removal Methods

There are a number of means by which a state judge may be removed for cause. The most widely known of these is the process of impeachment, which is a means available in nearly all fifty states. Another method is called address, in which a judge may be forced to resign, or be removed by the governor, if the legislature votes to remove by a two-thirds majority when cause is shown. A third method is known as recall. This method is currently available in six states and requires that a certified petition be filed charging the judge with misconduct. The judge's conduct is then put before the electorate in a referendum; if the judge fails to receive a majority of the votes cast, he is removed from office.

Some experts in judicial administration feel that these means are cumbersome and do not work well. These individuals prefer administrative methods to deal with judicial malfeasance or misfeasance, such as described below.<sup>10</sup>

In a number of states there exist judicial qualifications commissions. These bodies are often made up of high court judges or a mixture of judges from different levels, as well as lawyers and some laymen. Such commissions provide an administrative method, with procedural due process, by which judicial behavior may be monitored. The methods employed by these bodies vary across states, but the objective is to make the evaluation of judicial conduct an easier task than through impeachment proceedings.<sup>11</sup> (For the procedures followed by each state, see Table II-2).

## B. The Prosecutor

### (1) Function

The prosecutor, like the judge, plays a significant role in the conduct of trials. Yet his duties extend to a wider range of activities. The prosecutor determines when there exists sufficient evidence to charge an individual with a crime and when criminal proceedings against such individuals will be instituted. Moreover, his decisions extend to the level of charge filed (e.g., felony or misdemeanor) and what penalty is requested if a conviction is obtained.

Table II-2  
Control Mechanisms Facing  
Original Jurisdiction Judges

<u>State</u>	<u>Selection Process*</u>	<u>Term Length</u>	<u>Removal Methods**</u>
Alabama	P	6	I
Alaska	M	6	I,J
Arizona	N	4	I,J,R
Arkansas	P	4	I,A
California	N	6	I,J,R
Colorado	A	2+6 <sup>1</sup>	I,J
Connecticut	A	8	I,A
Delaware	A	12	I,J
Florida	N	6	I,J
Georgia	P	4,8 <sup>2</sup>	I
Hawaii	A	10	J
Idaho	N	4	I,J
Illinois	N	6	I,J
Indiana	P	6	I
Iowa	M	6	I,J
Kansas	P	4	I
Kentucky	N	6	I,A
Louisiana	P	6,12 <sup>2</sup>	I,J
Maine	A	7	I,A
Maryland	A <sup>3</sup>	15	I,A,J
Massachusetts	A	Life	I,A
Michigan	N	6,8	I,A,J
Minnesota	N	6	I,J
Mississippi	P	4	I,A
Missouri	P,M <sup>4</sup>	6	J
Montana	P	6	I,J
Nebraska	M	6	I,J
Nevada	P	4	I,A,R
New Hampshire	A	Life	I,A
New Jersey	A	57	I
New Mexico	P	6	I,J
New York	P	14	I,A
North Carolina	P	8	J
North Dakota	N	6	I,R
Ohio	p <sup>5</sup>	6	I,A,R
Oklahoma	N	4	I,J
Oregon	P	6	J
Pennsylvania	p <sup>6</sup>	10	I,J
Rhode Island	A	Life	I,A
South Carolina	G	4	I,A
South Dakota	N	4	I,A
Tennessee	P	8	I,A,J

Table II-2 I (contd.)

<u>State</u>	<u>Selection Process*</u>	<u>Term Length</u>	<u>Removal Methods**</u>
Texas	P	4	I,A,J
Utah	M	6	I,A,J
Vermont	G	6	I
Virginia	G	8	I,A,J
Washington	N	4	I,A
West Virginia	P	8	I,A
Wisconsin	N	6	A,R
Wyoming	M	6	I,J

\*The letters denote the selection process followed in that state. P indicates partisan election; M indicates the Missouri Plan; N indicates that a nonpartisan election system; A indicates appointment, usually by the governor; G indicates election of judges by the General Assembly.

\*\*These letters indicate the types of removal methods available in that state. I denotes impeachment; A indicates legislative address; R denotes removal by a recall election; and J indicates that the state has some form of judicial inquiry board.

<sup>1</sup>In Colorado, the judge is appointed for a two year term, after which his performance is submitted to the voters for retention or removal. If retained, he then serves a six year term.

<sup>2</sup>In Georgia and Louisiana the term lengths are longer for judges serving in the Atlanta circuit and the Orleans parish respectively.

<sup>3</sup>In Maryland the judge is appointed and after one year's service are elected to serve a term of 15 years.

<sup>4</sup>In Missouri, some districts use partisan elections, while in four districts the Missouri Plan is followed.

<sup>5</sup>In Ohio, judicial candidates run in partisan primaries and those winning the primaries are then elected in a nonpartisan general election.

<sup>6</sup>In Pennsylvania, following the initial partisan election, the judge is then subject to nonpartisan retention elections thereafter.

<sup>7</sup>In New Jersey, after the first two appointments to a five year term, the judge's third appointment is then for life.

## Table II-2 I (contd.)

SOURCES: United States, Department of Justice, National Criminal Justice Information and Statistics Service, National Survey of Court Organization (Washington, D.C.: Government Printing Office, 1973); and Fannie J. Klein, Federal and State Court Systems - A Guide (Cambridge, Mass.: Ballinger Publishing Co., 1977).

## 2. Tenure

### (a) Selection Process

The prosecuting attorney is most often an elected official, selected within a given county or judicial district. The prosecutorial duties are carried out by this individual with the aid of a number of appointed assistant prosecutors. Depending upon the state and district, this office varies greatly in salary and prestige. In large urban areas, the prosecuting attorney is a full time officer, highly paid and assisted by a large staff of deputy prosecutors. At the other end of the scale are small, usually rural districts in which the prosecuting attorney's office is a part time job and the salary is quite low. The prosecuting attorney in these districts is allowed to practice law privately so as to supplement his income.

In four states, the prosecuting attorney's job is an appointive office, serving at the pleasure of either the state attorney general or a district executive body. In all other states the office is elective, normally determined in partisan elections, and is often viewed as a political stepping stone for the individual office holder.

### (b) Term

Tenure for elected officers ranges from two to eight years, but in the majority of states the term is four years. Normally the only prerequisite for holding the office is that the holder have been a practicing attorney within the state for a specified period of time, usually three to five years.

### (c) Removal Methods

Removal of prosecuting attorneys in elective states may be accomplished by either failure to reelect or by provisions for recall or impeachment within the state.<sup>12</sup>

## C. Defense Counsel

### Function and Tenure

A basic right of an individual accused of a crime, guaranteed by the Sixth Amendment of the U.S. Constitution, is the right to counsel.<sup>13</sup> States have established systems by which all defendants may have these rights assured. These systems consist of one of two methods; one method is the use of assigned counsel when the court has deemed that the defendant is financially unable to retain his own counsel. The other method is the provision, by the state and/or locality, of an organization of public defenders whose job is the defense of these indigent individuals. Some localities also have legal aid societies, organized privately (usually by the local bar association), performing similar functions. The organization of these systems are not well defined, rather they have grown out of the necessities and conditions present within the state and the particular local region.<sup>14</sup>

## III. Concluding Remarks

This chapter has served to introduce the basic organizational framework of state general jurisdictional courts, which is the focus of this dissertation. Information is presented so as to place this court

within the criminal justice system. Further, this chapter introduces one of the dissertation's major assertions: the importance of tenure to decision makers within the trial court. The examination of the property rights literature, dealing with other public agencies, has shown that tenure-affecting factors condition the choices of decision makers. It is unlikely, as will be asserted and tested, that the criminal courts, and their judges, will operate differently. Some additional information about the state court systems examined in this study (and which provide the statistical sample for the empirical work) may be found in Appendix I.

## REFERENCES

<sup>1</sup>An excellent reference for the structure of state court systems is National Criminal Justice Information and Statistics Service, U.S. Department of Justice, National Survey of Court Organization (Washington: U.S. Government Printing Office, 1973).

<sup>2</sup>There is a considerable literature in this area. Several of these works deal directly with the relationship between property rights structure and managerial tenure; see L. DeAlessi, "Managerial Tenure Under Private and Government Ownership in the Electric Power Industry," Journal of Political Economy 82 (May 1974), 645-53; K. W. Clarkson, "Some Implications of Property Rights in Hospital Management," Journal of Law and Economics 15 (October 1972), 363-84; W. M. Crain and A. Zardkoohi, "A Test of the Property Rights Theory of the Firm," Journal of Law and Economics 21 (October, 1978), 395-408; S. Peltzman, "Pricing in Public and Private Enterprises: Electric Utilities in the United States," Journal of Law and Economics 14 (April 1971), 109-47.

<sup>3</sup>DeAlessi, "Managerial Tenure . . .", p. 646.

<sup>4</sup>Peltzman, "Pricing . . . ."

<sup>5</sup>Clarkson, "Some Implications . . . ."

<sup>6</sup>DeAlessi, "Managerial Tenure . . . ."

<sup>7</sup>The judge's duties in those cases which do not come to trial (i.e., the defendant enters a plea of guilty) fall into two areas: (i) determining whether the plea has been entered voluntarily and (ii) determining sentence.

<sup>8</sup>For a discussion of these selection processes see Henry R. Glick and Kenneth N. Vines, State Court Systems (Englewood Cliffs, N.J.: Prentice-Hall, 1973), esp. pp. 36-47.

<sup>9</sup>Ibid., pp. 37-38.

<sup>10</sup>A discussion about the various removal methods can be found in Fanny J. Klein, Federal and State Court Systems--A Guide (Cambridge, Mass.: Ballinger Publishing Co., 1977), pp. 29-44, Table 2-3.

<sup>11</sup>Ibid., pp. 27-28.

<sup>12</sup>More information relevant to this area may be found in National Criminal Justice Information and Statistics Service, U.S. Department of

Justice, State and Local Prosecution and Civil Attorney Systems  
(Washington: U.S. Government Printing Office, 1978).

<sup>13</sup>This right is justified through the belief that the operation of the criminal justice system is complex and highly technical in nature and that the rights to which the individual is entitled may be denied if he fails to understand the complexity of the system's operation. The system of justice in the U.S. is an adversary system, one which requires that the evidence in support of the accused individual's contentions be advocated fully from the time the individual is charged through the completion of a trial, if one results. The Supreme Court has held that this right should not be denied due to the lack of financial resources of the accused to secure counsel. See *Gideon v. Wainwright* 372 U.S. 335, 83 S. Ct. 792 (1963); *in re Gault* 387 U.S. 1, 87 S. Ct. 1428 (1967); and *Argersinger v. Hamlin* 407 U.S. 25, 925 S. Ct. 2006 (1972).

<sup>14</sup>More information concerning public defender organizations may be found in Dalin H. Oaks, *A Criminal Justice System and the Indigent* (Chicago: University of Chicago Press, 1968); Robert Herman et al., *Counsel for the Poor: Criminal Defense in America* (Lexington, Mass.: Lexington Books, 1977); and Gregg Barak, *In Defense of Whom: A Critique of Criminal Justice Reform* (Cincinnati: Anderson Publishing Co., 1980).

## CHAPTER III

### Property Rights and the Economic Analysis of Courts

#### Introduction

Much work has been done by economists to shed light on the legal process and in particular, on the operation of the courts. However, these examinations of the courts have largely been concerned with the market characteristics of the courts and have failed to account for the (possible) differences arising from the property rights structures. This dissertation contends that failure to consider these differences results in an incomplete picture of the courts and limits the effectiveness of economic analysis of the judicial process. To fill this gap, this chapter employs the theory of property rights to examine economic analyses of the courts.

The previous chapter, in discussing the institutional structure of the courts, introduced some implications of the economics of property rights, especially as they pertain to the relationship between decision making and a decision maker's tenure. This chapter more formally examines the economics of property rights as related to public and, as a counterpoint, private organizational forms. The property rights literature yields important insights about decision making which have been ignored in the economic analyses of the courts, and these insights are used to develop the model constructed and tested in this study.

## I. Property Rights and Organizations

This section examines different forms of organization, or property rights structures because the manner in which property rights are defined affects decision making. Private property rights may be defined as the "right to use goods (or to transfer that right) in any way that the owner wishes so long as the physical attributes or uses of all other people's private property is unaffected".<sup>1</sup> These rights may be possessed singly or shared with others, through joint ownership. The latter includes sharing of ownership in both private organizational arrangements, such as a partnership or corporations, as well as public organizational arrangements, including government. The differences between public and private ownership arise not because of (possible) different objectives, for these may be the same, but rather, as Alchian states, because "the costs-rewards system impinging on the employees and the 'owners' of the organizations are different".<sup>2</sup>

The differences between the two organizational forms can be illustrated by considering two cases. In one case let the decision maker also be the owner of the organization. If he makes inefficient management decisions and his company goes bankrupt, the owner-manager loses his company (his investment) and his job. Alternatively suppose the same individual is a manager in local government and he makes the same inefficient choices. If so, he would probably lose his job, but has no investment to lose, other than the taxes he has paid. In other words, the costs to him are lower in the latter case. By implication, decisions in courts are made by public managers who do not have to bear the (full) costs of those decisions.

Another difference exists for public ownership. This is due to the (lack of) incentive that individuals, other than the manager, have to monitor the actions of the public organization. Since an individual cannot transfer his share of ownership in the public organization, his inducement to monitor the organization's activities varies in proportion to the number of individuals who are owners. The more numerous are the owners, the smaller is a person's share of the costs (and risks) of the organization. Hence he has little reason to act to determine whether the organization performs efficiently.

These considerations suggest two major factors differentiating public and private organizational forms: (i) the inability to transfer ownership, and (ii) the lack of a residual claimant. This means that the property rights for the decision makers in public organizations are attenuated (c.f. the owner-manager in the classical firm).<sup>3</sup> All decision makers can be considered to be utility maximizers, and in the classical firm, utility maximization can be equated to wealth maximization. However, in public organizations, with an attenuated property rights structure, decision makers cannot be wealth maximizers. Thus, utility maximization must take other form in public organizations, and this should include court systems.

Considerable research has been carried out on the effects of attenuated property rights structures.<sup>4</sup> A part of these considerations is the work relating to the effects of tenure on decision making discussed in Chapter II. Additionally, two notable contributions to this area will be discussed. The first is by William Niskanen and is

considered to be the seminal work on government agencies and the behavior of bureaucrats.<sup>5</sup> A work more closely related to the activities of the criminal courts is the second paper considered, that by Cotton M. Lindsay.<sup>6</sup>

#### The Niskanen Model

The model has developed by Niskanen examines utility maximizing behavior of agency decision makers, bureaucrats, in an attenuated property rights setting. He holds that a bureaucrat has a utility function composed of, among others, these variables: salary, perquisites of office, power, prestige, public regulation, patronage, output of the bureau, ease of making changes and ease of bureau management.<sup>7</sup> These, save for the last two, Niskanen holds are (positive monotonic) functions of the bureau budget. Thus, the bureaucrat attempts to maximize the size of his budget, which increases those factors which are arguments in his utility function.

The actions of the bureaucrat to maximize his budget, result in an output level which, depending on the degree to which he is successful, is greater than would be chosen either by either legislative body overseeing the bureau's activity or by society. The bureau's ability to extract larger than optimal budgets from the legislature grow from (1) its monopoly position as sole supplier of its output and (2) the existence of an information gap between the legislature and the bureau.

The bureau's monopoly positions grows out of the way its budget is determined. The bargaining for the budget between the legislature and

the bureau is done on an absolute basis rather on a price per unit of output. That is, the budget is determined in an all-or-nothing fashion. Given this process, the bureaucrat who has better information about the legislature's demand for the output; can come closer to extracting all of the consumer surplus from the legislature (or more accurately, the consumer surplus obtained from the level of the bureau's output which would be selected by the legislature were the costs of production known to the legislators).

The bureaucrat's ability to extract the whole of the consumer surplus area is enhanced by the presence of an information gap. This gap exists because (i) information about factor prices and production costs are available to legislators only at a high cost; (ii) the benefit to an individual legislator from obtaining this information is small in comparison to possible benefits he may obtain by investing the same amount of resources elsewhere to enhance his chances of being reelected.

What does this imply about the behavior of the bureaucrat? The bureaucrat will obtain as much information as possible about the demand by legislators for the output supplied by the bureau, to exploit the all-or-nothing bargaining power. Any activity that tends to expand the scope of the bureau will be undertaken, both to expand the size of the bureau, but also to afford more support for the bureau based upon the desires of individual legislators. Expansion of size and scope also makes the cost of obtaining information about the bureau's operations higher for those outside the bureau.

In the Niskanen Model, any successful effort by the bureaucrat to expand the bureau will raise his utility. The bureau's monitors (legislators) have little motivation to check the expansion of the bureau since such an activity provides little gain. Further, due to the monopolistic position of the bureau, the bargaining strength of any legislator will be inferior to that possessed by the bureaucrat.

#### The Lindsay Model

Another theory concerning the behavior of government enterprise has been formulated by Cotton M. Lindsay.<sup>8</sup> Lindsay criticizes Niskanen's postulation that budget size is the sole objective of an agency's decision maker. He holds that such an approach contains little information about the behavior of an agency's decision maker. Lindsay states that:

To say the bureaucrats have a taste for bureaus (and the bureau budget), therefore tells us no more about their behavior as managers than does the assertion of any other task. Even more critical to this approach, however, is the inconsistency of imputing to management the objective of maximizing their budgets when one of the most important functions of management seemingly is to husband resources of their organizations.<sup>9</sup>

Lindsay questions why a legislature would reward increasing expenditures. "Budget maximization 'works' in explanations of bureaucratic behavior, therefore, only if the informational constraints operating on both sides of the market cause increased spending by managers to be perceived as increased manager productivity ..."<sup>10</sup> Lindsay holds that such a result is unlikely. He asserts that a legislature will reward what it regards as increases in productivity.

The stockholders of private corporations may do this by evaluating profitability, but public organizations typically do not possess a similar means of evaluation. Legislative monitors must evaluate a manager's performance by other measurable factors. The means for evaluating the value of the bureau's output are rarely comparable to a firm's profits. Yet, these are the factors that are used to determine agency productivity. Thus, as Lindsay says,

Bureau managers are therefore influenced to divert resources from the production of attributes which will not be monitored to those which will. In so doing they will increase the perceived value of the bureau's output.\*\*\* The theory presented thus suggests that government agencies will devote no resources to the production of invisible output.<sup>11</sup>

Hence, a legislature will not fund any activity that it cannot meter. This also implies that the combination of product attributes produced by the agency will be different from that which would be chosen were all attributes equally monitorable. That is, there will be an underinvestment in invisible attributes, leading to, ceteris paribus, lower average costs for output produced by government agency when compared to a private firm producing in the same market.<sup>12</sup>

In general, one may infer from Lindsay's theory that agency managers will do things which are rewarded by their monitors.<sup>13</sup> To assert this alone is, however, obvious and yields no testable implications about a manager's behavior. But analyzing how managers attempt to obtain rewards through the output choices they make does have empirical content, as Lindsay's tests concerning Veterans' Administration hospitals tend to bear out.

## Conclusions

This section has concentrated on the effects that different organizational forms have on decision making. This examination began with a discussion of the assignment of property rights and the impact of this assignment on the cost-rewards system of employees and owners. From the manner in which property rights are assigned, particularly the claim on the residual return and the ability to transfer ownership in the organization, one may deduce the type of behavior likely to result from different types of organization. For instance the cost of and/or return from a choice to the decision maker will be higher if he also owns (has property rights to) the organization; that is, if he has to bear all of the costs of his decision. In public organizations, where ownership rights are (essentially) nontransferable, gains to owners resulting from monitoring the manager's decisions are small due to wide dispersal of ownership. Lacking the ability to transfer his rights, the owner has little incentive to incur the costs of informing himself so as to determine if the decision maker is making efficient choices.

These implications have been extended in research examining government enterprise. In two notable works in this area both Niskanen and Lindsay have established conclusions about the behavior of decision makers in governmental agencies. Niskanen views bureaucrats as having sufficient (and even monopoly) power to act to maximize their own utility, resulting in budget and output levels which are greater than the Pareto optimal levels. The choices made by the bureaucrat are the result of the utility function which Niskanen postulates; the arguments in the

utility function are positively related to the size of the bureau's budget. One must conclude, therefore, that bureau managers having a utility function unlike that postulated by Niskanen will choose other output and budget levels.

Lindsay, on the other hand, considers bureaucrats to act in a manner regarded as increased productivity. This implies that they will produce that form of output most likely to reap rewards. In doing this, certain (invisible) product attributes may be sacrificed to improve or to increase the level of the attributes of the output which are (specifically) monitorable. Hence, Lindsay concludes that product attributes will be nonoptimal and that the average cost of this output will be less than the average cost of the output of a private enterprise producing in the same market. Products with attributes which are easily metered will be substituted for the production of output with nonmonitorable attributes.

For the criminal courts, Lindsay's model implies that the output of the court output will be characterized by the presence of easily monitored attributes and little or none of the "invisible" attributes. This generally connotes the production of quantitative aspects to the detriment of qualitative aspects, since the former are easily evaluated. Further, as argued in Chapter IV, if courts are monitored by different groups, each court's monitors are unlikely to possess the same monitoring capabilities. Hence a different set of incentives will be present for the decision makers in the different court systems.

## II. Decision Making in the Criminal Justice System

The second section of this chapter considers economic analyses of decision making in the courts. An implicit characterization of the judicial process as a market is made throughout these works: the product is case disposition and the traders are the two sides in the dispute—prosecution and defense. Each side is portrayed as attempting to maximize its utility, and its ability to obtain a more desired outcome depends upon the bargaining strength it possesses. When the area of common interest is revealed through negotiation, then a bargain is struck, that is, the case is settled by a plea of guilty. If there is no overlap of these interests, then a trial is the result.

The seminal work in this area is a paper by William M. Landes.<sup>14</sup> His analysis is based upon utility maximization by prosecution and defense, each operating under a resource constraint. The model describes the bargaining process involved in litigation and the decisions made by the prosecution and the accused. Landes expands this model to include the bail system and the effect it has on the bargaining process. The Landes model shows that "the decision to settle or to go to trial depends on the probability of conviction by trial, the severity of the crime, the availability of the prosecutor's and defendant's resources, trial versus settlement costs and attitudes toward risk".<sup>15</sup>

Since much of the literature to be considered below is derivative of Landes' work, we shall consider his model in some detail. (For convenience we retain the notation used by Landes). The model makes several assumptions.

- A) There are  $n$  defendants.
- B) Probability of conviction by trial of the  $i^{\text{th}}$  defendant (where  $i=1, \dots, n$ ) is related to the respective input levels of the prosecutor and defendant,  $R^*_{ij}$  and  $R_{ij}$ ; or

$$(1) \quad P^*_{ij} = P^*_{ij}(R^*_{ij}, R_{ij}, Z_{ij}), \text{ and}$$

$$P_{ij} = P_{ij}(R^*_{ij}, R_{ij}, Z_{ij})$$

where  $P^*_{ij}$  and  $P_{ij}$  are the prosecutor's and defendant's (subjective) estimates of conviction by trial, respectively.  $Z_{ij}$  may be considered those factors exogenous to the level of resources output. Increases in  $R^*_{ij}$ , raise both  $P^*_{ij}$  and  $P_{ij}$ , whereas increases in  $R_{ij}$  decrease both  $P^*_{ij}$  and  $P_{ij}$ . In terms of (1), the partial derivatives are

$$(2) \quad \frac{\delta P^*_{ij}}{\delta R^*_{ij}} \geq 0, \quad \frac{\delta P^*_{ij}}{\delta R_{ij}} \leq 0 \text{ and } \frac{\delta P_{ij}}{\delta R^*_{ij}} \geq 0, \quad \frac{\delta P_{ij}}{\delta R_{ij}} \leq 0.$$

- C) A conviction by trial will result in a known sentence,  $S_{ij}$ , and is unrelated to resource input level.

Each side attempts to maximize its utility. The prosecutor maximizes the expression

$$(3) \quad E(C) = \sum_1^n P^*_{ij} S_{ij} + (B - \sum_1^n R_{ij})$$

where  $B$  is the prosecutor's total budget. The prosecutor, according to Landes, operates with a decision rule of maximization of convictions, weighted by sentence level. This is the prosecutor's objective function.

Is this a realistic objective function, given the attenuated property rights structure facing the prosecutor? Or do other considerations enter into the utility function of the prosecutor? As is noted below, Landes allows that such a construction may not be fully operative, as the incentive to go to trial for the prosecutor can differ. From (3), equilibrium conditions are where

$$(4) \quad \frac{\delta P_i^*}{\delta R_i^*} S_1 = \frac{\delta P_2^*}{\delta R_2^*} S_2 = \dots = \frac{\delta P_n^*}{\delta R_n^*} S_n .$$

Landes states that such a formulation allows the prosecutor the discretion as to who should be charged, at what level the charge should be, and how many resources should be devoted to each case.

Since the prosecutor operates under constrained resources, there is incentive for the prosecutor to attempt to avoid trial and obtain an early settlement. If the costs of settlement are less than or equal to the optimal resource outlay on the trial, the prosecutor would be willing to offer some reduction in sentence (less than  $S_i$ ) to obtain a guilty plea. Further, since (if trial costs are greater than the settlement costs) other resources are freed to devote to other cases the prosecutor is likely to offer an even further reduction in sentence. Landes expresses this in terms of the sentence offer,

$$(5) \quad S_{0j} = P_i^* S_i - \Delta S_j$$

where  $\Delta S_j$  is that level of sentence reduction just discussed. Landes does consider some alteration of the prosecutor's objective function by introducing the possibility that the prosecutor might take certain cases

to trial if a level of notoriety is attached to that case. Landes thus raises the question of other arguments entering into the objective function. This possibility is not pursued by Landes, and he assumes that  $S_{0i} > P^*iS_i$ . However, Landes does note later that if there are publicity gains for the prosecutor this would make a trial more likely.

The defendant also maximizes his utility. Landes expresses this as the choice the defendant makes between going to trial or not. For going to trial, the defendant's expected utility is

$$(6) \quad E(U) = PU(W_c) + (1-P)U(W_n)$$

$$\text{where } W_c = W - s \cdot S - rR$$

$$\text{and } W_n = W - r \cdot R,$$

$W$  is the defendant's pre-arrest wealth, with  $W_c$  and  $W_n$  denoting post-trial wealth levels,  $c$  being under conviction and  $n$  nonconviction.  $s$  is equivalent to the present value of the average pecuniary and nonpecuniary losses per unit of jail sentence,  $r$  the average price of  $R$ ;  $S$  and  $R$  having been previously defined. The utility function is assumed to be continuous and  $W_c$  is nonnegative. Thus the defendant chooses a level of  $R$  which maximizes  $E(u)$ .

From this it can be determined when the defendant will choose to settle. If  $rR$  are the defendant's cost of settlement then he will choose settlement when

$$(7) \quad U(W - s \cdot S_0 - r \cdot R) > E(u).$$

From these basic results and some more detailed considerations of the model, Landes obtains these major implications:

1. The likelihood of settlement is greater when

(a) the smaller the sentence if convicted by trial, (b) the greater the resource costs of a trial compared to a settlement, (c) the greater the defendant's aversion to risk, and (d) the greater the defendant's estimate of the probability of conviction by trial relative to the prosecutor's estimate.<sup>16</sup>

2. The defendant's resource investment relates to the seriousness of the crime of which he is accused and his wealth.
3. The cost of delay to the defendant largely depends upon whether he is able to make bail, this in turn influences the likelihood of a settlement.

The implications of the Landes model hinge on the assumptions on which it is based--specifically on the prosecutor's objective function. But as the implications of the economics of property rights show, the property rights structure facing a decision maker in a public organization (e.g., a prosecutor) can operate to enhance the decision maker's ability to make choices which may diverge from the achievement of the goals of the organization. So long as the choices made by the decision maker are regarded as productive, his monitors will reward such behavior. Thus the incentive structure facing the prosecutor largely determines his choices--when to settle (plea bargain) and when to go to trial. This is not crucial if the analysis focuses on the working of the market forces in the judicial process. However, a more general model for the judicial process would require the consideration of the effects of the property rights structure on the decision making in the courts.

The Landes model and its formulation, form the basis for several other papers considered below. Since most of the results derive from the basic Landes model, attention here is confined to their implications rather than reviewing the details of each model.<sup>17</sup>

The first considered is by William Rhodes.<sup>18</sup> Rhodes uses the Landes model as the basis for decision making, and extends the model in an attempt to discover the differences between individual decision making (the Landes model) and the relationship developed in the aggregate criminal justice system. The implications of the Rhodes model tend to underscore the findings of Landes. The primary theoretical findings of Rhodes are that (i) holding the cost of settlement constant, an increase in the cost of a trial (to the defendant) increases the number of cases prosecuted; (ii) an increase in prosecutions, *ceteris paribus*, will increase the number of guilty pleas and lower the number of trials; and (iii) an increase in the prosecutor's budget raises the ratio of guilty pleas to trials. Rhodes interprets plea bargaining as the means by which the market for trials is cleared. Differences in the use of plea bargains can thus explain, at least partially, the disparity of sentences observed across criminal courts.<sup>19</sup>

Two others have used the Landes model as the basis for specifying a plea bargaining model.<sup>20</sup> One, Judith Lachman, uses the calculations made by the defendant and the prosecutor (i.e., probable outcome, the anticipated utility of the outcome, and the concessions required to obtain settlement) to determine a "switching" function.<sup>21</sup> This function allows the litigant to obtain the point at which he should

choose a trial instead of a plea of guilty. The other, by Richard Adelstein, uses the Landes model in a similar vein.<sup>22</sup> For Adelstein, the optimization problem for a litigant encompasses not only probable outcome but also time, in the form of delay. Thus, the choice of trial or plea becomes a dynamic problem, and the contract zone (if it exists) changes over time. However, neither of these formulations is able to achieve a determinate solution since both models are based upon subjective estimates of the strength of each side's case, and hence bilateral monopoly situations.

Finally, Brian Forst and Kathleen B. Brosi derive a model of prosecutorial behavior from the Landes model.<sup>23</sup> Akin to Rhodes, Forst and Brosi formulate their model by using Landes' model as a single-period model for optimization of prosecutorial behavior. Their model is a multiperiod investment model, focusing on how repeat offenders are handled. The prosecutor decides in the initial period what his set of prosecutions will be, based upon the stream of outcomes for  $t$  periods given his initial choices. The prosecutor chooses to prosecute (in a particular fashion) those cases which optimize the utility obtainable through the choice of sentence and deterrence (deterrence being a function of the price of the offense, the sentence, and the criminal history of the  $i^{\text{th}}$  defendant). Forst and Brosi predict that such a formulation leads the prosecutor to focus his attention on those cases where the crime is serious, the evidence in the case is strong and/or the defendant has a long criminal history.

## Summary

The purpose of this chapter has been to consider the two bodies of literature which will form the basis of the model employed in this dissertation. The major conclusion derivable from the economics of property rights is that the structure of the property rights arrangement is a primary factor affecting the behavior of an organization's decision makers.

This is an area left unconsidered in the economic analyses of the courts. Throughout these papers it is assumed that the incentives facing the decision maker will lead to a socially optimal result. However, this result is only possible if the organization's property rights structure leads to these choices.

The focus of Landes (and the others) clearly was not intended to investigate this area and thus the positing of the incentive structure was not crucial. Rather, these papers consider other forces at work in the judicial process--market forces. It is similarly clear that other forces can work to affect decision making, not the least of which can result from the property rights structure facing these decision makers. It is thus possible for the institutional structure to lead to a significantly different set of incentives as compared to those of the Landes model, and that the Landes analysis may only be a special case of a more general model. The general model requires the inclusion of the property rights structure into its formulation. This, however, is not our aim; rather the interest here is on the effects of differing institutional structures on decision making in the criminal justice system.

## REFERENCES

<sup>1</sup>Armen A. Alchian, "Some Economics of Property Rights," in Alchian, Economic Forces at Work (Indianapolis: Liberty Press, 1977), pp. 131-132.

<sup>2</sup>Ibid., p. 136.

<sup>3</sup>There is a considerable literature in this area. The primary work is Armen A. Alchian and Harold Demsetz, "Production, Information Costs and Economic Organization," American Economic Review 62 (December, 1972), pp. 777-795.

<sup>4</sup>The seminal work in this area is William A. Niskanen, Bureaucracy and Representative Government (Chicago: Aldine, 1971); Other important works in this area include Gordon Tullock, The Politics of Bureaucracy (Washington, D.C.: Public Affairs Press, 1965); Anthony Downs, Inside Bureaucracy (Boston: Little, Brown and Co., 1967); J. L. Migue and G. Belanger, "Toward a General Theory of Managerial Discretion," Public Choice Vol. 17 (1974), pp. 27-45; and Cotton M. Lindsay, "A Theory of Government Enterprise", Journal of Political Economy Vol. 84 (1976), pp. 1061-1077.

<sup>5</sup>Niskanen, Bureaucracy.

<sup>6</sup>Lindsay, "A Theory of Government Enterprise."

<sup>7</sup>Niskanen, Bureaucracy, p. 38.

<sup>8</sup>Lindsay, "A Theory of Government Enterprise."

<sup>9</sup>Ibid., p. 1063.

<sup>10</sup>Ibid.

<sup>11</sup>Ibid., p. 1065, 1066.

<sup>12</sup>Lindsay holds that lower costs will be present because less is being produced as compared to a proprietary firm. That is, only products with visible attributes are produced (and none of the invisible attributes), which lowers the total, and average, cost of producing the product.

<sup>13</sup>For a similar discussion, see Kenneth W. Clarkson, "Managerial Behavior in Nonproprietary Organizations," in The Economics of Nonproprietary Organizations, Kenneth W. Clarkson and Donald L. Martin, eds., (Greenwich, Conn.: JAI Press, 1980), esp. p. 14.

<sup>14</sup>William M. Landes, "An Economic Analysis of the Courts," Journal of Law and Economics Vol. 14 (1971), 61-107. A less formal version of this model is also found in Gordon Tullock, The Logic of the Law (New York: Basic Books, 1971), ch. 9; Tullock does not specify, however, the prosecutor's objective function so rigidly.

<sup>15</sup>Ibid., p. 61.

<sup>16</sup>Ibid., p. 99.

<sup>17</sup>Attention is confined to the theoretical findings of all of these papers despite the fact that most also do empirical tests of the hypotheses they develop.

<sup>18</sup>William M. Rhodes, "The Economics of Criminal Courts: A Theoretical and Empirical Investigation," Journal of Legal Studies 5 (1976), pp. 311-340.

<sup>19</sup>Rhodes discussion states that his work takes into account the others (e.g., the judge) effect on the process; however, this action or effect is not made explicitly clear in his analysis.

<sup>20</sup>See Judith A. Lachman, An Economic Model of Plea Bargaining in the Criminal Court System (unpublished Ph.D. dissertation, Michigan State University, 1975), and Richard P. Adelstein, "The Plea Bargain in Theory: A Behavioral Model of the Negotiated Guilty Plea", Southern Economic Journal 44 (January, 1978), pp. 488-503.

<sup>21</sup>Lachman, An Economic Model.

<sup>22</sup>Adelstein, "The Plea Bargain."

<sup>23</sup>Brian Forst and Kathleen B. Brosi, "A Theoretical and Empirical Analysis of the Prosecutor," Journal of Legal Studies 6 (1977), pp. 177-191.

## CHAPTER IV

### A Property Rights Model of the Criminal Courts

#### Introduction

This chapter explores decision making in the criminal justice system based upon the analysis of the economics of property rights and the implications of this literature on the economic analyses of the courts. Decision making in the criminal justice system should be little different from that carried on in any organization and, in particular, should resemble decision making in other government enterprises. The intent of this analysis, and the empirical work that follows, is to investigate to what degree the property rights structures affect the decisions made by these individuals and thus the output of the courts.

In much of the (noneconomic) research in this area, emphasis has been placed upon the ability of prosecutors and judges to exercise great amounts of discretion in the decisions they make--decisions which affect some individuals directly and almost everyone indirectly.<sup>1</sup> Considerable arguments have been developed as to the need for this discretion or, alternatively, that this discretionary power may be misused. This debate is not addressed here; rather, using the implications developed earlier one should be able to predict that the utility maximizing behavior by the primary actors will, the greater the discretion that these decision makers have, lead to decisions that reflect the desires of those making the choices. Thus different control

mechanisms, as part of the property rights structure, will lead to different sets of choices in similar circumstances, so long as those control mechanisms have some impact on decision makers.

Based upon the examination of the property rights literature and in particular the Lindsay model,<sup>2</sup> government decision makers would be expected to make choices which are rewarded.<sup>3</sup> This statement would be rather vacuous if the implication did not also indicate the choices decision makers are likely to make: the enterprise's output should more than proportionately reflect the aspects of the product that are easily monitored. Most often, output attributes are such that quantitative aspects are relatively easy to monitor, while qualitative characteristics are difficult to measure. Hence, evaluations should be based largely on the easy to monitor attributes, the quantitative measures.

The criminal justice system provides just such a situation: it is simple to count the cases disposed, but to learn whether justice was obtained is a difficult matter. Thus court system monitors (due to the lower cost to them of obtaining quantitative information) will evaluate a court's performance primarily on quantitative aspects.<sup>4</sup> This form of monitoring should, moreover, not be peculiar to any one property rights structure; there should no differences among property rights structures in the evaluation of the quantitative aspects of output.

This assertion does not mean that there is no qualitative monitoring. The qualitative evaluation that does occur will be based on those measures that are easiest to get. Qualitative monitoring of courts is improved by a set of fixed operational rules (procedural due process)

and the appellate process. Information about the quality of the judicial process, however, is quite difficult to interpret and requires a significant investment. The level of the investment is affected by the cost of this monitoring to those making the evaluation. The more numerous are those doing the monitoring, the lower is their incentive to invest in such information, and thus, when different (sized) groups monitor court decision makers, we should expect different results, despite the performance of similar, if not identical tastes by the decision makers across property rights structures.<sup>5</sup>

Thus, for the criminal justice system, in this perspective, it is not appropriate to discuss the levels of discretion possessed by decision makers. They are simply responding to the incentives that face them. Those property rights structures that monitor certain qualitative aspects more closely will find those attributes produced relatively more heavily than other structures which do not monitor such areas.<sup>6</sup> (It should be noted that one cannot directly observe the qualitative aspects of production, since they deal with the abstract concept of justice. There are, however, measures which are regarded as carrying the implication of quality. These measures represented are the qualitative proxies used in the empirical work conducted in this dissertation.)

The criminal court structure provides quite a different organizational scheme as compared to the typically considered government bureau. One of the most striking contrasts of the criminal justice system is the fact that it is not simply one organization. By design it is the coming together of three distinct organizations--the defense attorney

(either private or publicly retained) and defendant, the prosecution, and the court (represented by the judge). It is out of the interaction of these distinct groups that, in theory, justice is supposed to emerge. Obviously, each group has its own set of ends that it is designed to attain, and it is here that the concepts of the adversarial relationship between defense and prosecution fit.

Much concern and attention has been focused on the current state of the interaction between these three interest groups. It has been alleged that for a variety of reasons, the adversary system of justice no longer operates properly, or as it was designed. The bulk of criminal cases are now settled or decided not by trial but rather by a plea of guilty by the defendant, and the defendant typically receives some consideration, usually in the form of a promise of reduced sentence or conviction on a lesser charge. Such behavior is thought to be conducted more for the benefit of the actors in the system (judge, prosecutor and defense counsel) than for the pursuit of justice and the resolution of the charges against the defendant.<sup>7</sup> The argument we make is that the decisions made by these actors are a product of the property rights structure, not a breakdown of the criminal justice system. From this perspective, plea bargaining should not be a recent phenomenon.<sup>8</sup>

The focus for this analysis is the judge, since he more than either the prosecutor or defense attorney, represents the court system itself. Both the prosecutor and defense counsel are considered briefly, but they, as the work of Landes and others show, strongly react to market forces. There are other, nonmarket forces to which both respond, but as is

argued, since these are quite close to the behavior of the judge, the court can be thought to be represented by the judge's decision making behavior in response to the control mechanisms.<sup>9</sup>

Each of the three actors in the context of this analysis share a common end--what can be called "continuing tenure". This can encompass a range of possibilities for the actor: higher salary, promotions, more responsibility, but at a base level implies performance that will maintain the individual in the position that he currently holds. Each actor will be considered, the type of evaluation he faces characterized, and the incentives resulting from this means of monitoring his performance examined. These individual analyses allow the construction of the implications for the interactions for all three--one which it is argued is well represented by the judge's motivations; the judge is used as a metaphor for the court itself.

#### I. The Prosecutor

The prosecutor's function is to initiate and carry through the charging and trying of those individuals who enter the criminal justice system. The prosecutor has three different means available by which he may dispose of cases once they have reached him. He can choose to (i) drop the case and charges against the accused party; (ii) negotiate with the accused and his counsel, attempting to obtain a plea of guilty (this can encompass bargaining with the accused, including the offer of lowered charges, recommendation of suspended sentences or leniency, in short, plea bargaining); or (iii) take the case to trial, knowing that the

probability of conviction is always less than one. Further, the prosecutor operates within a limited budget, which he devotes to the areas described to obtain his objective, continuing tenure.

The type of behavior one should expect will depend upon the manner in which evaluation takes place--what measure is used to evaluate the prosecutor's competence. Based upon the implications of this analysis, one would expect that any evaluation of the prosecutor's performance would be based upon consideration of largely aggregate measurements of activity. For instance, the objective of man-years of punishment (the objective function in Landes' analysis) is a gross statistic, composed of the results from a given period of prosecutorial activity. There is no one, save for the defendant, with sufficient incentive to monitor the prosecutor's behavior in each individual case. Those who must monitor the prosecutor's activities are left to determine some easily obtainable, usually quantitative, performance measure.

If, as the prosecutor is assumed to do in Landes, performance is evaluated on the basis of sentence-weighted convictions, then the output obtained is socially optimal.<sup>10</sup> If, however, some other criterion is used, say (unweighted) convictions as the performance measure, then the incentive for the prosecutor is entirely different and resource usage is entirely different. In either system of evaluation, the ability to turn over cases is at a premium. The prosecutor is motivated to move resources into plea bargaining, if, ceteris paribus, trial dispositions consume more resources than do dispositions by guilty plea. More pleas for a given level of resources necessitates that some price must be paid

by the prosecutor, and here it is likely to be in the form of greater sentence leniency and greater likelihood of error.<sup>11</sup> Evaluation based strictly upon movement of caseload will result in an inefficient, and thus nonoptimal, use of the prosecutor's resources.

Another factor of evaluation, in addition to case turnover, is the impression that the prosecutor's actions are efficient. This impression generally has to be formed in the minds of voters. But the voter has little incentive to monitor the prosecutor's activities closely, as the likelihood that any individual voter being directly affected by the prosecutor's actions is extremely low. Hence, the prosecutor has an incentive to make decisions which is read by voters as being characteristic of efficient performance. The message must be widely disseminated, thus his choices should be in an area which are reported by the mass media. Since negotiated settlements are usually conducted with little notice, the incentive for the prosecutor takes the form of trials, particularly those which elicit broad public attention. For some subset of the total caseload, the prosecutor may obtain (electoral) benefit from having this subset, particularly the convictions, publicized.<sup>12</sup> This subset receives a greater level of resources than they would otherwise obtain, due to the benefit the prosecutor believes accrues from this added investment. The outcome of the remaining cases, due to the loss of resources available, suffers. In the aggregate, these remaining cases would be composed of a greater number of dismissals and greater dependence on plea bargaining. The reduction of resources for the plea bargained cases is apt to bring about a loss of bargaining strength on

the part of the prosecutor, implying that sentences received are likely to be shorter. In general, one should see the prosecutor allocating resources in a fashion most likely to afford him reelection.

Hence, the nature of evaluation process facing the prosecutor can affect his decision making. Such an arrangement as is discussed would lead to a preponderance of cases settled by plea bargaining with a few, exceptional cases taken to trial to promote the impression of prosecutorial efficiency in the minds of voters.<sup>13</sup>

## II. The Defense Counsel

The defense counsel's function is to represent those individuals accused of a criminal violation of the law. Representation takes one of two basic forms: private counsel hired and paid for by the accused party, or an appointed attorney. The latter may come from either a public defender organization or an attorney appointed by the court and paid for by the state.

Considerable attention has been focused on the differences between these two types of counsel. Much of the attention has been aimed at the public defender, who is alleged to short-change his client while attempting to move his caseload. It is true that the public defender faces a different set of incentives because he works for a government agency, while the private attorney works only for his client. In both situations, however, the counsel has a client with an incentive to monitor his attorney's behavior. If counsel in either case does something that the client considers ill-advised, then the client has the

option of discharging his counsel.<sup>14</sup> To formulate the counsel's behavior in any other fashion is equivalent to assuming that the individual accused of the crime is not rational.<sup>15</sup> On this basis, one should expect no essential differences between a privately retained counsel and a public defender.

Such a formulation requires the assumption of perfect information on the part of the accused. If this assumption is relaxed (i.e., an imperfect information situation), then room for variation in the quality of representation exists. Variation in the quality of representation depends upon (i) the accused's investment in information about the quality of counsel and (ii) differences in the incentive structures for public and private counsel. Characterization of the former requires considerable knowledge about the defendant's behavior, which would be difficult, at best, to obtain. In the absence of such information, it is assumed here that the accused has sufficient incentive to invest in the amount of information required to differentiate the quality of representation received. Given that assumption, the effects of differences in counsel's incentives are likely to be reduced; as is noted below, the differences can be blurred anyway, due to the nature of the fee structure facing the private defense counsel.

Analysis allows a prediction that public and private representatives can make choices that are different, so long as they do not affect the outcomes of cases. The differences arise from the means by which a public defender is evaluated. His performance is scrutinized by his client on a case by case basis, but also on an aggregate basis by his

superiors, to determine how well he has handled his assigned caseload. It is to his advantage to obtain dispositions quickly, in addition to choosing those options which are most beneficial to his client.

The private attorney, on the other hand, is assumed to be a wealth maximizer, and acts to attain as high an income level as possible. If cases are handled on a per-hour basis, the number of cases he handles is unimportant, only the return obtained on the cases. Length of processing time is important to the private attorney only in the way that it affects his income level. But, as is widely the case, if private counsel's cases are on a fixed fee basis rather than a per-hour basis, the incentive is to handle cases as expeditiously as possible.

Since the public defender is compensated by salary and is evaluated on the basis of how well (i.e., how much of) his caseload is processed. Thus, one would expect with per hour charges by the private attorney average processing time to be shorter for public defenders, but with no significant difference in the outcomes (acquittals and convictions) obtained by the two forms of representation. However, with fixed fees, there is apt to be little or no difference between the two forms.

Once again, as in the case of the prosecutor, the emphasis is on movement of caseload. This is generally true, whether the attorney is a public defender or a privately retained defense counsel. Much of the choice between trial and guilty plea should be attributable to market forces as analyzed by Landes. Thus, the choice of trial, including those in which the defendant maintains innocence (i.e., no overlapping contract zones), may in fact be those cases in which the prosecutor obtains value from the trial's notoriety.

### III. The Judge

The judge enters the processing of a case when the decision to charge has been made. The bulk of a judge's work derives from those cases in which the decision is to go to trial. In this event the judge's duty is to oversee the conduct of the trial, to determine what each side is permitted to do.<sup>16</sup> He is the decider of law and, in court (i.e., non-jury) trials, he is also the decider of fact. Further, the judge receives the plea of guilty in those cases disposed of by admission of guilt, and determines whether the plea is given voluntarily.<sup>17</sup> Finally, in most jurisdictions, it is the judge who determines the sentence handed down to those who are convicted.

The judge is presumed to desire continued tenure, and will invest resources in the areas which (he hopes) will be evaluated as evidence of judicial skill. Formulating the judge's behavior as being responsive to the method of evaluation available runs counter to the notion of judicial independence.<sup>18</sup> The concept of judicial independence, which is intended to insulate the judicial branch from the pressures of electoral and partisan politics, also fails to provide an incentive for the judge to make "correct" choices.<sup>19</sup> However, at the particular level under examination, the general jurisdiction courts of the states, judicial insulation from electoral and partisan politics varies considerably from state to state. It is unclear whether such insulation results in better judges or a higher quality of justice.<sup>20</sup> Economists have generally had problems in attempting to model the motivation of judges.<sup>21</sup> Seemingly, part of the difficulty lies in consideration of appellate level state

judges and federal judges, both of whom have more independence than trial level state judges. It is contended here that, at the level considered, there are incentives to which judges respond.

Since the number of cases moving through the court is a number that may be easily ascertained, one expects that the judge is evaluated based upon this measure. Use of the relative change in dispositions or of the effect on case backlog as a monitoring device cannot be viewed as efficient, as it puts emphasis on quantity relative to the quality of output (an increase in case backlog may also be available to the judge as evidence of the need for additional resources for the judge's jurisdiction). Clearly though, measurement of case movement by some means is one way that judicial performance will be evaluated.<sup>22</sup> Emphasis on case movement, however, should not be regarded as implying that qualitative measures do not exist.

One proxy for the quality with which the caseload is handled is the reversal rate for a judge. The judge whose decisions are frequently reversed may be more likely to lose his position. However, as with techniques for evaluation of prosecutorial performance, both dispositional and reversal measures are aggregate values, not individual case values; again, no one has sufficient incentive to monitor performance in individual cases. Evaluation through the use of these measures leads to an interesting set of incentives. The judge is motivated to process as many cases as possible without appreciably increasing his (risk of) reversals. But appeal (on reversible errors) is usually possible only in those cases decided at trial--thus, the judge

has the incentive to encourage settlements by plea of guilty (plea bargaining) wherever possible, as this moves cases quickly while reducing the likelihood of appeal (and subsequent reversal). For cases going to trial, the judge attempts to minimize the ability of an appellant or claim failure to accord due process. Often, failure to grant delays or continuances is equated to a failure to accord due process. This means that a judge is unlikely to deny reasonable motions to postpone for preparation of either side's case. But acceptance of motions has the tendency to prolong trials, often beyond the length probably necessary to research and prepare the case for trial. Much of this type of delay is strategic in nature, aimed at getting reductions in charges, or better terms for a plea of guilty. Delay, in and of itself, does not have to be inefficient and can be regarded as part of a roundabout production process. Delay and case backlogs are widely regarded as undesirable and a reduction in quality (since this implies that there is not apt to be a "speedy" trial).

#### IV. Conclusions

The system described will prompt judges to encourage plea bargaining whenever possible and to encourage delay in cases where trials are the method of disposition. Aside from the cases which have non-overlapping contract zones due to the maintenance of innocence by the defendant, one would find those cases which go to trial the ones likely to bring the impression of efficiency to the prosecutor. It is unlikely that a judge would discourage this behavior on the part of the prosecutor (since the

two have to work together quite often); the judge's primary concern in the trial is to prevent reversible errors. Moreover, relationships between the judge and the other two actors are clearly enhanced by the judge's allowance of delays when it is in the interest of one actor and not to the detriment of the other.

The incentives that have been considered, operating for prosecutor, defense counsel and judge, give an overview of the operation of the criminal justice system. It is asserted that the judge can be used to represent (and evaluate) the characteristics of the criminal court because of the commonality of the incentives which face each of the actors: incentives for case movement (largely through guilty pleas) and the likelihood for delay in processing those cases reaching trial. The latter allows sufficient notoriety for the prosecutor, allows the defense counsel to process more cases, reduces the likelihood of reversal for failure to accord due process (benefiting the judge), and aids either the prosecutor's or defense counsel's (or both) case(s) since delay also has strategic value.

The discussion above does not, however, consider differences in property rights structures, differences which should be manifest in the output across different property rights structures. Output quantity should not tend to vary across these structures, as established earlier in this chapter. It is qualitative factors that should vary across the structures, but how these factors will vary depend upon what each structure's monitors regard as evidence of productive activity.

Before empirically testing this monitoring hypothesis, there should be some definition of the differences that exist in the property rights structures among the state court systems. There are no essential differences in the criminal law, the procedural rules, or general organizational form.<sup>23</sup> This leaves two areas in which there are considerable differences in structural arrangement: (1) the financial structure of the court system and (2) control mechanisms affecting judge, prosecution and defense (aside from those attributable to procedural requirements).

The first is eliminated largely due to the paucity of information available on this subject. Thus, control mechanisms are considered. Since attention is confined to the judge (representing the court system), the empirical tests deal with those mechanisms impinging on judges at the general jurisdictional level. Specific attention is focused on the impact of differences in selection, removal and tenure of judges on the quantitative and qualitative aspects of the output of the general jurisdictional level court.

## REFERENCES

<sup>1</sup>There are direct effects on the parties involved, specifically, the defendant. There are also externalities associated with the decisions that affect any number of individuals. For example, if a thief in a case is convicted and imprisoned, there are externalities conferred on those who are not robbed. Also, if the imprisoning has a deterrent effect on others, then additional externalities are created. For a lightly different discussion of the effects of judicial decisions, see Gordon Tullock, "Public Decisions as Public Goods." Journal of Political Economy 79(1971), pp. 913-18.

<sup>2</sup>See our discussion of Lindsay and others in Chapter III, Part 2.

<sup>3</sup>Such behavior is not unique to government. For a discussion of identical incentives in the private sector, see Michael Spence, Market Signaling (Cambridge: Harvard University Press, 1974).

<sup>4</sup>Evidence of the use of case movement pressure on judges may be found in Milton Heumann, Plea Bargaining: The Experience of Prosecutors, Judges and Defense Attorneys (Chicago: University of Chicago Press, 1978), pp. 25-26 and pp. 144-45. Some empirical tests of judicial response are found in Peter F. Nardulli, The Courtroom Elite: An Organizational Perspective on Criminal Justice (Cambridge, Mass.: Ballinger Publishing Co., 1978), pp. 135-37.

<sup>5</sup>This is simply an extension of Alchian's ideas. See Alchian, "Some Economics of Property Rights," and also Chapter III, Part 1, above.

<sup>6</sup>This can be analogous to different firms having different types or changes in its product mix.

<sup>7</sup>Some view the implicit cooperation of the actors as the breakdown of the adversary system. This view may be found in A. L. Alschuler, "The Prosecutor's Role in Plea Bargaining," University of Chicago Law Review 36(1968), pp. 50-112, and Alschuler, "The Defense Attorney's Role in Plea Bargaining," Yale Law Journal 84(1975), pp. 1179-1314; Jerome Skolnick, Justice Without Trial (New York: Macmillan, 1966); Abraham S. Blumberg, Criminal Justice (Chicago: Quadrangle Books, 1967); Donald J. Newman, Conviction: The Determination of Guilt or Innocence Without Trial (Boston: Little, Brown and Co., 1966); Roberta Rovner-Pieczenik, The Criminal Court: How It Works (Lexington, Mass.: Lexington Books, 1978). A different view of this cooperation may be found in Nardulli, The Courtroom Elite, and in Pamela J. Utz, Settling the Facts: Discretion and Negotiation in Criminal Court (Lexington, Mass.: Lexington Books, 1978).

<sup>8</sup>See, for instance, Heumann, Plea Bargaining; and also Heumann, "Plea Bargaining Systems and Plea Bargaining Styles: Alternate Patterns of Case Resolution in Criminal Courts," in Sheldon Goldman and Austin Sarat, eds., American Court Systems (San Francisco: W. H. Freeman and Co., 1978), esp. pp 104-7.

<sup>9</sup>This should not be interpreted as implying that market and nonmarket forces lead to different decisions; generally, they would move in the same direction.

<sup>10</sup>See Landes, "An Economic Analysis of the Courts." Landes argues that this criterion is socially optimal based upon the idea that expected sentences can be equated to the price society charges for offenses, thus maximization of weighted sentences also maximizes society's welfare for a given level of resources.

<sup>11</sup>For a consideration of the errors associated with the disposition of a case, see Richard A. Posner, "An Economic Approach to Legal Procedure and Judicial Administration," Journal of Legal Studies 2(1973), pp. 399-458.

<sup>12</sup>Landes, in "The Courts," alludes to this possibility but does not develop the implications of such behavior. Another paper discussing the possibility of this type of behavior is Brian Forst and Kathleen B. Brosi, "A Theoretical and Empirical Analysis of the Prosecutor," Journal of Legal Studies 6(1977), pp. 177-91.

<sup>13</sup>C.F. Landes, in "The Courts". The form discussed here is only more general than the utility function Landes develops.

<sup>14</sup>This generally also requires the consent of the trial judge.

<sup>15</sup>The choice that the defendant faces is a difficult one, and he must often rely on the advice of his attorney. Yet it is still the defendant who must make the choice to plead guilty. The defendant's reliance on the advice counsel was tested in McMann vs. Richardson, 397 U.S. (1970). The court found that

"In the face of unavoidable uncertainty, the defendant and his counsel must make their best judgment as to the weight of the State's case . . . (Questions arising as to the probability of conviction at trial) cannot be answered with certitude; yet a decision to plead guilty must necessarily rest upon counsel's answers, uncertain as they may be. Waiving trial entails the inherent risk that good-faith evaluations of a reasonable competent attorney will turn out to be mistaken either as to the facts or as to what a court's judgement might be on given facts."

The law requires that more than simple "rationality" in a case where a plea is accepted. The test for "voluntariness" of a plea was stated by Judge Tuttle in *Shelton vs. U.S.*, 242 F.2d (5th Cir., 1957), p. 115:

"(A) plea of guilty entered by one fully aware of the direct consequences, including the actual value of any commitments made to him by the court, prosecutor, or his own counsel, must stand unless induced by threats (or promises to discontinue improper harrassment), misrepresentation (including unfulfilled or unfulfillable promises), or perhaps by promises that are by their nature improper as having no proper relationship to the prosecutor's business (e.g., bribes)."

However, compare Abraham S. Blumberg, "The Practice of Law as a Confidence Game," Law and Society Review (1967), pp. 16-39.

<sup>16</sup>For a more detailed discussion of the judge's function, see Herbert Jacob, Justice in America (Boston: Little, Brown and Co., 1965), esp. pp. 81-89.

<sup>17</sup>The judge's role in plea bargaining is far from clearly defined. The activities of the judge in the plea bargaining process vary widely among jurisdictions. For further consideration of judicial participation in the plea bargaining process, see Herbert Miller, et al., Plea Bargaining in the United States (Washington: Government Printing Office, 1978), esp. Chapter Four.

<sup>18</sup>An interesting explanation of judicial independence may be found in William M. Landes and Richard A. Posner, "The Independent Judiciary in an Interest-Group Perspective," Journal of Law and Economics 18(1975), pp. 875-901.

<sup>19</sup>This idea was first elaborated by Gordon Tullock in "Public Decisions as Public Goods".

<sup>20</sup>For an examination of some of the questions raised by judicial independence, see Stuart S. Nagel, Comparing Elected and Appointed Judicial Systems, Sage Professional Paper in American Politics 04-001 (Beverly Hills; Sage Publications, 1973).

<sup>21</sup>For example, consider Richard A. Posner's discussion of the judge's utility function in his Economic Analysis of Law, 2d ed. (Boston: Little, Brown and Co., 1977) pp. 415-17. Posner views judicial decision making as consumption behavior, a conclusion with almost no empirical content.

<sup>22</sup>For example, consider what Macklin Fleming, in "The Law's Delay: The Dragon Slain Friday Breathes Fire Again Monday," Public Interest 32(1973), p. 18, says.

"A judge who regularly denies requests for delay soon discovers he has made many enemies and few friends. He may find his competency to sit as a judge in other cases regularly challenged. He may find his rulings summarily annulled by the special unit of a higher court or reversed in due course on appeal.\*\*\* Complaints about his conduct may be made to the legislature or other body charged with the supervision of the judge's good behavior. Worse still, if the judge holds an elective post his enemies may organize formidable opposition at the polls when the time comes for his re-election."

Also, James Gazell, in "State Trial Courts: The Increasing Visibility of a Quagmire in Criminal Justice," Criminology 9(1972), pp. 379-400, states that in Cook County, Illinois, circuit judges routinely grant at least three continuances without question. Finally, in Miller, Plea Bargaining in the United States, M. Levin is cited as noting that "judges routinely grant continuances without explanations, and rarely interfere with the attorney's pursuit of his on goals," p. 239.

<sup>23</sup>See Chapter II, above, for a discussion of these characteristics.

## CHAPTER V

### Cross Sectional Tests: The Monitoring Hypothesis

#### Introduction

In this chapter, the implications of the analysis in the previous chapter are tested empirically. The hypotheses developed above concern the relationship of the court's product--its output and output mix--and the control mechanism impinging on the judges in these courts. The state court system, particularly at the general jurisdictional level, provides us with a natural cross-sectional sample. There are widely different forms of control mechanisms, but the products that each state's court produces (case dispositions) are almost identical. Thus, our investigation concerns the effect of these control mechanisms on output level and output mix. (Output mix implies the proportion of guilty pleas, trials and dismissals). The sample used is taken from the district courts in seven states for the year 1977.<sup>1</sup>

The testing procedure employed here, coupled with those utilized in the chapter that follows, allows the analysis of the property rights structure on both an individual, long term basis and also across states. The aim of these tests is to ascertain if the control mechanisms, have a detectable impact on the way that courts operate.

### The Cross Sectional Tests

The analysis of the previous chapter implies that differences in control mechanisms should lead to differences in monitoring capabilities. These monitoring efforts can be broken into two categories: (i) quantitative aspects, generally easy to monitor; and (ii) qualitative aspects, which are more difficult to evaluate. Since the monitoring activity is usually conducted by individuals with relatively little incentive to monitor all aspects closely, there is often more emphasis on the easier to monitor quantitative aspects of the output.

Hence, any institutional arrangement of a court system should produce output quantity at levels acceptable to the court's monitors. However, one should expect different structural arrangements to produce different levels of the qualitative aspects of the output of the court system.

One should note that it is not possible to monitor the actual quality of a court system's output. Hence, Proxy measures for qualitative attributes are required, both for a court's monitors as well as our tests. One nominal measure of quality, which was discussed earlier, is judicial reversal rate. However, since the operation of the monitoring activities discussed leads to incentives aimed at minimizing the extent of reversals, this measure is less indicative of quality than it otherwise might be. There is moreover, virtually no widely available information relating to reversals, and this measure is not considered. Other available measures are the number of pleas, trials, convictions, dismissals, appeals and the time required for processing. These measures,

no less than the reversal rate, are affected by the incentive structure, but unlike reversals these measures are more widely available and can be employed. Whether these measures actually reflect quality is not important, rather whether they are interpreted as reflecting quality is what matters; and it appears that some interpret them as qualitative characteristics of the criminal justice system.<sup>2</sup> These measures can be used in one of two ways to evaluate the characteristics of an institutional structure. One would be to sample individual cases in a system and follow the movement of the cases; then by checking the level of each of these quality measures against the level in other structural arrangements one could determine differences in the structural arrangements. A similar approach would be to gather aggregate statistics of these same measures, to note the general tendencies of the court system.

The second method noted above is chosen because of its ability to measure the average characteristics of the system rather than specific tendencies (which may be) peculiar to the courts sampled. This method should provide a better representation of the characteristics of property rights structures. This method is also appealing in that it allows data collection in a much simpler, less time-consuming manner. However, the method necessitates acceptance of the counting system followed by the court system, and thus the loss of some detail that might be obtained by the first method.

Using the chosen method, four measures of qualitative attributes are employed primarily due to wide availability; these measures, in addition

to a measure of output quantity, form the set of dependent variables used in the regression analysis. These measures are:

- (1) DISPFIL: This is the measure of output. It is the ratio of total criminal dispositions to criminal cases filed. The higher the value of this proportion the higher the quantity of output, or case turnover.
- (2) DISMDISP: This is a measure of the usage of dismissals. This value is the ratio of dismissals to total criminal dispositions.
- (3) DISMFIL: This is another measure of the usage of dismissals. This variable is the ratio of dismissals to criminal cases filed. Both DISMFIL and DISMDISP measure the reliance on dismissals to move the caseload.
- (4) PLDISP: This measures the use of guilty pleas. PLDISP is the ratio of pleas to total criminal dispositions; higher values of this variable imply greater dependence on pleas to obtain dispositions.
- (5) TRDISP: This measures the use of trials. TRDISP is the proportion of dispositions by trial to total criminal dispositions. Similar to PLDISP, the variable TRDISP allows measurement of reliance on trials for disposition.

These variables are used in ratio form to measure proportional usage rather than simply absolute numbers. Use of absolute values would bias the sample due to the higher levels of these in larger, more populous court districts. These variables are tested against several control mechanisms which affect and determine a judge's performance. As examined in Chapter II, there are wide differences in the various mechanisms determining how long a judge may serve, how he may be selected, and how he may be removed.<sup>3</sup> Measures of these characteristics form our measure of the control mechanisms of that state's court system institutional structure.

The analysis of Chapter IV, which yields the monitoring hypothesis, has several testable implications which the statistical work in this chapter examines. The first implication is that there would be no significant differences in output volume across different control mechanisms. The second implication is that where differences exist in control mechanisms, these differences should be detectable in measures of output quality produced in these court systems.

The latter implication can be more clearly specified by examination of the three control mechanisms investigated. The first mechanism is judicial term length. Another way to interpret this mechanism is the frequency of judicial evaluation. More frequent evaluations mean that monitors have to invest in information on output quality. The cheapest form of this information is from trials, which are widely publicized and clear notice that the court is performing its task. Monitors who have to evaluate more frequently have an incentive to economize on qualitative

information by looking at trial usage. Courts will produce this measure of quality in such a setting. Hence, shorter terms should be positively related to trials and negatively related to guilty pleas and dismissals.

The second control mechanism is selection method. Cost of information should again be related to trial usage. Selection methods which raise the cost of information to monitors should result in increases in trial usage and decreases in guilty pleas and dismissals. The cost of information in this situation is tied to the size of the group doing the evaluation: the larger the group, the more costly information is. (This could also be expressed in terms of the incentive to obtain information; the larger the group, the smaller the incentive any individual has to obtain the information necessary to evaluate a court's performance.)

The third control mechanism is the removal method. The argument mirrors that of selection method, higher information costs tied to increases in trials, and reductions in guilty pleas and dismissals. As the removal method increases the number doing the evaluation, the more one should find trial usage, with reduction in guilty pleas and dismissals.

Based upon these considerations, we have three primary independent variables.

- (1) TERM: This measures the length (in years) of a judge's term. Based upon our analysis, we should expect that this will be positively related to DISMDISP, DISMFIL and PLDISP and negatively to TRDISP.

- (2) ELECTION: This variable measures the effect of the selection process on output and output mix. Three basic forms of selection operate in the states: partisan election, nonpartisan election and appointment. There are clearly differences between the three methods, but of primary interest is the cost of information with each type of process. Both nonpartisan election and appointment schemes are (allegedly) less "political" than partisan election. We infer that "less political" means lower information costs. The contrast is between two forms--administrative methods (nonpartisan election and appointment) and political methods (partisan election). This determines the form that our variable takes, a dummy variable, with states using a partisan election process coded one (1), and states using administrative methods coded zero (0). This variable should be positively related to TRDISP and negatively related to DISMDISP, DISMFIL and PLDISP.
- (3) REMOVE: Here, the variable measures the impact on output and output mix attributable to the methods by which judges may be removed. There are several methods through which judges may be removed, Two of which are available in almost every state: impeachment and (legislative) address. These processes, however, are almost never

used. Our interest is focused on two other methods, recall and judicial inquiry boards.<sup>4</sup> The former is an electoral process, the latter is an administrative procedure; thus the contrast is, as was the case with the selection method, between administrative and electoral processes. However, unlike selection methods, removal methods do not fall into mutually exclusive categories. As a result, the impact of each is measured by separate binary variables, REMOVE 1 and REMOVE 2, and each equation is estimated for the effects of each on the dependent variable. REMOVE 1 is equal to one (1) if the state has recall provisions, zero (0) if not; REMOVE 2 is equal to one (1) if there is no judicial inquiry board, zero (0) if such a body exists in that state.

Our hypothesis is that both REMOVE variables should show a positive relationship to TRDISP and a negative relationship to DISMDISP, DISMFIL and PLDISP.

### The Sample

The data for the empirical tests are from the general jurisdictional courts in each of seven states.<sup>5</sup> These states are Arkansas, California, Illinois, New Jersey, New York and Ohio, which totals to 274 districts. The choice of these states was made for several reasons. One reason relates to the number of years that these states have been

publishing reports which detail the activities of the general jurisdictional courts. The criterion was at least ten years of publication, such that sufficient data for individual state estimation (i.e., for time the series examination in chapter VI) was possible. Publication of these reports for such a period also implies that the activities of these courts--quantitative and qualitative--have been under scrutiny for the same period. That is, these reports (or information generated by them) could be used for monitoring purposes. Other reasons for the selection of the sample include regional, geographic and demographic variation. However, the primary reason grows out of variation in the three control mechanisms facing the judges (see Table V-1).

The data for the tests is from 1977, the most recent year for which data was available for all of the states. The information on the dependent variables is selected from the reports of each of the states; this could lead to some measurement errors; more serious errors could arise from the inappropriate aggregation of this data. Since each state has its own method of counting, the lack of uniformity of methods could present some serious aggregation bias. We must assume that there is sufficient similarity in counting techniques to justify the pooling that is done. One effort to reduce the possible bias from this is the use of the ratio measures, which should be more comparable than the absolute measures. An associated problem is that the numbers used to form the ratios are unweighted as to the requirements of time and resources that the type of cases represented in the numbers should require. Such

TABLE V-1  
Control Mechanisms

<u>Districts</u>	<u>Selection Method</u> <sup>1</sup>	<u>Partisan-Nonpartisan</u> <sup>2</sup>	<u>Term Length</u>	<u>Removal Methods</u> <sup>3</sup>	<u>No. of Districts</u>
Arkansas	EL	P	4	I,A	19
California	EL	NP	6	I,A,R,J	58
Illinois	EL	P	6	I,A,J	21
Minnesota	EL	NP	6	I,A,J	10
New Jersey	APP	--	7*	I,A	21
New York	EL	P	14	I,J,A	62
Ohio	EL	P**	6	I,A,R	88

1 Selection methods are either elective (EL) or appointive (APP).

2 With elective methods, either partisan (P) or nonpartisan (NP) is possible.

3 Four possible removal methods are present: impeachment (I), address (A), recall (R), or judicial inquiry board (J).

\* New Jersey's system operates in an appointment, then life tenure fashion. That is, a judge is appointed to a seven year term; if, after the judge's first term is up and he is reappointed, the term then is until retirement or death.

\*\* Ohio's election is, in a strict sense, nonpartisan. However, selections for the general (nonpartisan) election are made in partisan primaries. This process in its effect is little different from a totally partisan selection method. Thus, we have chosen to call this system partisan rather than nonpartisan.

weighting at this point is simply not possible due to the differences in reporting techniques. Thus, it is required that we assume uniformity in caseload mix across districts and states. As a result of these possible difficulties, the results we obtain should be interpreted very carefully. Too much significance should not be attached to our reported estimates because of the crude measures used to obtain them. Nonetheless, we think the similarities are sufficient to allow some generalizations to be made.

The data pools the values of ratios for each general jurisdictional district from each state in the sample. Additional dummy variables are used to control for the effects on the dependent variables attributable to the characteristics of the states themselves and not to the control mechanisms.<sup>6</sup>

### The Statistical Results

Complete results from the empirical tests can be found on Table V-2. One note about minor differences in the samples for the equations: Arkansas was included only in the equations concerning output quantity (i.e., DISPFIL, equations 5a, 5b); its exclusion from the other equations is due to the lack of any data measuring output mix.

The dismissal equations (1a, b; 2a, b) indicate that other factors affect the dismissal decision, that the control mechanisms investigated here play no significant role in determining these choices. There is reasonably high explanatory power in both sets of equations (69% and 62%, respectively) but the preponderance of this can be attributed to intrastate factors.<sup>7</sup> In equation 1a, there is a weakly significant

Table V-2. Cross Sectional Results

Dependent Variable	Independent Variables											R <sup>2</sup>	Obs.	F-stat.		
	Constant	HI.DUM	NJ.DUM	CAL.DUM	NY.DUM	OH.DUM	REMOVE1/2	ELECTION	TERM	ADUM						
1.																
a) DIS/DISP	.200	.491 (10.02) ***	.236 (5.24) ***	-.132 (6.00) ***	-.000 (.00)	-.000 (.00)	-.078 (1.85) *	.000 (.00)	.002 (.40)	---	.6908	255	114.48			
b) DIS/DISP	.200	.491 (10.02) ***	.236 (5.24) ***	-.210 (4.77) ***	-.000 (.00)	-.078 (1.85) *	-.000 (.00)	.000 (.00)	.002 (.40)	---	.6908	255	114.48			
2.																
a) DIS/FIL	.206	.377 (8.38) ***	.111 (2.47) **	-.206 (5.15) ***	-.016 (.40)	-.068 (1.74) *	-.000 (.00)	.000 (.00)	.000 (.00)	---	.6220	255	84.59			
b) DIS/FIL	.206	.377 (8.38) ***	.111 (2.47) **	-.206 (5.15) ***	-.016 (.40)	-.068 (1.74) *	-.000 (.00)	.000 (.00)	.000 (.00)	---	.6220	255	84.59			
3.																
a) PLDISP	.120	.000 (.00)	.000 (.00)	.088 (3.03) ***	-.645 (1.22)	.000 (.00)	-.127 (2.23) **	-.219 (3.32) ***	.136 (2.06) **	---	.4394	255	40.81			
b) PLDISP	-.884	.000 (.00)	.000 (.00)	-.039 (.66)	-1.664 (4.97) ***	.000 (.00)	-.127 (2.23) **	-.219 (3.32) ***	.264 (6.28) ***	---	.4394	255	40.81			
4.																
a) TRDISP	.105	.000 (.00)	.074 (1.89) *	.000 (.00)	.000 (.00)	-.010 (.40)	.120 (3.75) ***	.000 (.00)	-.002 (.50)	---	.1288	255	10.39			
b) TRDISP	.104	.000 (.00)	-.036 (1.02)	.122 (2.44) **	.000 (.00)	-.000 (.00)	.112 (2.33) **	.002 (.03)	-.002 (.40)	---	.1253	255	8.28			
5.																
DIS/FIL	.978	-.123 (1.58)	-.285 (3.65) ***	.000 (.00)	-.058 (.84)	.130 (3.71) ***	-.078 (1.11)	.000 (.00)	.000 (.00)	.009 (.11)	.1557	274	9.39			

\*--significant at the .10 level    \*\*--significant at the .05 level    \*\*\*--significant at the .01 level

(10% level) negative relationship between dismissals as a proportion of dispositions and of recall provisions in a state (REMOVE 1). This result was not, however, corroborated by the results in the DISMFIL equation (2a). It is possible that either (i) there is no difference in the ability of the different institutional control mechanisms to monitor dismissals, or (ii) that the dismissal decision is not an important qualitative aspect in the case processing system.

In contrast to the previous set of equations, the plea decision is apparently closely tied to the impact of the institutional control mechanisms. All three of our measures of these devices are statistically significant (at the 5% level at minimum). As was hypothesized, term length (TERM) is positively related to guilty pleas. The greater independence implied in longer terms may lead to a less politically oriented judiciary but also leads to greater level of plea dispositions.

With reference to the selection process, states using partisan selection methods have fewer guilty pleas, as hypothesized. It is possible to conclude that the political electoral process may lead the system to operate at a higher level in the more visible trial mode than in the closed doors process of plea negotiation. In states following administrative methods, the incentives may lead to focus on the output factors, more easily obtained by pleas.

In similar fashion, electoral methods of removal (i.e., recall provisions) also reduce guilty pleas. In equation 3a, REMOVE 1 carries a negative sign, indicating that in these states with recall provisions, the number of guilty pleas are (significantly) lower than in those states

without such provisions. The results of REMOVE 2, from equation 3b, are even more interesting states without judicial inquiry boards as defined here have a significantly lower (at the 5% level) number of pleas. This latter result confirms our hypothesis. Taken together, these results indicate that electoral rather than administrative monitoring can be considered higher cost monitoring, creating incentives to dispose cases by trial, and hence fewer guilt pleas.

The trial equations (4a, 4b) are not as satisfactory in terms of explanatory power, with only about 13% of the adjusted variation explained by the independent variables.<sup>8</sup> The sign of the variable TERM is as hypothesized, negative but is not significant. The ELECTION variable was also not significant, although its sign confirms our hypothesis. The removal variables were, however, quite significant, and strongly confirm the results obtained in the plea equations. Control mechanisms which use larger groups to monitor court activity do tend to increase trial usage and reduce plea bargaining. The normative implications of these results depend upon how one feels about trials and justice produced by plea bargaining

Finally, the output quantity equations (equations 5a, 5b) confirm the expectations about differences in quantitative monitoring. It can be concluded that there are few differences in monitoring capabilities of different property rights structures insofar as quantitative aspects of output are concerned. Neither the term length, method of selection, nor removal method have a significant impact on the level of output.

On the whole, the set of equations estimated generally confirm the expectations about the effect of monitoring devices.<sup>9</sup> One might reasonably conclude that electoral methods--both for the selection of judges (in a partisan manner) and particularly for the removal of judges (through recall)--are effective monitoring devices if one wants trials. The outcome of the plea equations are most persuasive--partisan elections, shorter terms, recall provisions and the lack of judicial inquiry boards all have the effect of reducing the proportion of guilty pleas. The results of the other two sets of output mix equations were less conclusive. The trial equations do confirm the results of the plea equations in sign but were significant only for the removal variables. The dismissal equations, however, indicate that the decision to dismiss lies somewhere other than in the control mechanisms, and that state related factors largely determine the level of dismissals. Finally, as was predicted, quantity of output is not systematically related to any form of the control mechanisms.

One should note, as we cautioned earlier, that these results are crude at best. Too much should not be made of any of the results; the possibility for error reduces the strength of any conclusion we can draw. Nonetheless, the results despite their crudity, tend to indicate the presence of some impact of the control devices, and largely in the manner that our analysis suggested. More weight may be added with the results obtained in the chapter that follows, in which examination of individual state court systems is undertaken.

## REFERENCES

<sup>1</sup>See the discussion relating to the choice of the sample below.

<sup>2</sup>These appear to be widely used measures by most writers investigating the criminal justice system. A good example of this is President's Commission on Crime and Law Enforcement, Task Force Report: The Courts (Washington: Government Printing Office, 1967).

<sup>3</sup>See Chapter II.

<sup>4</sup>Judicial inquiry boards in the manner used herein connote an existing (as opposed to a temporary) administrative body with fairly broad investigative and removal powers. More on these bodies may be found in Klein, Court Systems, esp. Chap. 2.

<sup>5</sup>See the discussion about these states in Appendix I, more information about the publications from which this information was taken can be found in Chapter VI.

<sup>6</sup>A discussion of dummy variables can be found in Jan Kmenta, Elements of Econometrics (New York: MacMillan Publishing Co., 1971), pp. 410-15.

<sup>7</sup>See Chapter VI for an empirical consideration of some of the factors contained herein.

<sup>8</sup>This result (and those of the plea equations) could relate to the effects of market forces on the decision process, much like that which was discussed in Chapter IV, above.

<sup>9</sup>See Appendix II for some further corroboration of the findings.

## Chapter VI

### TIME SERIES TESTS: THE CASELOAD PRESSURE HYPOTHESIS

This chapter examines in more detail and over a longer period the empirical characteristics of general jurisdiction courts in five states. These states are Arkansas, California, Illinois, New Jersey and New York.<sup>1</sup> The purpose of this work is to supplement the previous empirical considerations. Clearly a cross sectional study of these states for one year cannot reveal all of the workings of these courts.

A primary factor affecting criminal case processing, as evidenced in the previous chapter, is the nature of a state's court system. This was shown, to varying degrees, in the significance levels attained by the state dummy variables in each of the equations previously estimated. In this chapter, the analysis is carried further when the control mechanisms of the courts are fixed and other factors are allowed to vary.

The considerations here are similar to most discussions about the operations of and failures of the criminal courts. The work done here does not lead to clear-cut conclusions about criminal courts, but some of the results are quite illuminating, in conjunction with the implications of the previous chapter. The primary conclusions of this chapter reinforce the implications of the earlier work and tend to contradict some widely held notions about the criminal court system in the U.S.

These considerations begin with discussing some of the hypotheses tested. Not all hypotheses are tested in each state, as different amounts

of information were available. These differences, along with variations in counting methods, serve to make comparisons between states less meaningful than they otherwise would be. However, sufficient similarity should exist such that general comparisons are possible and relevant.

One of the most important hypotheses tested concerns the workload of the general jurisdiction court. Caseload pressure has been alleged to lead to more dismissals, more guilty pleas and fewer trials. Criminal cases are generally believed to require more processing time than civil cases, hence the larger is the proportion of criminal cases, the more time that will be required to terminate a given number of cases. This is a reasonably good proxy for the court's criminal caseload pressure. Hence, we are interested in the effect of criminal caseload on output and output mix.<sup>2</sup>

Another aspect closely tied to the impact of caseload is the effect of resources on output and output mix. One of the typically suggested remedies for the problems of the criminal courts is the provision of additional resources. The remedy is based upon the premise that more resources--more judges, more clerks, more court reporters, more courtrooms, etc.--would lead to more efficient and just case processing. In other words, additional resources would increase the output of the courts, reduce dismissals and guilty pleas, and increase the number of cases terminated by trial.<sup>3</sup> These additional resources would, in effect, reduce the caseload pressure. This together with the above constitutes what is called the "caseload pressure" hypothesis.

Another area that explored is the effect of judicial turnover. Judicial turnover should indicate dissatisfaction with the court's performance and hence should be directly related to output quantity. The relationship between turnover and the trial-guilty plea mix should depend upon that system's monitoring of trials as evidence of quality.<sup>4</sup>

In addition to turnover, the effects of judicial independence are considered. Several factors affecting judicial independence were considered in the cross sectional study, but there are additional questions of interest. Of particular interest is the effect of relative differences in independence within a given judicial structure. The implications of independence considered earlier should also be consistent here: greater independence would likely increase guilty pleas and dismissals and reduce trial usage, as well as lower output.

Finally, we are interested to see if changes in real income over time affect output or output mix. If real compensation is falling then there should be some impact on these measures, given that judges respond in some fashion to their income levels. Doubt about this connection exists, due to the lack of a relationship between compensation and output, but nonetheless is explored.

Equations are estimated for both output and output mix as information allows. The sets of equations are not consistent across state nor are the sets of independent variables employed. The hypotheses discussed above are tested if such information is available for that state (see Table VI-I for the details relating to each state). There is, however, consistency in the methodology employed to estimate the

TABLE VI-I  
Information on Statistical Sample

	<u>Years of Data</u>	<u>Time Series</u>	<u>Cross Section</u>	<u>Output Mix Data</u>	<u>Time Series Data</u>
Arkansas	1967-1977	Yes	Yes*	No	W,T,S,R**
California	1967-1978	Yes	Yes	Yes	W,S,R
Illinois	1967-1977	Yes	Yes	Yes	W,T,S,R,I
Minnesota	1966-1977	No	Yes	Yes	-----
New Jersey	1966-1977	Yes	Yes	Yes	W,S,R,I
New York	1965-1978	Yes	Yes	Yes	W,S
Ohio	1966-1977	No	Yes	Yes	-----

\* Arkansas is only included in output equations.

\*\* This stands for the hypotheses tested for these states. W stands for the workload hypothesis, T for turnover hypothesis, S-salary hypothesis, R-resource hypothesis, and I-independence hypothesis.

equations. The sample for each state is formed by pooling the cross sections of general jurisdiction districts over time. To avoid the statistical problems associated with this pooling procedure, a covariance model is estimated. This technique incorporates the estimation, in addition to the other independent variables, of two sets of dummy variables, one each for the cross sectional unit (the district) and for the time unit (each year). Such a model, if correctly specified, will yield unbiased and efficient estimates of the regression coefficients.<sup>5</sup> We shall not discuss nor list the coefficients of these variables, despite the fact that in some cases they contribute considerably to the explanatory power of the equation. These are not discussed since they constitute unknown variables and appropriate interpretation of their results is virtually impossible.<sup>6</sup> Moreover, the values of R-squared reported should be evaluated in light of the (positive) effect of these variables on the equation's explanatory power.

Each state is discussed individually, taking note of the source of the data and time period covered. The hypotheses are stated and related to the variables used, finally the statistical results obtained are examined. More specific information about the institutional structure of the court system in each state may be found in Appendix I.

## ARKANSAS

### The Data

The data for the Arkansas Circuit Courts comes from the Annual Report of the Judicial Department of Arkansas, for the years 1966-1977.

It is comprised of statistics concerning output: cases filed, disposed and pending. Additional information from these reports was available relating the numbers of and changes in circuit judges.

The hypotheses tested for Arkansas relate to the effects on output of:

- (1) judicial resources;
- (2) judicial turnover;
- (3) judicial salary; and
- (4) workload effects.

#### The Statistical Model

The dependent variables for the regression equations estimated are:

- (1) DISPFIL: This is the ratio of criminal dispositions to criminal cases filed. This measures output turnover; that is, of the cases file, the proportion of these which were terminated.
- (2) PENDFIL: This is the ratio of criminal cases pending to criminal filings. This variable measures the currency of the court calendar, a measure of case backlog.

The explanatory variables used for these dependent variables and the relevant hypotheses are:

- (1) JEXPOP: This variable measures judicial resources assigned to each district. It is obtained by multiplying the number of judges (in each district) times the judicial salary and dividing this product by the district population. Since court resources are normally assigned on a one-to-one basis with judges, this should be a

reasonably accurate proxy for the total resources employed in each district. These figures are divided by district population so as to correct for more populous districts. The hypothesis would follow the typical logic that more resources should increase output and reduce case backlog. ADDJ: This is a measure to evaluate

- (2) ADDJ: This is a measure to evaluate changes in resources. This variable is a dummy variable, equaling one if there was a judge added in the district in that year, zero if not. Those districts in which a new judge was added ought to reflect this in a reduction of backlog and increased output.
- (3a) TOJ: This measures turnover of judges. The value is a dummy variable, equaling one if there was turnover in this district, zero if not. Turnover, associated with monitoring, should be inversely related to output, positively related to backlog.
- (3b) LTOJ: This is lagged (one year) judicial turnover. The variable is measured as TOJ is; it indicates the effect on current output resulting from turnover in the previous year. If new judges are more responsive to the monitoring activities, this value should be positively associated with output, and negatively related to backlog.<sup>7</sup>
- (4) DEFSAL: This is annual judicial salary, divided by a regional price index.<sup>8</sup> This variable captures the relationship between income and output. This should be a positive relationship, but as discussed above, there is some doubt about the strength of this association.

- (5) CRIMTOT: This is the ratio of criminal dispositions to total disposition. This variable measures the effect of the criminal workload. Our hypothesis, following the prevailing logic, is that workload pressure should reduce output and positively affect backlog.

### The Statistical Results

For a complete examination of the results, see Table VI-2. Note that two equations were estimated for each dependent variable, one for JEXPOP and one for DEFSAL: this was done to avoid possible multicollinearity between these two variables. Note that  $D_i$  and  $Y_i$  are the dummy variables for each district and year, respectively.

For the output equations, the results are almost uniformly unimpressive. The adjusted R squared for the full sample is less than .04, and none of the independent variables are significant (even at the ten percent level). The uniform lack of significance is interesting, however. It tells us, for instance, that in Arkansas, the output level is not (negatively) affected by the caseload pressure (CRIMTOT). And, the level of judicial resources does not improve the output level (either in the form of JEXPOP or ADDJ). Finally, judicial turnover has no effect on the quantity of output.

For the restricted sample (1971-77), during which it was possible to lag the turnover relationship, the overall results were better but not terribly different from the full sample results. No independent variable was significant except for the lagged turnover variable (LTOJ). This

Table VI-2. Arkansas

Independent Variables

Dependent Variable	CONSTANT	CRINTOT	JEXPOP	DEFSAL	ADDJ	$\frac{TOJ^a}{LTOJ}$	$D_j^b$	$Y_i^c$	R <sup>2</sup>	Obs.	F-stat.
1.											
a) DISPFIL	.816 (1.57)	.235 (.33)	.000 (.33)	----	-.015 (.12)	.000 (.00)	18	11	.0295	206	1.201
b) DISPFIL	-.110 (1.58)	.234 (.33)	----	.005 (.625)	-.000 (.00)	.000 (.00)	18	11	.0399	206	1.294
(Restricted Sample	1971-77)										
2.											
a) DISPFIL	.944 (1.08)	.121 (.20)	.000 (.20)	----	-.015 (.16)	.111 (2.22) **	18	6	.1236	133	1.69
b) DISPFIL	.753 (1.09)	.121 (.20)	----	.901 (.41)	-.010 (.11)	.130 (2.20) **	18	6	.1316	133	1.769
3.											
a) PENDFIL	.301 (4.53) ***	.535 (1.08)	.000 (.33)	----	.073 (.75)	.124 (2.10) **	18	11	.5972	206	10.497
b) PENDFIL	.346 (4.50) ***	.531 (.33)	----	.000 (.00)	.100 (1.06)	.125 (2.11) **	18	11	.5967	206	10.786
(Restricted Sample	1971-77)										
4.											
a) PENDFIL	.108 (7.24) ***	.761 (2.01) **	.001 (.33)	----	.068 (.78)	-.065 (1.16)	18	6	.7548	133	15.516
b) PENDFIL	.254 (7.22) ***	.766 (.33)	----	.000 (.00)	.116 (1.39)	-.066 (1.22)	18	6	.7524	133	17.045

<sup>a</sup>This is a variable measuring turnover (TOJ) and lagged turnover (LTOJ). The variable is LTOJ in the restricted sample equations, TOJ otherwise.

<sup>b</sup>This represents the number of dummy variables for judicial districts in that state.

<sup>c</sup>This represents the number of dummy variables for the years in the sample.

(Values in parentheses are t statistics)

\*significant at the .10 level -- \*\*significant at the .05 level -- \*\*\*significant at the .01 level

variable is of the predicted sign and significant at the .05 level. This variable probably contributes almost all of the difference in explanatory power of the restricted sample over the full sample. The conclusion drawn from this variable is that turnover leads to a response in output, and this response follows a change.

The results obtained for the case backlog variable (PENDFIL) were much more satisfactory. One consistent result held for both the full and restricted samples: the caseload pressure variable is highly significant and of the predicted sign. This indicates that caseload pressure impacts are on the case backlog rather than on output; that is, most cases wind up unfinished rather than having an (negative) effect on output.

In the full sample equations, TOJ is significant at the five percent level and carries the predicted sign. This indicates that monitoring does tend to be reflected in the quantity variables. How this affects the qualitative aspects of output could not be tested for Arkansas.

The only variable of significance in restricted sample, other than the caseload variable, was judicial resources. But there is a sign reversal: this implies that resources (reinforced by the sign of ADDJ, though it was not significant) tend to increase the case backlog rather than reduce it. This result is surprising, but could be explained by slow response by the court system--resources are not added immediately after the change in backlog, but lag for some time until it is clear that the backlog is not a temporary phenomenon. Unlike the result for output quantity, lagged turnover is not significantly related to case backlog, but of the predicted sign.

In Arkansas, the results indicate that caseload pressure has no significant impact on output, but does imply significant increases in case backlogs. There is some evidence of the effects of monitoring, as measured by judicial turnover, which implies increases in output and reductions of backlog.

## CALIFORNIA

### The Data

The data for California is taken from the Annual Report of the Administrative Office of the California Courts by the Judicial Council of California. These reports provide information on the Superior Court relating to both output and output mix for the years 1966-1978. More specific data relating to output mix for the years 1976-1978 allows the estimation of more detailed equations for this period. Finally, the reports furnish data on the numbers of judges for each district during the entire period.

The hypotheses tested for California relate to the effect on output and output mix of:

- (1) judicial resource usage;
- (2) judicial salary level; and
- (3) workload effects.

### The Statistical Model

The dependent variables for the regression equations estimated are:

- (1) DISPFIL: This is an output measure; it is defined in the same fashion as it was in Arkansas: the ratio of criminal dispositions

to criminal filings.

- (2) PTDDIS: This is a measure of pretrial dispositions and is the ratio of pretrial dispositions to total criminal dispositions.

Specific data on guilty pleas usage in California was not available until 1976. This variable should indicate reliance on guilty pleas, since pleas are the primary method of termination of cases prior to trial.

- (4) TRDISP: This variable is the ratio of trials to total criminal dispositions. It is the complement of PTDDIS.

JURDISP: This measures the usage of juries. It is the ratio of juries sworn to total criminal dispositions. This is a subset of trials, those to which additional resources are devoted, as measured by the use of a jury.

Different equations are estimated for the years 1976-78 when information on guilty pleas and trial convictions is available. The dependent variables for these equations are:

- (1) PLDISP: The ratio of guilty pleas to total criminal dispositions, measuring reliance on guilty pleas for terminations.
- (2) TCONDIS: The ratio of trial convictions to total criminal dispositions, measuring one of the results of the system.

Three independent variables were utilized to test the hypothesis discussed above:

- (1) JEXPOP: This measures assignment of judicial resources. It is defined in the section on Arkansas. The general expectation is for a positive relationship to both output and trial usage, and an inverse relationship to pretrial dispositions and guilty pleas. No specific expectation is related to its effect on the number of trial convictions or jury usage.
- (2) DEFSAL: Judicial compensation as defined above. The same results are also expected: little or no significant effect on any dependent variable.
- (3) CRIMTOT: As defined above. The caseload pressure hypothesis would assert that this variable would be negatively related to output, and trial usage; it would be positively related to pretrial dispositions and guilty pleas. No expectation is defined for TCONDIS or JURDISP.

### The Statistical Results

For a detailed examination of the statistical results, see Table VI-3. The convention of estimating two sets of equations, one for judicial salary and one for resource usage, discussed in the Arkansas section, is followed. Again  $D_i$  and  $Y_i$  represent district and year dummies respectively.

Despite the fact that only approximately six percent of the variation (adjusted) is explained by the equation, the caseload result is quite remarkable. CRIMTOT is significant at the one percent level but its sign is positive. This is completely counter to the hypothesis and the conventional wisdom. In California, increasing the criminal workload

Table VI-3. California

Dependent Variable	Independent Variables				D <sub>i</sub> <sup>a</sup>	Y <sub>i</sub> <sup>b</sup>	R <sup>2</sup>	Obs.	F-stat.
	CONSTANT	CRIMTOT	JEXPOP	DEFSAL					
(Full Sample: 1966-1978)									
1.									
a) DISPFIL	.875	.309 (2.94) ***	-.000 (1.47)	----	56	13	.0581	798	1.692
b) DISPFIL	.624	.300 (2.85)	----	.001 (1.22)	56	13	.0572	798	1.681
2.									
a) PTDDIS	.825	-.047 (1.77) *	-.000 (1.84) *	----	56	13	.2534	798	4.810
b) PTDDIS	.681	-.039 (1.73) *	----	-.001 (1.10)	56	13	.2518	798	4.765
3.									
a) TRDISP	.179	.047 (2.06) **	.000 (2.27) **	----	56	13	.3049	798	6.218
b) TRDISP	.210	.039 (1.95) *	----	.000 (.22)	56	13	.2966	798	5.734
4.									
a) JURDISP	.157	-.062 (5.35) ***	.000 (.26)	----	56	13	.4287	798	9.667
b) JURDISP	.045	-.063 (5.48) ***	----	.001 (1.89) *	56	13	.4320	798	9.917
(Partial Sample 1976-1978)									
5. PLDISP	.695	.034 (.94)	.000 (.62)	----	56	2	.6966	171	7.506
6. TCONDIS	-.011	.137 (3.34) ***	.000 (.10)	----	56	2	.4485	171	3.305

<sup>a</sup>This represents the number of dummy variables for judicial districts in that state.

<sup>b</sup>This represents the number of dummy variables for the years in the sample.

(Values in parentheses are t statistics)

implies increases in total output. The effects of time requirements of criminal cases are outweighed by other factors. One could conceivably argue that greater criminal workloads can increase the specialized skills required to handle these cases and thus this is the effect found. As for judicial resources (JEXPOP) and compensation (DEFSAL), neither of them is statistically significant and JEXPOP carries a negative sign. This is as was expected for DEFSAL, but the level of judicial resources implies reduced output, and based on statistical significance has virtually no effect on output whatsoever.

As for output mix, the results give more detail as to the impact of criminal workload: CRIMTOT is significant (at the 10% level) and negatively related to pretrial disposition; it is significant (at the 5% level in 3a and 10% level in 3b) and positively related to TRDISP. It is also highly significant (5% level in 4a, 1% level in 4b) and negatively related to JURDISP. The specialization effect discussed in relation to output takes the form of trials--not jury trials but court trials where these specialized skills can be brought to bear on the cases at hand without the hindrance of a jury to reduce productive effectiveness.<sup>9</sup>

Judicial resources do seem to affect output mix. JEXPOP is significant (at the 10% level) and negatively related to pretrial dispositions; it is significant (at the 5% level) and positively related to trials. This is as hypothesized. DEFSAL is significant (at the 10% level) and negatively related to jury usage; this weakly indicates some reflection of compensation on the usage of juries in trials, but this relationship engenders no strong argument.

In the partial sample (1976-1978) where more disaggregated data was available, the effect of criminal workload on guilty pleas does not support the results for PTDDIS; CRIMTOT is not significantly related to PTDDIS and its sign is positive. As for trial convictions, there is a strongly significant positive relationship between criminal workload and trial convictions. This would imply that specialized skills work to result in a high level of convictions.

California's Superior Courts, it appears, work at odds with the caseload pressure concept: adding to the criminal workload is positively associated with output and does not imply more guilty pleas but more (court) trials. The conclusion drawn here is that the structural system has led to the development of specialized skills which move cases at trials, and leads to a high rate of convictions at these trials.

## ILLINOIS

### The Data

Information on Illinois is taken from the Annual Report to the Supreme Court of Illinois by the Administrative Office of The Supreme Court of Illinois, for the years 1967-1977. These reports furnish extensive detail on output and output mix for the Circuit Court. These reports also detail changes in numbers of judges, judicial turnover, the types of judges, terms served and judicial salaries.

For Illinois we test hypotheses about the effects on output and output mix of:

- (1) judicial resources usage;
- (2) judicial turnover;
- (3) judicial salary level;
- (4) workload effects; and
- (5) relative independence of judges.

### The Statistical Model

The dependent variables for the regression equations estimated are:

- (1) DISPFIL: defined as before; used to measure output turnover.
- (2) DISMDISP: This measures the use of dismissals to terminate cases. This variable is the ratio of dismissals to total criminal dispositions.
- (3) DISMFIL: Another measure of dismissal usage. This variable is the ratio of dismissals to criminal cases filed. These two variables measure the reliance on dismissals for terminations.
- (4) PLDISP: A variable relating to the use of guilty pleas. This variable is defined, as above, as the ratio of guilty pleas to total criminal dispositions.
- (5) TRDISP: Measures the use of trials to terminate cases. It is the ratio of trials to total criminal dispositions, and complements PLDISP.
- (6) TCONDIS: A measure of the results of the processing system. This variable is the ratio of trial convictions to total criminal dispositions.
- (7) NIMPDIS: Another variable accounting for the results of case processing. Here the value is the ratio of number of defendants imprisoned to total criminal dispositions.

This set of dependent variables is examined in relation to the hypotheses described. These hypotheses are tested through the use of the following independent variables.

- (1) JEXPOP: A measure of judicial resource usage, defined earlier. This variable should measure the impact of resources on output and output mix  
A positive relationship is expected for output quantity and trial usage. This variable should also imply that additional resources should lower the number of dismissals and guilty pleas, ceteris paribus. No apriori expectations are stated for the effect of JEXPOP on convictions or numbers imprisoned.
- (2) JTOVER: The impact of turnover is measured by this variable. It is the proportion of judicial positions annually turned over per district. Turnover is equated to monitoring and hence this variable should be negatively related to output. Its impact on trial usage, dismissals and guilty pleas depends upon how these are monitored by the property rights structure. No hypotheses are stated for convictions or imprisonments.<sup>10</sup>
- (3) DEFSAL: Judicial salary level. This variable expresses the relationship between output choices and compensation. A nominal positive relationship is expected with output, but it is unclear what impact compensation has on the output mix variables, and thus no hypotheses is stated.

- (4) CRIMTOT: This variable measures workload effects and is defined as above. The hypothesis is the same: workload pressures should reduce output and the number of trials, and increase guilty pleas and dismissals. No clear relationship can be predicted between workload effects and convictions or imprisonments, so no signs are predicted for these variables.
- (5) JUDMIX: This variable is a measure of relative judicial independence in a district. Illinois has two types of judges which hear criminal cases: circuit judges and associate judges. Circuit judges have longer terms and fewer restrictions placed upon them than do associate judges; hence, the higher the proportion of circuit judges to total judges in a district, the greater is relative judicial independence in that district. Independence is equated to discretion and we infer that this discretion will be exercised in such a way that judicial preferences are more nearly met: this means that greater output, more pleas and dismissals, and fewer trials will result. This argument follows the discussion of judicial behavior in Chapter IV. Since we cannot derive any clear relationship between discretion and output result, we assign no signs for trials, convictions or imprisonments.
- (6) TLMEAS: This variable also measures relative judicial independence. Here, the measurement relates the differences in term length for circuit versus associate judge (i.e., 6 years vs. 4

years) and uses it to count differences in independence across districts. This is measured as the sum of the product of the number of judges of each type times the term length for each judge. Hence the higher the value of this variable, the greater the relative independence; the relationships described for JUDMIX should also apply here.

### The Statistical Results

For a complete examination of the empirical results, consult Table VI-4. Two equations are generally estimated per dependent variable (one for JEXPOP, one for DEFSAL for reasons described earlier).  $D_i$  and  $Y_i$  again connote for the district and year dummies, and are not discussed.

For the output equation, the results are only of interest in relation to CRIMTOT. Resources are not significant and the sign implies that additional resources reduce output quantity. Turnover has a positive but insignificant effect on output. The two relative independence variables are insignificant and have opposite signs. The effect of CRIMTOT, though, is significantly (at the 5% level) positive, counter to our prediction. Other forces are at work in the workload-output relationship. In California the effect is attributed to a specialization effect. Here the outcome is not clear cut, as we shall see.

The dismissal equations (2a, 2b; 3a, 3b) give a continuation of the surprising results of the DISPFIL equation. The relationship between workload and dismissals holds in equations 2a and 2b--increasing criminal

Table VI-4. Illinois

Independent Variables

Dependent Variable	CRIMJURY	CRIM1001	FINBAS	JXPDP	DISA	HOURLX	FLOWER	D <sub>1</sub>	Y <sub>1</sub>	R <sup>2</sup>	Obs.	F-Stat.
1. DISPTL	.793	.11452 (2.18) **	.000 (1.52)	-.019 (.26)	----	-.016 (1.06)	.193 (.83)	20	10	.1651	231	2.421
2. a) DISDISEP	2.068	-67.464 (6.16) ***	-.001 (.98)	-.113 (.56)	----	-.069 (2.22) **	.102 (.22)	20	10	.2724	231	3.461
b) DISDISEP	.929	-66.157 (6.12) ***	-.001 (1.01)	----	.004 (2.01) **	-.064 (2.13) **	-.057 (.10)	20	10	.2867	231	3.503
3. a) DISHFTL	.743	-6.342 (1.39)	-.000 (.24)	-.020 (.24)	----	-.036 (2.77) ***	.250 (1.28)	20	10	.2395	231	3.069
b) DISHFTL	.670	-6.254 (1.38)	-.000 (.11)	----	.000 (.15)	-.036 (2.77) ***	.249 (1.27)	20	10	.2393	231	3.067
4. PLDISEP	.753	-18.498 (8.82) ***	.000 (2.84) ***	-.022 (.56)	----	.013 (2.16) **	-.094 (1.05)	20	10	.5652	231	9.541
5. a) TRDISEP	.064	-2.527 (2.13) **	-.000 (1.20)	-.026 (1.18)	----	.000 (.00)	-.047 (.92)	20	10	.3552	231	4.620
b) TRDISEP	.156	-2.711 (2.57)	-.000 (1.66)	----	-.000 (.62)	-.000 (.00)	-.047 (.94)	20	10	.3645	231	5.255
6. a) TCOSEIS	.037	-1.433 (1.71) A	-.000 (1.07)	-.016 (1.06)	----	.002 (.68)	-.010 (.28)	20	10	.3500	231	4.538
b) TCOSEIS	.139	-1.552 (1.86) A	-.000 (1.96) A	----	-.000 (1.75) A	.001 (.53)	-.007 (.19)	20	10	.3566	231	4.639
7. a) SAMPDIS	.334	-8.953 (6.92) ***	.000 (.74)	.020 (.83)	----	.004 (1.23)	-.060 (1.07)	20	10	.5967	231	10.724
b) SAMPDIS	.429	-9.066 (7.01) ***	.000 (.13)	----	-.000 (.87)	.004 (1.17)	-.058 (1.03)	20	10	.6008	231	10.887

<sup>a</sup>This represents the number of dummy variables for judicial districts in that state.

<sup>b</sup>This represents the number of dummy variables for the years in the sample.

(Values in parentheses are t-statistics)

\*significant at the .10 level -- \*\*significant at the .05 level -- \*\*\*significant at the .01 level

workload reduces dismissals as a proportion of dispositions. CRIMTOT has a negative sign and is significant in both 2a and 2b at the 1% level. This relationship between CRIMTOT does not hold in the DISMFIL equation--the sign is negative but its coefficient is not significant. Possibly more surprising is the independent variable JUDMIX. It too has a negative sign and is significant at the 5% levels in both the DISMDISP and DISMFIL equations. One could argue that judges prefer not to dismiss cases when discretion is higher (the result is corroborated by the sign, though not the significance, of the other independent variable, TLMEAS). Judicial resources play no significant role in the handling of cases. However, in the DISMDISP equation, judicial salary is positively significant (5% level); the result is not carried through to the DISMFIL equation but it appears that salary can have an effect on choices in Illinois. Turnover has no effect on the results of either form of the dismissal variable.

The guilty plea equation (4) again results in an opposite effect for criminal workload: CRIMTOT has a negative sign and is significant at the 1% level. Workload reduces the level of guilty pleas. Consistent with our expectations, increasing independence, as measured by both TLMEAS and JUDMIX, is positively related to guilty pleas. TLMEAS is significant at the 1% level and JUDMIX is significant at the 5% level. For the variable JEXPOP the sign is as predicted but the variable is not significant, continuing the lack of impact on the judicial system by judicial resources. JTOVER is neither significant nor of the predicted sign.

For the trial equations (5a, 5b) there is inconsistency with the other results. Increases in the criminal workload not only reduce the number of pleas but also reduce the number of trials. This is as predicted but not consistent with previous results. One has to look outside the criminal case processing system to find a plausible explanation: since increases in the workload are negatively related to both pleas and trials, the system must be substituting out of some other (non-criminal) case processing to handle this workload.<sup>11</sup> As for the other variables, none are significant in affecting the level of trial usage.

For the two output result equations (6a, 6b; 7a, 7b) the effects of the criminal workload continue to dominate the empirical results. For the trial conviction equations, CRIMTOT is of negative sign and significant at the 10% level. In equation 6b, both TLMEAS and DEFSAL have negative signs and are significant at the 10% level. The independence effect on trial convictions is negated because in both 6a and 6b JUDMIX has a positive sign, in opposition to the sign of TLMEAS. JUDMIX is, however, not significant.

In the imprisonment equations, CRIMTOT carries a negative sign and is significant at the 1% level in both 7a and 7b. This is the only independent variable significant in either of the two equations. Caseload effects tend to reduce the number of trial convictions, which could be predicted if fewer cases go to trial, but also reduces the number of defendants imprisoned, regardless of how they were convicted.

To summarize the results for Illinois, the overwhelming factor in all aspects of case processing is the effect of the criminal caseload. As CRIMTOT increases, output rises, and pleas, dismissals and trials are all reduced; trial convictions and individuals imprisoned are also decreased. In Illinois, no "specialization effect" appears present but case processing is clearly affected by criminal workload.

The effect of judicial independence works largely as hypothesized except that it reduces dismissals. In this situation, judges apparently do not prefer to terminate cases through dismissal, hearing them through to some disposition. This can partly explain the effects of the workload--cases are not dismissed adding to the work required, which then exhibits itself in fewer pleas, fewer trials, fewer trial convictions and fewer imprisoned. Attributing all of this to the effect of judicial independence would clearly be a mistake, but it is reasonable to infer that this aspect can contribute to processing problems which appears to be one of the characteristics of the Illinois structural arrangement.

The results for the other independent variables were consistently unremarkable. As in other states, judicial resources do not do much to alter the processing pattern, a factor which should not escape attention; that is, other factors--including the property rights structure--appear to have more impact on case processing than do judicial resources.

## NEW JERSEY

The Data

The data on New Jersey has been taken from the Preliminary Reports and Annual Reports by the Administrative Director of the New Jersey courts for the years 1966-1977. From these reports we obtain statistics relating to both output and output mix. The reports also furnish information concerning the numbers and types of general jurisdictional judges in New Jersey.

From this data, hypotheses are tested for New Jersey relating to the effects on output and on output mix of:

- (1) judicial resources;
- (2) judicial salary level;
- (3) workload effects; and
- (4) relative independence of judges.

The Statistical Model

The dependent variables for the regression equations estimated are:

- (1) DISPFIL: The ratio of total criminal dispositions to criminal cases filed, measuring output turnover.
- (2) PENDFIL: The ratio of criminal cases pending to criminal filings. This variable measures the calendar currency, a measure of case backlog.
- (3) DISMDISP: The ratio of dismissals to criminal dispositions. This variable measures the reliance on dismissals for termination of cases.
- (4) PLDISP: The ratio of guilty pleas to total criminal dispositions, measuring the use of guilty pleas to obtain dispositions.<sup>12</sup>
- (5) TRPLEA: The ratio of trials to guilty pleas, which measures the relationship between the usage of these two disposition methods.

These five dependent variables are the equations which are estimated for New Jersey. The hypotheses discussed above are tested in each equation through the utilization of the following independent variables:

- (1) JEXPOP: This variable measures judicial resource usage, defined in the manner described for Arkansas. The hypotheses are consistent as before: a positive relationship with output level and trial usage, and an inverse relationship with guilty pleas, dismissals, and case backlog.
- (2) DEFSAL: Real annual judicial salary. As usual, expectations are such that, a nominally positive relationship is expected with the quantity variable, the others being unsigned due to the lack of an a priori prediction.
- (3) CRIMTOT: The measure of criminal caseload. Workload effects should work against output and trial usage and increase guilty pleas, dismissals and case backlog.
- (4) TLMEAS: A measure of judicial independence. This variable is the total term length of the judicial workforce in a district. It is the product of the number of judges, by type, times the term each serves.<sup>13</sup> If independence is implied in longer terms, then the impact of relative differences in the independence of the district's judicial workforce will be captured by this variable. Greater independence should be positively associated with dispositions, dismissals, guilty pleas and negatively with trial usage and case backlog.

### The Statistical Results

For a complete examination of the results for New Jersey, consult Table VI-5. The two equation estimation procedure was again followed for New Jersey, one each for salary and resource usage. The dummy variables  $D_i$  and  $Y_i$  again stand for districts and years.

The results for the output equations (1a, 1b) are important. A positively significant relationship between CRIMTOT and DISPFIL holds in New Jersey, indicating that caseload pressure does not reduce output. Of equal significance is the result of the judicial resource variable; it has a highly significant (1% level) negative relationship with output. This indicates that in New Jersey the assignment of judicial resources works against case movement. Independence, as measured by TLMEAS, has a positive sign as expected and is significant at the 1% level. DEFSAL, as expected, played an insignificant role in the movement of cases.

The case backlog equations (2a, 2b) are unremarkable. None of the independent variables were significant; backlog is apparently not regarded as important.

Moving to the set of equations relating to output mix, the picture is clarified. In the dismissal equations (3a, 3b), the explanatory power of our model is improved relative to the output equations. Caseload pressures act to reduce rather than increase dismissals as in Illinois, and CRIMTOT is significant at the 1% level. Somewhat surprisingly, the independence variable TLMEAS also (significantly) reduces the dismissal level. Additional independence leads judges to choose not to opt for dismissals, preferring that some decision be made in the cases.

Table VI-5. New Jersey

Dependent Variable	Independent Variables					D <sub>1</sub> <sup>a</sup>	Y <sub>1</sub> <sup>b</sup>	R <sup>2</sup>	Obs.	F-stat.
	CONSTANT	CRIMTOT	JEXPOP	DEFSAL	TRHEAS					
1.										
a) DISPFIL	.240	.926 (7.59) ***	.000 (2.66) ***	----	.004 (4.57) ***	20	10	.3432	231	4.887
b) DISPFIL	.313	.854 (7.17) ***	----	.002 (1.22)	.003 (3.00) ***	20	10	.3266	231	4.847
2.										
a) PERDFIL	.975	-.319 (1.20)	-.000 (.90)	----	-.001 (.50)	20	10	.4023	231	5.838
b) PERDFIL	.959	-.365 (1.33)	----	.000 (.00)	-.002 (.61)	20	10	.4023	231	5.822
3.										
a) DISHDISP	1.309	-1.070 (4.16) ***	.000 (1.01)	----	-.008 (4.00) ***	20	10	.5816	231	10.686
b) DISHDISP	1.889	-1.022 (4.05) ***	----	-.002 (1.01)	-.008 (4.00) ***	20	10	.5815	231	10.987
4.										
a) PLDISP	.637	.309 (4.06) ***	.000 (1.91) *	----	.002 (2.00) **	20	10	.6669	231	14.956
b) PLDISP	.909	.282 (3.76) ***	----	.001 (2.09) **	.001 (2.07) **	20	10	.6640	231	15.664
5.										
a) TRIPLEA	.552	-.366 (1.47)	1.000 (1.27)	----	.006 (3.00) ***	20	10	.4835	231	7.525
b) TRIPLEA	-.194	-.292 (1.25)	----	.003 (1.56)	.006 (3.00) ***	20	10	.4823	231	7.695

<sup>a</sup>This represents the number of dummy variables for judicial districts in that state.

<sup>b</sup>This represents the number of dummy variables for the years in the sample.

(Values in parentheses are t statistics)

\*significant at the .10 level -- \*\*significant at the .05 level -- \*\*\*significant at the .01 level

Resources and salary have little impact on the level of dismissals, the latter much as expected.

For the set of guilty plea equations (4a, 4b), the consistent results end. Caseload pressure is felt on guilty pleas, as predictions of judicial analysts would tell us. The coefficient of CRIMTOT is positive and significant at the 1% level. Resources are weakly effective (10% level) in reducing the number of guilty pleas, but in terms of magnitude and relative significance, increases in salary might do more than increases in judicial resources. Judicial independence, as we hypothesized, increases the usage of guilty pleas. TLMEAS has a positive sign and is significant at the 5% level.

For the trial equations (5a, 5b) the results of the previous discussion are reinforced: caseload pressures reduce (though not significantly) the number of trials. Greater independence also reduces the ratio of trials to pleas; TLMEAS is significant at the 1% level in 5a and at the 5% level in 5b. Unlike the plea results, resources and judicial salary have a positive but insignificant impact on the use of trials as the method of disposition.

To summarize the results for New Jersey, our interpretation of the estimates leads to the conclusion that caseload and judicial independence play key roles in determining output and output mix. The New Jersey system, more than the other states analyzed, seems to put emphasis on output quantity. This relationship carries through to the output mix variables; greater independence is negatively associated with dismissals and trials, and positively related to guilty pleas--all of which serve

to increase output. Similarly, workload effects increase output and guilty pleas while reducing dismissals and trials. The importance of output comes through in these results. This outcome, taken in conjunction with the cross sectional results, implies that the institutional structure of New Jersey, which relies almost exclusively on appointive monitoring devices, places great emphasis on quantitative aspects of its output, perhaps more than the structures of the other states examined.

## NEW YORK

### The Data

The data for New York is taken from the Annual Report of the Administrative Board of the Judicial Conference of the state of New York for the years 1965-1978. These reports yield statistics on the Supreme Court detailing both output and output mix.

The information available on New York is more limited than for the other four states analyzed. As a result, only two hypotheses relating to output and output mix are tested:

- (1) judicial salary level; and
- (2) workload effects.

### The Statistical Model

The dependent variables for the regression equations estimated are:

- (1) ARRIND: This measures input for the criminal courts. The variable is the ratio of defendants arraigned to those indicted.

- (2) DISPFIL: This variable is our output measure, being the ratio of total criminal dispositions to criminal cases filed.
- (3) DISMFIL: This measures the use of dismissals for case termination. It is the ratio of dismissals to criminal matters filed.
- (4) PLDISP: The measure of plea usage and is the ratio guilty pleas to total criminal dispositions.
- (5) TRDISP: The measure of trial usage. Akin to PLDISP, this variable is the ratio of trials to total criminal dispositions.
- (6) TCONDIS: This is a measure of the results of the operations of criminal courts in New York. This variable is the ratio of trial convictions to total criminal dispositions.

As noted earlier, the amount of information available limited the number of hypotheses tested. Thus there are only two independent variables for the set of equations we estimate:

- (1) DEFSAL: The real annual judicial salary. The expectations for the impact of this variable are as discussed above.
- (2) CRIMTOT: A measure of the criminal workload, as defined for other states. This variable should display a positive relationship with dismissals and pleas; it should exhibit a negative association with output and trials. No apriori expectation is stated for its effect on trial convictions or arraignments.

### The Statistical Results

For a more detailed view of the empirical results, refer to Table VI-6. One equation was estimated for each dependent variable;  $D_j$  and  $Y_j$  again represent the district and year dummies, respectively.

The arraignment equation (1) yields almost no information. Neither judicial salary nor criminal workload has a significant effect on the proportion of arraignments. Because of the unimpressive results and our lack of an a priori hypotheses we can draw no conclusions from this equation.

For the output equation (2), the results are even more unimpressive, particularly that only 4% of the (adjusted) variation in output is explained. workload pressure has apparently no impact on case processing in New York.

The dismissal equation (3) gives the first significant result. Caseload pressure, as measured by CRIMTOT, implies reductions in the level of dismissals and is significant at the 1% level. Here, as in other states, the caseload pressure does not display a positive impact on dismissals.

The guilty plea equation (4) yields the first significant agreement with an hypothesis. Increases in criminal caseload do act to increase the reliance on guilty pleas and plea bargaining, and CRIMTOT is significant at the 1% level. Similarly conclusive are the results of the trial equation (5). Here again the hypothesis--that a greater criminal caseload reduces the use of trials--is confirmed and is significant at the 1% level.

Table VI-6. New York

Independent Variables

Dependent Variable	CONSTANT	CRINTOT	DEFSAL	D <sub>1</sub> <sup>a</sup>	Y <sub>1</sub> <sup>b</sup>	R <sup>2</sup>	Obs.	F-stat.
1. ARRIND	.602	.300 (1.14)	.000 (.00)	11	58	.2072	708	3.678
2. DISPFIL	.798	.209 (.72)	.000 (.00)	11	58	.0381	708	1.405
3. DISMFIL	.198	-.248 (4.28) ***	.000 (.00)	11	58	.3190	708	5.799
4. PLDISP	.867	.214 (4.55) ***	.000 (.00)	11	58	.2779	708	4.944
5. TRDISP	.188	-.316 (3.90) ***	.000 (.00)	11	58	.1545	708	2.872
6. TCONDIS	.076	-.117 (3.08) ***	.000 (.00)	11	58	.2549	708	4.506

<sup>a</sup>This represents the number of dummy variables for judicial districts in that state.

<sup>b</sup>This represents the number of dummy variables for the years in the sample.

(Values in parentheses are t statistics)

\*significant at the .10 level -- \*\*significant at the .05 level -- \*\*\*significant at the .01 level

Further compounding the previous set of results is the finding in the final equation, TCONDIS. Caseload pressure not only affects the pleas-trials relationship but it also reduces the number of cases in which convictions are obtained at trial. Here again the coefficient of CRIMTOT is negative and is significant at the 1% level.

In categorizing the results for New York, note must be taken of the comparative lack of information which restricts the conclusions that can be drawn. Only conclusions about the workload effects are possible for New York. Caseload pressure does increase pleas and reduce trials, but does not imply reductions of output. This has not, however, been the rule in our findings, but neither is it the exception.

### Conclusions

The empirical results obtained are much too extensive to go through a litany of the implications drawn. Rather, overall conclusions from the statistical work will form the bulk of this brief section.

Probably the clearest implication that can be drawn from the work in this chapter is that the conclusion of the previous chapter concerning the importance of output quantity is strongly confirmed. The previous chapter indicates that no structural arrangement is any better than any other in producing volume; this chapter informs us that workload pressures do not generally reduce output. In some states greater workloads actually imply increases in output. Additional resources, however, do not appear to affect output or output mix significantly. The caseload pressure hypothesis is not generally supported by the results

obtained. The level of relative judicial independence does, on the other hand, appear to affect the output and output mix produced by a court.

The results we have obtained are based on crude information and could be misleading if the values used do not accurately reflect court activity, but the strength of some of the results are quite surprising. Refinements clearly could be made, but insofar as our limited aims were concerned, the empirical conclusions possible exceed what was initially expected. The most encouraging result is that with little doubt, differences in property rights structure clearly appear to have a measurable impact on the processing of cases in the criminal courts, while caseload pressures do not consistently determine the way in which the courts operate.

## REFERENCES

<sup>1</sup>The publications employed for such states are listed in the section pertaining to that state. Additionally, the time period examined for each state is as follows: Arkansas, 1965-1977; California, 1967-1979; Illinois, 1966-1977; New Jersey, 1966-1977; New York, 1965-1978. Minnesota and Ohio were excluded due to insufficient amounts of information. The reasons for the selection of these particular states can be found in Chapter V.

<sup>2</sup>Typically, one would view additional work as implying that new or improved skills would be developed. This could be called a "specialization effect"--skills developed to be able to process the workload more efficiently and would come from greater experience (that greater caseloads would bring).

<sup>3</sup>This, however, is not always true. For empirical evidence of such on the Federal level, see Robert W. Gillespie, "The Production of Court Services: An Analysis of Scale Effects and Other Factors", Journal of Legal Studies 5(1976), pp. 243-65.

<sup>4</sup>This information is quite difficult to measure accurately for several reasons. One problem is that information about turnover typically does not state whether the turnover was attributable to resignation, death, defeat at election or removal. Thus, the monitoring effect could be over or understated. Another difficulty is the flow of the relationship; does turnover (e.g., a lame duck judge, who anticipates resignation or retirement) lower output, or does lower output produce turnover (defeat at election or removal). The form in which we investigate this question empirically implies that concurrent turnover will lower output and worsen the output mix, while lagged turnover will increase output and improve output mix.

<sup>5</sup>For the details on the covariance model, see R. S. Pindyck and D. L. Rubinfeld, Econometric Models and Economic Forecasts (New York: McGraw-Hill Book Co., 1976) pp. 203-06.

<sup>6</sup>Ibid.

<sup>7</sup>The restricted sample was employed for Arkansas because lagged judicial turnover was unavailable for 1969-1970.

<sup>8</sup>This regional price index is the regional Consumer Price Index for the particular area from 1977. It was taken from the Statistical Abstract of the United States, 1978.

<sup>9</sup>Juries can work in either a positive or negative manner. They do not possess the specialized legal skills required of judges and hence are likely to slow down case processing. However, such a lack of training cannot be regarded as leading to unjust or incorrect decisions, and typically one can assume that jury trials are ones in which more effort and time has been devoted, thus improving the probability.

<sup>10</sup>Lagged turnover was tried in place of concurrent turnover, but it did virtually nothing to the explanatory power of the equation. Longer terms, as in Illinois, lead to lower turnover by design.

<sup>11</sup>Such behavior is possible in any court system, but it seems more easily accomplished since the Illinois Circuit Court has jurisdiction over all forms of legal matters, that is, there is no other lower or limited jurisdiction court to here cases. Moreover, the effect of workload in reducing trials is not quite as it might seem. An additional equation with TRPLEA (the ratio of trials to guilt pleas) as the dependent variable was estimated and the results were:

$$\text{TRPLEA} = -.261 + 13.866 \text{ CRIMTOT} - .000 \text{ TLMEAS} + .068 \text{ JEXPOP} - .015 \text{ JUDMIX}$$

$$(7.610)^* \quad (.000) \quad (.039) \quad (.021)$$

$$+ .167 \text{ JTOVER}$$

$$(.328)$$

$$R^2 = .2815 \quad R^2 = .1568 \quad \text{see.} = .3544 \quad F = 2.258 \quad n = 231$$

\*Sig. at 10% level.

<sup>12</sup>PLDISP is the exact converse of TRDISP for the estimates in New Jersey.

<sup>13</sup>There are two types of judges in New Jersey hearing criminal cases: (1) superior judges, serving 7 year terms (with life tenure upon reappointment); and (2) county judges, serving 5 year terms (with life tenure after the third appointment). Each receives the same salary.

## CHAPTER VII

### CONCLUSIONS

This chapter closes this dissertation, and summarizes and analyzes the findings contained in the study. There are two areas that this work deals with. The first, and of primary interest, is an empirical extension of the consideration of the economics of property rights and theories of bureaucracy. The second, closely related to the first, inquires into some widely held notions about court systems and the factors affecting them.

The first aspect takes analytical form in our considerations of the property rights structure of the courts system. The contention of this dissertation is that the structural arrangements of court systems play a major role in determining the level and nature of the output produced by those systems.

These considerations focus on the judge within the court structure, as representative of the system itself. This does not imply that the judge and other actors always act in concert in all aspects of the working of a court system. It simply means that for the purposes of this study, the implications of the factors affecting the judge and his actions are sufficient to represent the court as a whole. To this end, the empirical work focuses on those institutional factors which (seek to) control judicial behavior: selection, tenure and removal.

One of the crucial implications of the analysis of the court system undertaken here is that for aspects of court output that are easy to monitor, differences in property rights structures (i.e., different methods of selection, lengths of tenure, and methods of removal of judges) are not likely to display significant differences in the level of that aspect produced. Thus, quantitative aspects of court production should not be different with different structures, because quantity is easily monitored. And in the cross-sectional study of general jurisdiction courts in seven states, this indeed is the case.

However, this same logic implies that if different structures possess differing abilities to monitor other aspects, then the production of these aspects may be significantly different. The cross-sectional study shows that there is a systematic relationship between structural characteristics and qualitative output measures. While the results are not overwhelmingly conclusive, the findings show that judicial control measures using popular or electoral means lead to more trials and fewer guilty pleas, whereas measures employing what may be called administrative means result in more guilty pleas and fewer trials. This by no means implies that one structural method produces more justice than another or even that trials are preferred to guilty pleas. However, many students of criminal justice have bemoaned the predominance of guilty pleas in our courts and have implied that dispositions obtained through pleas may often deny defendants their constitutional rights. Our findings would indicate that electoral methods may be the means to obtain more trials, if that is what is sought. (This is, by no means, clear. In fact our

findings show what results from existing structures in certain states. This does not mean that different structures in those states would necessarily obtain the predicted outcome.)

The second area of inquiry for this study looks closely at some ideas about the effects of internal and external pressures on the court system. The first of these relates to the notion that most general jurisdiction level courts are overburdened with cases, and thus to ease this caseload pressure the actors in the courts resort to the use of guilty pleas to reduce workload and increase output. The second is closely tied to the first. It is alleged that the means by which this caseload pressure may be reduced (and as a result reduce the usage of guilty pleas) is through the application of additional resources to the courts. These questions are examined through the use of long term data from five different states, in individual state examinations. Additional inquiries relating to differences in (relative) judicial independence are also conducted where possible.

The findings relating to caseload pressure reinforce the findings of the first study. That is there is evidence of considerable effort to process the caseload, and in almost every situation, additional caseload pressure does not reduce output quality and usually increases output quality. In some states caseload pressure did increase guilty pleas and decrease trials; but in others, the opposite results - additions to caseload pressure imply more trials and fewer guilty pleas. As one might expect, caseload pressure alone is an insufficient means to explain the widespread reliance on guilty pleas. The caseload pressure hypothesis is not a consistent explainer of the results obtained.

Moreover, findings about resource usage confounds the popular notions relating to their effect. In nearly every situation, resource level is not significantly related to output level nor to any of the qualitative measures employed. Clearly if one wants to reduce guilty plea usage, additional resources are not likely to bring about that result. Some other means are required.

Finally, the measures of judicial independence, within a system, confirm those notions found across structural arrangements: greater independence (discretion) generally reduces output level and increases guilty pleas and reduces trial usage.

The implications of these two investigations appear quite important, and complement each other quite well. There are clear indications that the structural arrangements are a significant factor in affecting the output mix of a court system. There also is strong evidence that the incentives for concentrating on output quantity consistently overshadow other factors. However, in certain states these incentives are tempered by control mechanisms to produce a particular product mix, while in other states the arrangements do not provide for the production of these aspects in the same form. Reform efforts, based upon the findings in these studies, might be more productively aimed at structural changes rather than attempting simply to bring more resources to the court system. These reforms are clearly predicted on the notion that it is desirable to reduce guilty plea usage for dispositions, a notion that may no be valid. The findings we obtain do not deal with this issue.

The findings obtained through the use of the data that was available at the time. Clearly the measurements used in this dissertation are not the most desirable, as there was little standardization of the units of count among the state. This implies that there is a clear caveat that must be applied to the findings - the data used may have presented aggregation problems that were not clearly evident in their usage. Thus with better data the crude findings obtained here could be refined so as to make more meaningful statements about the courts possible. Additionally, more detailed data could also serve to improve the results. Nonetheless, these findings clearly indicate that structural arrangements do make a difference in the case processing system in the state courts.

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## APPENDIX I

This appendix details some of the structural aspects of the state court systems in the seven states which form the data set for the empirical sections of this study. These characteristics are discussed only briefly and this section should not be considered definitive of the courts system in these states. Rather, it is information on which the empirical work is based.

### ARKANSAS

The Arkansas court system has been characterized as being complex and traditional.<sup>1</sup> This is because it is virtually identical to the structure defined by the (still operating) 1874 state constitution. Arkansas has an appellate court (Supreme), general jurisdiction courts (Circuit and Chancery) and a variety of limited jurisdiction courts. This structure is similar to many states; however, Arkansas has no intermediate appellate court (although one has been authorized) and it has separate courts of law and equity at the general jurisdictional level. This structure is detailed on Figure A-1.

With reference to the general jurisdictional level, there are two courts, as noted. One court, hearing only equity matters, is the Chancery Court. The Chancellors of these courts are popularly elected by partisan processes and serve six year terms. Cases heard by these courts are domestic relations matters, land disputes, reciprocal support actions, probate and other cases where equitable relief is sought.

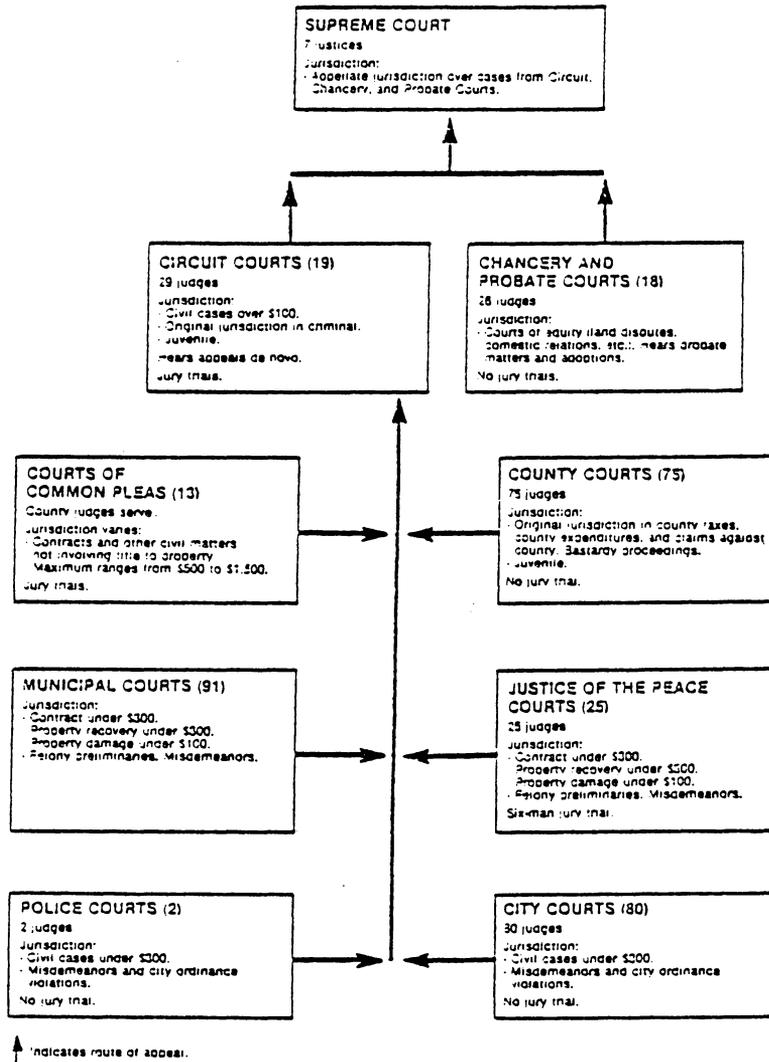


Figure A-1  
Arkansas

The other general jurisdiction court is the Circuit Court. Circuit judges preside over civil and criminal cases, and hear appeals from courts of limited jurisdiction. Circuit judges are also selected in partisan popular elections, and serve terms of four years.

Both Circuit judges and Chancellors must be learned in the law and must have practiced law at least six years. They are subject to removal by impeachment or by the governor upon the joint address of two-thirds of the members of each house of the General Assembly. Vacancies in these courts are filled by appointment by the governor until the next general election. Interim appointments are ineligible for election. Arkansas has 19 circuit jurisdictions and 18 chancery districts.

#### CALIFORNIA

The California courts system is structurally similar to the others considered in this study; it has the basic three tiered system: a general trial court, and intermediate appellate court and a supreme court of last resort. The differences in the California system are found at the general trial level. This court - the Superior Court - has limited jurisdiction in that certain (limited jurisdiction) courts, primarily the Municipal Court, have original jurisdiction assigned to them by California's judicial statutes (see Figure A-2).

The Superior Court, which we focus on, has primary jurisdiction over felonies, civil suits (over \$5,000), equity and domestic relations proceeding. This court also hears those cases relating to probate matters, juvenile delinquency, dependency and neglect. Cases can begin in the Municipal or Justice Courts, over which the Superior Court has

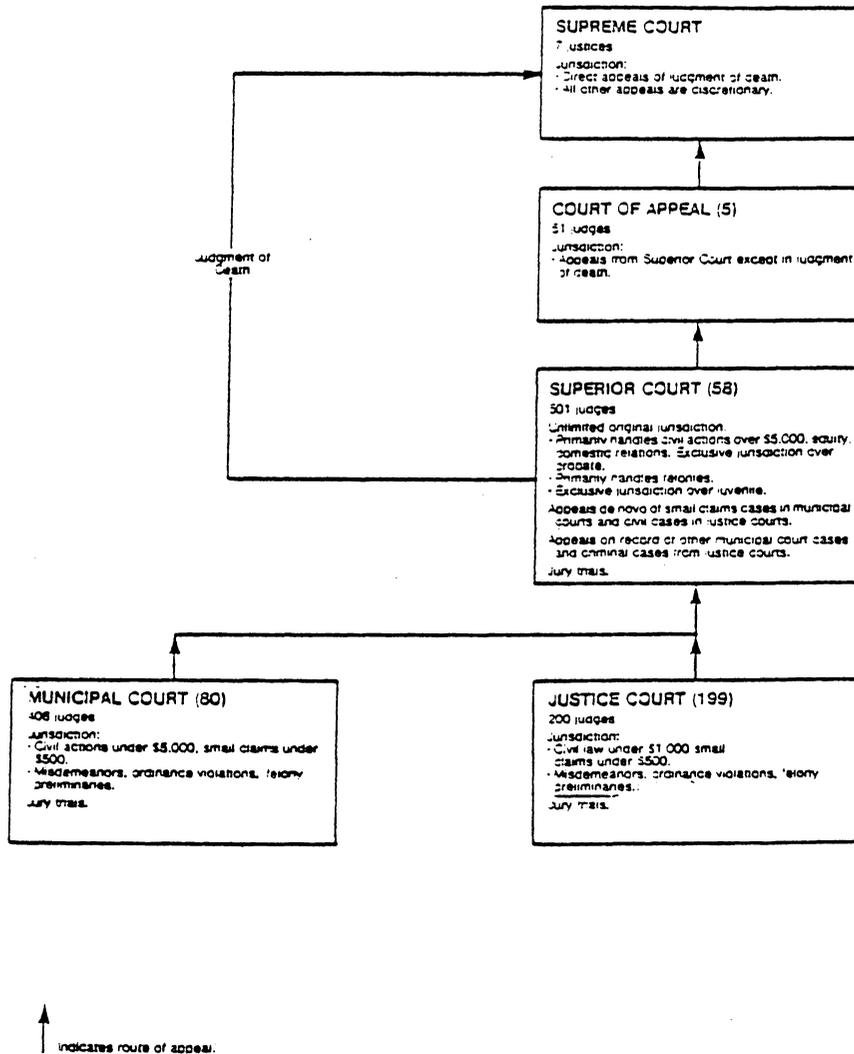


Figure A-2  
California

appellate jurisdiction (these cases are heard on their record rather than de novo, except for civil suits).

There is one Superior Court for each of California's counties, which number 58. Each court has at least one judge. The Superior Court judge is popularly elected in nonpartisan elections by county, and a judge serves a six year term. To qualify for a judgeship, an individual must have been a member of the State Bar or served as a judge in a court of record for at least 10 years immediately prior to selection.

Superior court vacancies are filled by appointment by the governor until the next election. The judge elected at this time then serves the full six year term. Judicial removal is possible in several ways. All state judges are subject to impeachment. All state judges are also subject to recall by voters. Judges may be suspended (without pay) by the state Supreme Court when found guilty of a felony and removed upon final conviction. Finally, upon recommendation by the Commission on Judicial Qualifications, the Supreme Court may remove judges for cause, or retire a judge whose disabilities prevent the performance of duties.

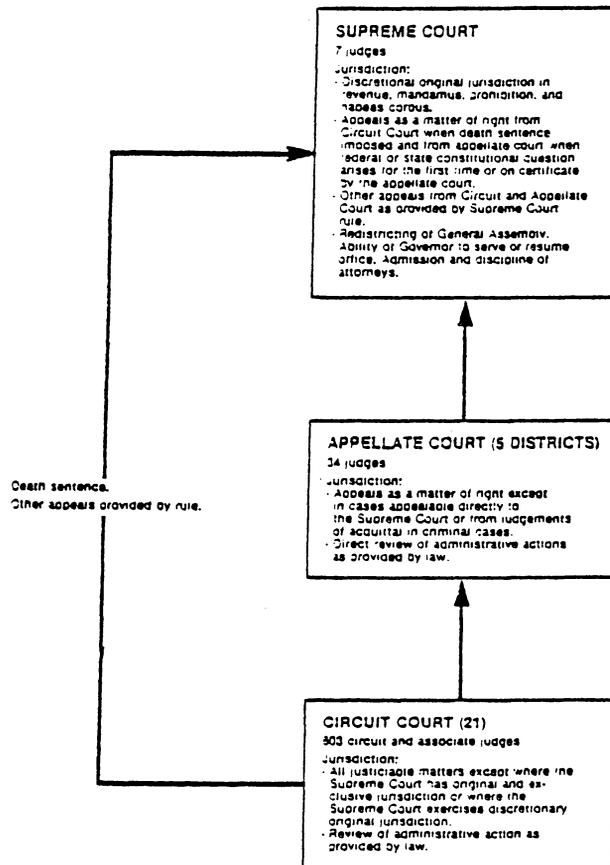
#### ILLINOIS

Illinois has the unique feature of being the only state court system in the United States to have abolished all lower courts, that is, courts of limited jurisdiction. This means that there are only three levels in the Illinois judicial system: the court of last resort (Supreme Court), an intermediate appellate court (the Appellate Court) and the general jurisdiction court (the Circuit Court). All functions previously performed by probate courts, family courts, justices of the peace and

other limited jurisdiction matters are now performed by the Circuit Court. This change came about in 1964 as the result of a constitutional amendment. This unified form of organization was continued in the state constitution of 1970 (see Figure A-3 for a diagram of the Illinois judicial system).

The Circuit Courts have unlimited general jurisdiction. There are twenty-one circuit court systems, each serving multiple counties except those for Cook and DuPage counties, which each comprise a circuit. There are two types of judges in the Circuit courts: circuit and associate. This structure marks one of the (few) differences between the 1970 constitution and the previous judicial article. Prior to the 1970 constitution, there were circuit judges and associate judges, each selected in partisan popular elections and serving six year terms. There were also magistrates appointed by the judges in each circuit, and the magistrates served at the pleasure of these judges. With the implementation of the 1970 constitution, all associate judges become circuit judges, and all magistrates became associate judges. The new associate judges are still appointed, but serve four-year terms. All elected judges are retained by a circuit-wide merit retention election. Previous to the 1970 constitution, retention of a judge required the approval of a simple majority of voters; currently, retention requires an affirmative vote by three-fifths of the voters.

To be eligible to be either a circuit or associate judge, one must be a licensed attorney in Illinois. Any judge may be removed by impeachment by the legislature. There is also a Judicial Inquiry Board,



↑ indicates route of appeal.

Figure A-3  
Illinois

which is authorized to investigate, initiate and receive complaints about judges. These complaints may be filed by the Board with the State Court Commission. This commission has the power to suspend, censure, reprimand or remove any judge for misconduct or other violations. Judge's offices which become vacant are filled by the legislature and then the office is filled at the next general election.

#### NEW JERSEY

The New Jersey courts system was one of the first to move to a unified court system and the use of court administrators. The structure was implemented in 1948 and remains essentially unchanged. The basic framework of the New Jersey system is the typical three-tiered system: a supreme court, an intermediate appellate court, and a variety of trial courts (see Figure A-4 for the structure of the New Jersey Courts).

This study focuses on the Superior Court. However, the Superior Court is divided into three sections: the appellate division, which hears appeals from the various trial courts; the chancery division, which hears general equity matters and matrimonial cases; and the law division which, in conjunction with the County Courts, hears all general jurisdictional matters and civil actions.

The Law Division, the specific area of interest, sits in each of the twenty-one counties of New Jersey. As stated, this Law Division handles general jurisdictional matters jointly with the Law Division of the County Court. These courts have original jurisdiction over all criminal matters and unlimited jurisdiction over all civil matters at law.

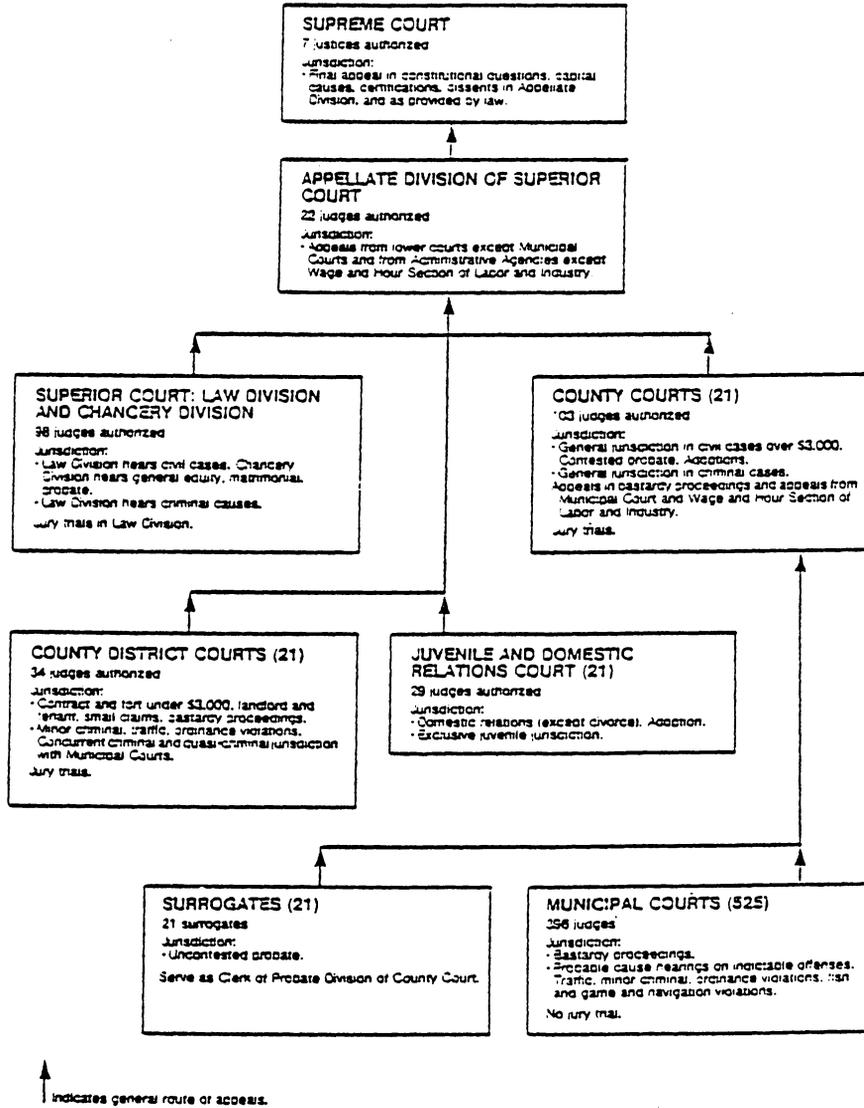


Figure A-4  
New Jersey

There are two types of judges that hear cases in these courts. The first is the Superior Court judge. Unlike any other system considered in this study, judges are appointed in New Jersey. The appointment of Superior Court judges is by the Governor and is with the consent of the state senate. Superior Court judges initially serve terms of seven years, and upon reappointment receive tenure until retirement or death. To be appointed, an individual must have been admitted to the New Jersey Bar for at least ten years.

County Court judges are appointed in the same manner. The County Court judge, however, serves a term of five years. After two five-year terms, judges receive tenure (until death or retirement) upon the third appointment. They, too, must have been admitted to the bar for at least ten years.

County Court judges are appointed in the same manner. The County court judge, however, serves a term of five years. After two five-year terms, judges receive tenure (until death or retirement) upon the third appointment. They, too, must have been admitted to the bar for at least ten years.

These judges are subject to removal in several ways. All judges are subject to removal through impeachment. Second, removal is possible through the following process: (i) the Supreme Court certifies the need for investigation; (ii) the Governor appoints a three-person commission to inquire into incapacity, and makes recommendations; (iii) on the recommendation of this panel, the Governor may retire a judge from office. Finally, the Legislature, the Governor, or the Supreme Court may institute proceedings against a judge for misconduct, willful neglect of

duty, or incompetence. The Supreme Court investigates and hears the ground for removal and may remove a judge for cause. Vacancies are filled by gubernatorial appointment with advice and consent of the state senate.

#### NEW YORK

The courts system in New York has a rather complex structure. New York has a court of last resort, the Court of Appeals, as well as an intermediate level appellate court, the Appellate Division of the Supreme Court. The general jurisdiction level court, the Supreme Court, has original jurisdiction over all cases (both civil and criminal) save for those assigned to lower courts. Below this level, there are a number of special, limited jurisdiction courts. Adding to the complexity of this system at this level is the differentiation between courts inside or outside of New York City. These organizational characteristics carry over to the Supreme Court: in New York City, the Supreme Court operates independently, however civil and criminal terms. But outside New York City, the Supreme Court operates concurrently with the County Courts (see Figure A-5 for details of the New York court structure).

The Supreme Court has original and unlimited civil jurisdiction in law and equity and has exclusive jurisdiction over domestic relations proceedings. In the counties outside of New York City, criminal jurisdiction is usually exercised by the County Court. In the five counties comprising New York City, the Supreme Court has and exercises jurisdiction over all felonies and misdemeanors prosecuted by indictment. Appeals at this level are heard by the appellate term of the Supreme

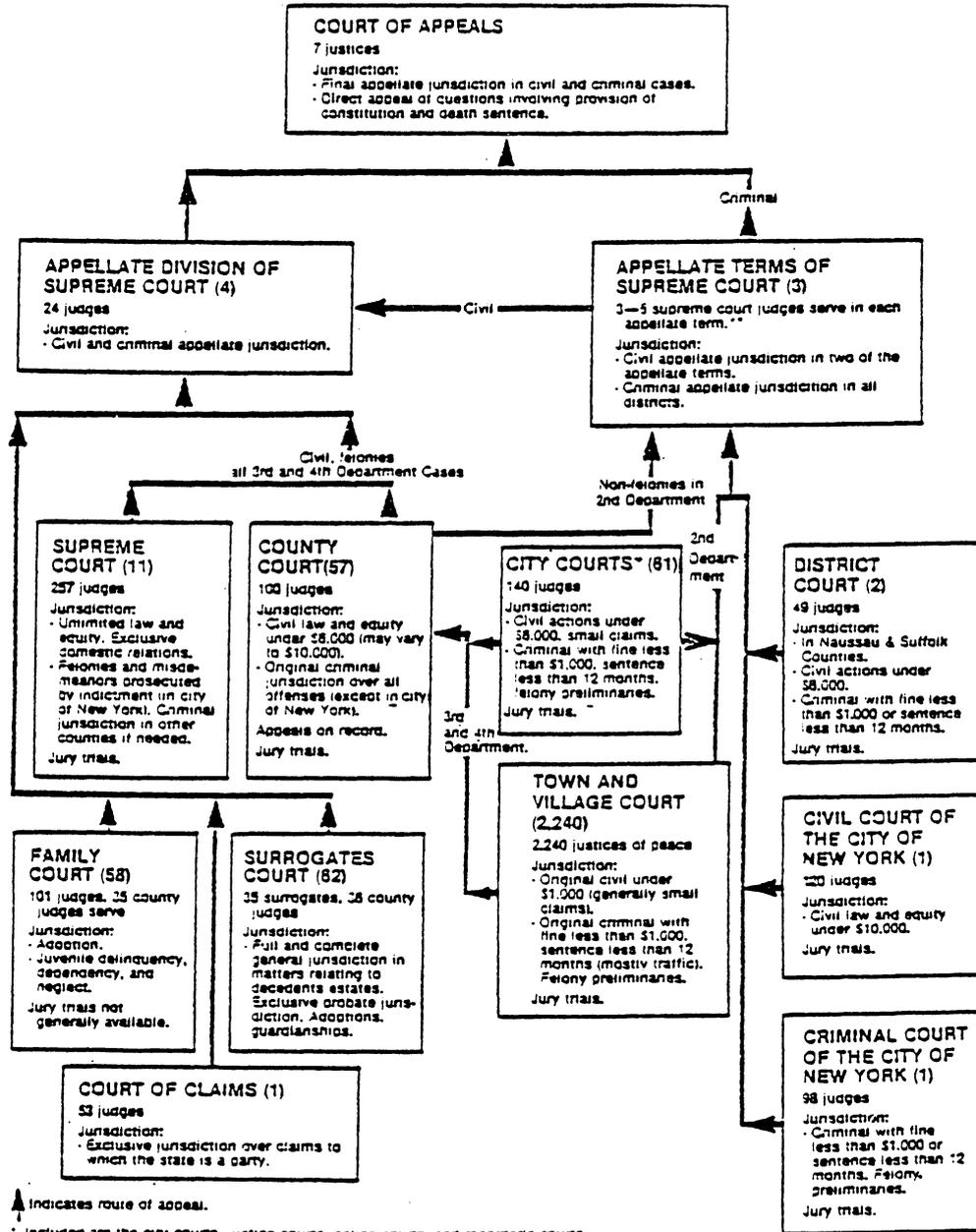


Figure A-5  
New York

Court and are heard on the record. Jurisdiction is exercised by the Supreme Court (either independently or concurrently with the County Court) in each of the sixty-two counties comprising the state of New York.

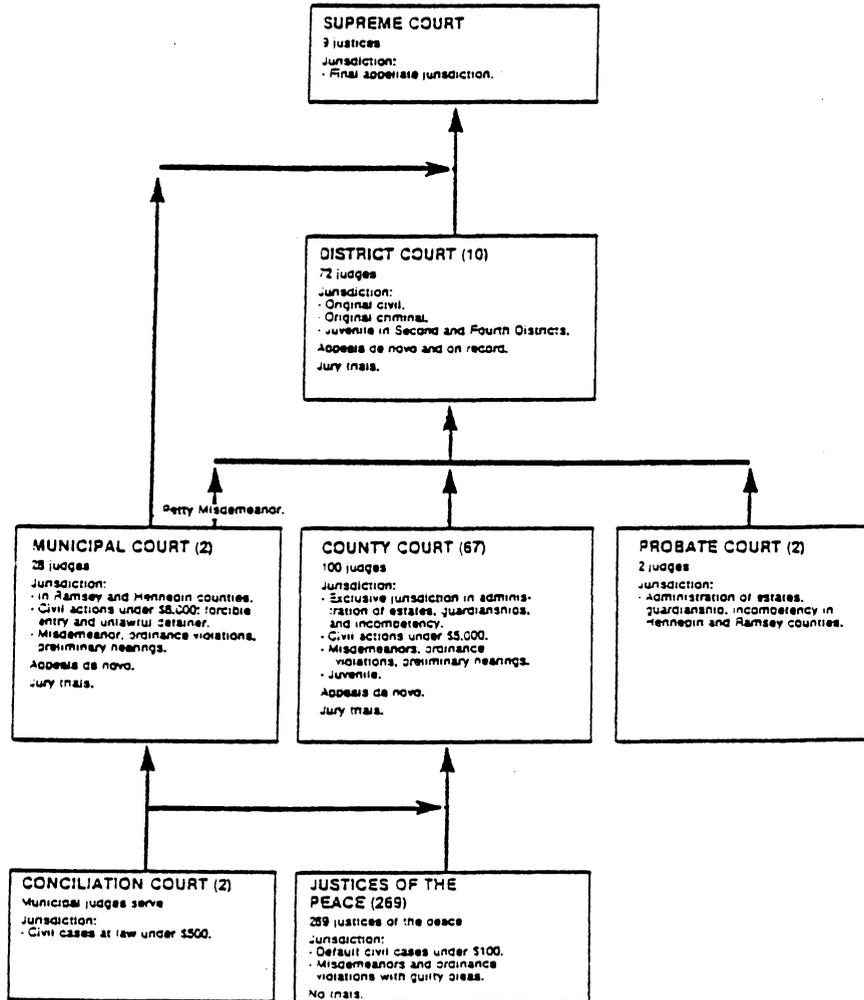
The supreme Court judge is selected by partisan popular election and serves a fourteen year term. Supreme Court judges must retire upon attainment of the age of seventy. Eligibility for election requires that an individual have been admitted to the State Bar for at least ten years.

A Supreme Court judge may be removed by impeachment. Removal is also possible through concurrent resolution of both houses of the Legislature, with two-thirds vote necessary for removal. Finally, any judge may be removed by the court on the judiciary for cause or for disability. Vacancies are filled until the next general election by appointment by the governor, with the concurrence of state senate (if in session); at the next general election, a new judge is selected to serve a full term.

#### MINNESOTA

The Minnesota courts system is structured much like the other states. Like Arkansas, it has no intermediate court of appellate jurisdiction. The basic structure is: the Supreme Court (court of last resort), the District Courts (general jurisdiction) and several courts of limited jurisdiction (see Figure A-6 for details on Minnesota's court system).

The District Courts has original jurisdiction over all criminal and civil cases. Original jurisdiction over juvenile delinquency, dependency and neglect is found in two of these districts (see below).



↑ Indicates route of appeal.

Figure A-6  
Minnesota

Finally, these courts have appellate jurisdiction over cases from all lower courts. There are ten districts comprising Minnesota's general jurisdictional courts, each composed of multiple counties, except for the two districts comprised only of Ramsey and Hennepin Counties.

Judges for the District courts are chosen in district-wide nonpartisan elections, and serve six year terms. Qualifications require that individuals be learned in the law. Vacancies that occur are filled by the governor until the next general election occurring more than one year after the appointment.

District judges may be impeached. Removal, as well as censure, retirement or suspension, may be carried out by the Supreme Court on recommendation of the Judicial Tenure Commission, for malfeasance, misfeasance, or for inability or failure to perform required duties.

## OHIO

The Ohio court system possess what may be considered the typical structural arrangement. It has a court of last resort, the Supreme Court, and an intermediate appellate court, the Court of Appeals. There is also the court of general jurisdiction, the court of Common Pleas' and a number of courts of limited jurisdiction (see Figure A-7 for the details of Ohio's structure).

The Court of Common Pleas has original jurisdiction in all civil cases where the amount in question exceeds \$500 and also in all felonies and other serious criminal offenses. There are also juvenile divisions of the court which have original jurisdiction in matters concerning any child under age 18.

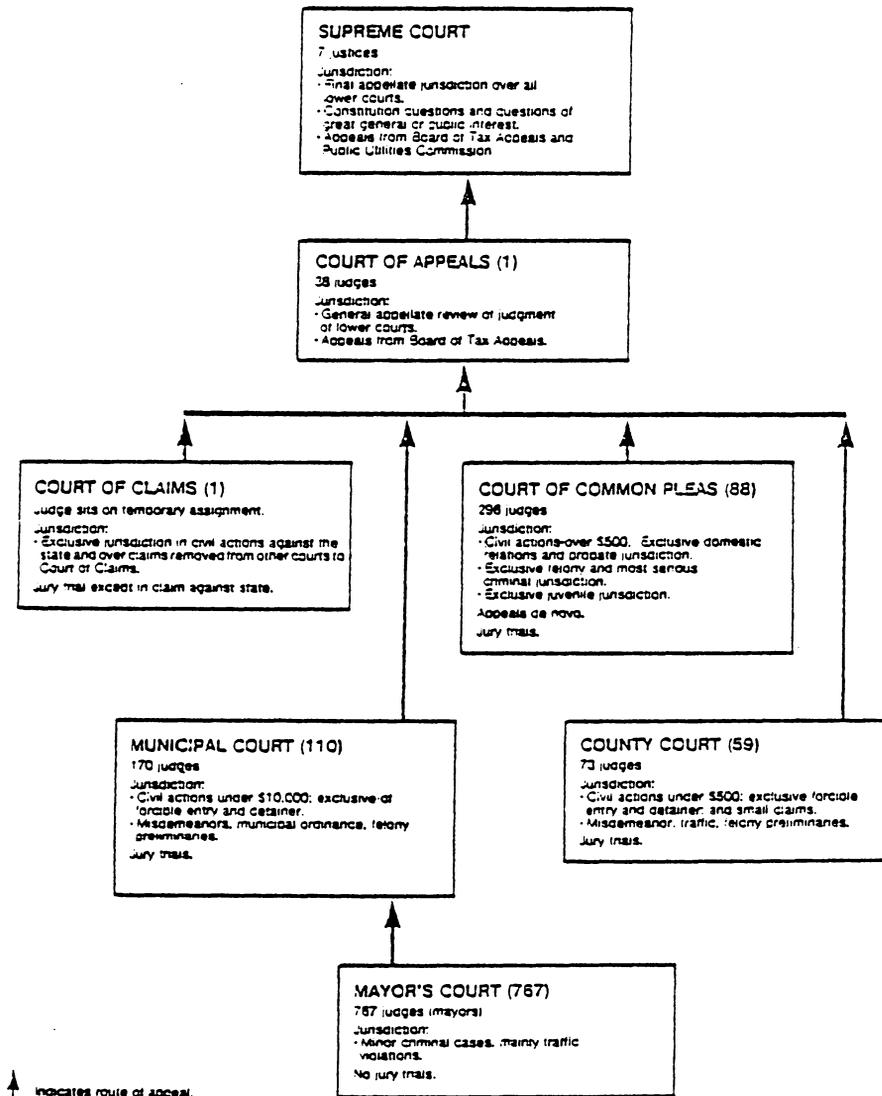


Figure A-7  
Ohio

Judges of the Common Pleas courts are nominated in a partisan primary and run on a nonpartisan judicial ballot in each county. These judges serve six year terms, and must have practiced law or served as a judge in a court of record. Vacancies in judicial positions in the Court of Common Pleas are filled by the governor, until the next election, when a judge is selected to fill the unexpired term. The Courts of Common Pleas meet in each of the 88 counties in Ohio.

Removal of a judge is possible through address (i.e., the concurrent resolution of two-thirds of both houses of the General Assembly); through impeachment, or disqualification as the result of a disciplinary action. Removal is also possible through a process which is essentially a recall process; it requires the filing of a petition by at least 15 percent of the electors in the preceding gubernatorial election, the judge is then tried by court or jury.

## REFERENCES

<sup>1</sup>See Henry R. Glick and Kenneth N. Vines. State Court Systems (Englewood Cliffs, N.J.: Prentice-Hall, 1973), p. 37.

## APPENDIX 2

This appendix is intended to supplement the findings of Chapter V. That chapter examined cross-sectionally factors affecting the case processing system. One of the characteristics of cross-sectional studies is that there is no differentiation between the individual units. In the case we examine, this is exemplified in that a unit from a small state with few districts (e.g., Minnesota) and one from a large state with many districts (e.g., New York) are equally weighted. This is the statistically appropriate manner to do such a study. However, this also means that the statistical impact of the states with more districts (units) could be greater than that of states with few districts. Thus this appendix considers the statistical results of an identical formulation to that found in Chapter V, except that the impact of the information from each state is equal rather than each district.

The manner in which this is done is through a simple weighting scheme, such that each state now, in effect, has the same number of districts. Mathematically the weighting formula is  $W = \frac{TD}{D_i * 100}$ , where TD is the total number of districts in all of the states examined (7) and  $D_i$  is the total number of districts in the i-th state. The denominator was multiplied by 100 so as to preserve as closely as possible the original sample size. W is then multiplied times each state's observation. The effect on the results obtained is that which would be obtained if the states all had the same number of districts.

Table AII-1. Weighted Cross Sectional Results

Independent Variables

Dependent Variable	Constant	ILLDUM	NJDUM	CALDUM	NYDUM	OHIDUM	REMOVE1/2	ELECTION	TERM	ADUM	R <sup>2</sup>	Obs.	F-stat.
1.													
a) DISMDISP	.210	.491 (12.28) ***	.238 (5.95) ***	-.132 (3.30) ***	.013 (.32)	.000 (.00)	-.078 (1.95) *	.000 (.00)	.000 (.00)	----	.7067	255 (164)	79.55
b) DISMDISP	.200	.491 (12.28) ***	.314 (7.85) ***	-.210 (5.25) ***	.000 (.00)	.000 (.00)	-.078 (1.95)	.000 (.00)	.002 (.40)	----	.7067	255 (164)	79.55
2.													
a) DISMFEIL	.218	.377 (10.47) ***	.113 (3.14) ***	-.138 (3.83) ***	.000 (.00)	.000 (.00)	-.068 (1.89) *	.000 (.00)	-.002 (.50)	----	.6465	255 (164)	60.63
b) DISMFEIL	.218	.377 (10.47) ***	.180 (5.00) ***	-.206 (5.72) ***	.000 (.00)	.000 (.00)	-.068 (1.89) *	.000 (.00)	-.002 (.50)	----	.6465	255 (164)	60.63
3.													
a) PLDISP	-.120	.000 (.00)	.000 (.00)	.088 (2.38) **	-.645 (2.14) **	.000 (.00)	-.127 (3.43) ***	-.219 (5.91) ***	.136 (3.68) ***	----	.5382	255 (164)	38.99
b) PLDISP	-.120	.000 (.00)	.000 (.00)	-.039 (1.05)	-.645 (2.14) **	-.127 (3.43) ***	.000 (.00)	-.219 (5.91) ***	.136 (3.68) ***	----	.5382	255 (164)	38.99
4.													
a) TRDISP	.092	.000 (.00)	.072 (2.77) ***	.010 (.33)	-.016 (.61)	.000 (.00)	.110 (4.23) ***	.000 (.00)	.000 (.00)	----	.1803	255 (164)	9.96
b) TRDISP	.091	.017 (.65)	.000 (.00)	.122 (3.93) ***	.000 (.00)	.038 (1.22)	.074 (2.39) **	-.015 (.48)	.000 (.00)	----	.1751	255 (164)	7.92
5.													
a) DISPFIL	1.017	-.121 (2.81) ***	-.276 (6.57) ***	.000 (.00)	.000 (.00)	.130 (2.55) **	.075 (1.74) *	.000 (.00)	-.007 (1.40)	.000 (.00)	.2187	274 (192)	11.69
b) DISPFIL	.987	-.077 (1.24)	-.336 (6.22) ***	-.078 (1.53)	.000 (.00)	.000 (.00)	.052 (1.08)	-.046 (1.09)	-.002 (.29)	.000 (.00)	.2145	274 (192)	9.69

(Values in parentheses are t statistics)

\*significant at the .10 level -- \*\*significant at the .05 level -- \*\*\*significant at the .01 level

The results from this estimation procedure may be found in Table AII-1. The most striking factor is that the results obtained are very nearly identical to those obtained by the unweighted data. For both the plea equations (3a, 3b, 4a, 4b) the results are virtually unaffected by the weighting scheme. Only in 3b is there any real difference: REMOVE2 is not significant, whereas unweighted it was significant at the 5% level.

However, the dismissal equations (1a,1b,2a,2b) do turn up one real difference. Removal methods (recall and judicial inquiry boards) do have a significant effect on the level of dismissals. In both sets of equations, the availability of recall methods and the lack of a judicial inquiry board significantly reduce the level of dismissals. Removal method is the only institutional variable significantly affecting the dismissal process.

Finally, the results obtained for output quantity in the unweighted results are largely confirmed here. One minor exception is that the presence of recall techniques imply reductions in quantity. This was significant at only the 10% level, however.

These results are only applicable for "as if" comparisons - that is, as if each state had an equally sized judicial system. But it seems quite important to note that correction for differences in the size of state court systems had virtually no effect on the empirical results. This indicates that the results obtained here are not dominated by the characteristics of one or two very large state court systems, adding credence to the original findings.

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# AN ECONOMIC ANALYSIS OF STATE CRIMINAL COURTS

BY

HAROLD W. ELDER

(ABSTRACT)

This dissertation is an analysis of state criminal courts, and employs the economics of property rights to develop a model of these courts. Previous economic analyses have not considered the effects of the property rights structure on decision making in the courts and are thus incomplete. That property rights structures affect decision making has been established in a large body of literature examining both private and public forms of organization. This study asserts that the court decision makers will make choices reflective of the property rights structures they face.

The implications of the property rights model are tested across state through the estimation of a linear regression equation. The results of these tests largely confirm the predictions of the property rights model. The primary conclusion derivable from the statistical work is that the property rights structure does affect the volume and composition of the output produced by a court.

Additionally, a competing hypothesis is tested over time for several of the states examined previously. This hypothesis is based upon the notion that output is determined by the caseload pressures facing a court. This hypothesis is not, however, consistently supported by the statistical results, thus adding credence to the idea that the property rights structure is a major determinant of court output.