

INFORMATION TO USERS

This manuscript has been reproduced from the microfilm master. UMI films the text directly from the original or copy submitted. Thus, some thesis and dissertation copies are in typewriter face, while others may be from any type of computer printer.

The quality of this reproduction is dependent upon the quality of the copy submitted. Broken or indistinct print, colored or poor quality illustrations and photographs, print bleedthrough, substandard margins, and improper alignment can adversely affect reproduction.

In the unlikely event that the author did not send UMI a complete manuscript and there are missing pages, these will be noted. Also, if unauthorized copyright material had to be removed, a note will indicate the deletion.

Oversize materials (e.g., maps, drawings, charts) are reproduced by sectioning the original, beginning at the upper left-hand corner and continuing from left to right in equal sections with small overlaps. Each original is also photographed in one exposure and is included in reduced form at the back of the book.

Photographs included in the original manuscript have been reproduced xerographically in this copy. Higher quality 6" x 9" black and white photographic prints are available for any photographs or illustrations appearing in this copy for an additional charge. Contact UMI directly to order.



University Microfilms International
A Bell & Howell Information Company
300 North Zeeb Road, Ann Arbor, MI 48106-1346 USA
313 761-4700 800 521-0600

Order Number 9315481

**An analysis of New Jersey's drug court project: A time series
quasi-experiment**

Krimmel, John Theodore, Ph.D.

City University of New York, 1993

Copyright ©1993 by Krimmel, John Theodore. All rights reserved.

U·M·I
300 N. Zeeb Rd.
Ann Arbor, MI 48106

**AN ANALYSIS OF NEW JERSEY'S DRUG COURT PROJECT:
A TIME SERIES QUASI-EXPERIMENT**

by

JOHN T. KRIMMEL

**A dissertation submitted to the Graduate Faculty in
Criminal Justice in partial fulfillment of the
requirements for the degree of Doctor of Philosophy,
The City University of New York**

1993

c 1993

JOHN T. KRIMMEL

All Rights Reserved

This manuscript has been read and accepted for the Graduate Faculty in Criminal Justice in satisfaction of the dissertation requirement for the degree of Doctor of Philosophy.

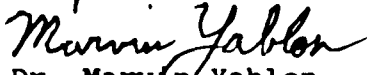
November 19, 1992



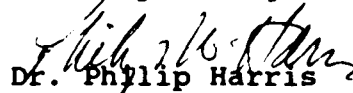
Dr. Kenneth Lenihan
Chair of the Examining Committee



Dr. Antony E. Simpson
Executive Officer



Dr. Marvin Yablon
John Jay College and GSUC



Dr. Philip Harris
Temple University

Supervising Committee

The City University of New York

Abstract**AN ANALYSIS OF NEW JERSEY'S DRUG COURT PROJECT:
A TIME SERIES QUASI-EXPERIMENT****by****JOHN T. KRIMMEL****Advisor: Professor Kenneth Lenihan**

Interrupted time series analysis was used in this quasi experiment to assess the impact of a special drug court program in New Jersey insofar as the program's ability to impact upon serious court backlogs and on case processing delay. Monthly data was analyzed over a six year time span, from 1985 through 1990 and an ARIMA time series methodology was employed. New Jersey's criminal justice system responded to the rapid increase of narcotics arrests at the beginning of 1988 and subsequent backlogs in the courts by implementing special trial teams at the post-indictment stage of defendant processing. The analysis was enhanced as the state of New Jersey administered the program to a select number of counties creating an evaluation situation where certain inferences could be drawn between those jurisdictions receiving the intervention and those that did not.

TABLE OF CONTENTS

CHAPTER I, THE PROCESS OF CHANGE	1
Blueprint For A Drug-Free New Jersey	2
The Comprehensive Drug Reform Act of 1986 (Introduced October 20, 1986)	6
The Attorney General's Statewide Action Plan For Narcotics Enforcement	10
The Pashman-Belsole Report: "Report Of The Special Committee To Assess Criminal Division Needs"	13
Arrest Activity.....	18
CHAPTER II, THE GENESIS OF THE DRUG COURT PROGRAM ...	28
Phase I - Drug Case Backlog Reduction Program	29
Phase II - Drug Court Program	31
Summary Of Objectives	43
CHAPTER III, THE RESEARCH PROCESS	45
Interrupted Time Series Design	45
CHAPTER IV, THE EXPERIMENTAL PROCESS	51
The Impact Assessment	51
The Data	53
CHAPTER V, EVALUATING COURT PROGRAMS	61
Assessing The Reform Process	66

CHAPTER VI, CONSTRUCTING A PARADIGM	75
Building A Functional Court Model	75
Traditional, Contemporary and Contingency Models	82
Contextual, Proximate and Cultural Influences	93
Building A Functional Court Model Of New Jersey's Court System	110
CHAPTER VII, BACKLOG REDUCTION	131
CHAPTER VIII, THE DRUG COURT: POST-INDICTMENT BACKLOG REDUCTION	164
CHAPTER IX, CASE PROCESSING TIME	190
CHAPTER X, PROGRAM INTEGRITY	216
CHAPTER XI, SUMMARY OF FINDINGS	270
APPENDIX A, ATTORNEY GENERAL'S ACTION PLAN DIRECTIVE	282
APPENDIX B, NEW JERSEY DRUG LEGISLATION	288
BIBLIOGRAPHY	294

LIST OF TABLES

Table 1-1 New Jersey Drug Arrests, By Quarter, 1985-1990	19
Table 1-2 Total Arrests, New Jersey, 1985-1990	20
Table 1-3 Total Arrests and Total Drug Arrests, New Jersey, 1985-1990	21
Table 1-4 Percent of Drug Arrests to All Arrests, New Jersey, 1985-1990	22
Table 1-5 New Jersey Cocaine Arrests, By Quarter 1985-1990	23
Table 1-6 New Jersey Drug Arrests and Cocaine Arrests, By Quarter, 1985-1990	24
Table 1-7 New Jersey Drug Arrests, Not Including Cocaine, By Quarter, 1985-1990	25
Table 1-8 Percent of Cocaine Arrests to Drug Arrests, New Jersey, By Quarter, 1985-1990	26
Table 4-2 Impact Patterns	52
Table 4-2 Abrupt Permanent Shift	53
Table 4-3 Judges Per 100,000 Population, Experimental Group	56
Table 4-4 Judges Per 100,000 Population, Control Group	57
Table 4-5 Judge to Arrest Analysis, Experimental Group	58
Table 4-6 Judge to Arrest Analysis, Control Group	58
Table 4-7 Judicial Workload Assessment	59
Table 5-1 Approaches to Court Studies	66
Table 6-1 Basic Organizational Models	81

Table 6-2 A Schematic of Organizational Paradigms	92
Table 6-3 Contextual Influences	97
Table 6-4 Characteristics Influencing Workgroups	108
Table 6-5 Defendant Processing Model	117
Table 6-6 New Jersey's Court System Organizational Model	118
Table 6-7 Percentage of Counties Participating In State Sanctioned Programs	129

LIST OF FIGURES

Figure 7.1A	Pre-Indictment Backlog/2 Mo. Experimental Group	132
Figure 7.1B	Pre-Indictment Backlog/2 mo. Differenced Series	136
Figure 7.1C	ACF/PACF Pre-Indictment Backlog/2 mo..	138
Figure 7.1D	Residuals, Pre-Indictment Backlog	140
Figure 7.1E	Residuals, Pre-Indictment Backlog	141
Figure 7.2A	Pre-Indictment Backlog/2 mo. Control Group	144
Figure 7.2B	Pre-Indictment Backlog/2 mo. Control Group, Series 1-52	146
Figure 7.2C	ACF/PACF Pre-Indictment Backlog/2 mo..	147
Figure 7.2D	Residuals Pre-Indictment Backlog/2 mo.	148
Figure 7.2E	Residuals Pre-Indictment Backlog/2 mo. Series 1-72	149
Figure 7.3A	Pre-Indictment Backlog/4 mo. Experimental Group	152
Figure 7.3B	Pre-Indictment Backlog/4 mo. Differenced Series	153
Figure 7.3C	ACF/PACF Pre-Indictment Backlog/4 mo..	154
Figure 7.3D	Residuals Pre-Indictment Backlogs/4 mo	155
Figure 7.3E	Residuals Pre-Indictment Backlogs/4 mo Series 1-72	156
Figure 7.4A	Pre-Indictment Backlog/4 mo/Control ..	158
Figure 7.4B	Pre-Indictment Backlog/4 mo/Control Differenced Series.....	159
Figure 7.4C	ACF/PACF Pre-Indictment Backlog/Control	160
Figure 7.4D	Residuals Pre-Indictment Backlogs/4 mo.	161

x

Figure 7.4E	Residuals Pre-Indictment Backlog/4 mo Series 1-72	162
Figure 8.1A	Post-Indictment Backlogs/12 mo. Experimental Group	166
Figure 8.1B	Post-Indictment Backlog/12 mo. Differenced Series	167
Figure 8.1C	ACF/PACF Post-Indictment Backlog/12 mo..	168
Figure 8.1D	Residuals Post-Indictment Backlog	169
Figure 8.1E	Residuals Post-Indictment Backlog Series 1-72	170
Figure 8.2A	Post-Indictment Backlog/12 mo. Control Group	172
Figure 8.2B	Post-Indictment Backlog/12 mo Differenced Series	173
Figure 8.2C	ACF/PACF Post-Indictment/12 mo. Control Group	174
Figure 8.2D	Residuals Pre-Indictment Backlogs	175
Figure 8.2E	Residuals Pre-Indictment Backlog Series 1-72	176
Figure 8.3A	Post-Indictment Backlog/Total Experimental Group	178
Figure 8.3B	Post-Indictment Backlog/Total Differenced Series	179
Figure 8.3C	ACF/PACF Post-Indictment Backlogs	180
Figure 8.3D	Residuals Post-Indictment Backlog	181
Figure 8.3E	Residuals Post-Indictment Backlog Series 1-72	182
Figure 8.4A	Post-Indictment Backlog/Total Control Group	184
Figure 8.4B	Post-Indictment Backlog/Total Differenced Series	185

Figure 8.4C	ACF/PACF Post-Indictment Backlog	186
Figure 8.4D	Residuals Post-Indictment Backlog	187
Figure 8.4E	Residuals Post-Indictment Backlog Series 1-72	188
Figure 9.1A	Avg Case Processing Time/Pre-Indictment Experimental Group	191
Figure 9.1B	Avg Case Processing Time Differenced Series	192
Figure 9.1C	ACF/PACF Avg Case Processing Time	193
Figure 9.1D	Residuals Avg Case Processing Time	194
Figure 9.1E	Residuals Avg Case Processing Time Series 1-72	195
Figure 9.2A	Avg Case Processing Time/Pre-Indictment Control Group	198
Figure 9.2B	Avg Case Processing Time Series 1-52	199
Figure 9.2C	ACF/PACF Avg Case Processing Time Control Group	200
Figure 9.2D	Residuals Avg Case Processing Time	201
Figure 9.2E	Residuals Avg Case Processing Time Series 1-72	202
Figure 9.3A	Avg Case Processing Time/Post-Indictment Experimental Group	204
Figure 9.3B	Avg Case Processing Time/ Post-Indictment Differenced Series	205
Figure 9.3C	ACF/PACF Case Processing Time	206
Figure 9.3D	Residuals Post-Indictment Case Processing Time	207
Figure 9.3E	Residuals Post-Indictment Case Processing Time Series 1-72	208

Figure 9.4A	Avg Case Processing Time/Post-Indictment Control Group	210
Figure 9.5B	Avg Case Processing Time/ Series 1-52 ..	211
Figure 9.5C	ACF/PACF Avg Case Processing Time	212
Figure 9.5D	Residuals Avg Case Processing Time	213
Figure 9.5E	Residuals Avg Case Processing Time Series 1-72	214
Figure 10.1A	Pre-Indictment Dismissals Experimental Group	217
Figure 10.1B	Pre-Indictment Dismissals Series 1-52 ..	218
Figure 10.1C	ACF/PACF Pre-Indictment Dismissals	219
Figure 10.1D	Residuals Pre-Indictment Dismissals	220
Figure 10.1E	Residuals Pre-Indictment Dismissals Series 1-72	221
Figure 10.2A	Pre-Indictment Dismissals Control Group	223
Figure 10.2B	Pre-Indictment Dismissals Series 1-52 ..	224
Figure 10.2C	ACF/PACF Pre-Indictment Dismissals	225
Figure 10.2D	Residuals Pre-Indictment Dismissals	226
Figure 10.2E	Residuals Pre-Indictment Dismissals Series 1-72	227
Figure 10.3A	Post-Indictment Dismissals Experimental Group	229
Figure 10.3B	Post-Indictment Dismissals Series 1-52 ..	230
Figure 10.3C	ACF/PACF Post-Indictment Dismissals	231
Figure 10.3D	Residuals Post-Indictment Dismissals ...	232
Figure 10.3E	Residuals Post-Indictment Dismissals Series 1-72	233

Figure 10.4A Post-Indictment Dismissals Control Group	235
Figure 10.4B Post-Indictment Dismissals Control Differenced Series	236
Figure 10.4C ACF/PACF Post-Indictment Dismissals	237
Figure 10.4D Residuals Post-Indictment Dismissals ...	238
Figure 10.4E Residuals Post-Indictment Dismissals Series 1-72	239
Figure 10.5A Guilty Pleas, Experimental group	241
Figure 10.5B Guilty Pleas, Differenced Series	242
Figure 10.5C ACF/PACF Guilty Pleas	243
Figure 10.5D Residuals Guilty Pleas	244
Figure 10.5E Residuals Guilty Pleas Series 1-72	245
Figure 10.6A Guilty Pleas, Control Group	247
Figure 10.6B Guilty Pleas, Differenced Series	248
Figure 10.6C ACF/PACF Guilty Pleas	249
Figure 10.6D Residuals Guilty Pleas	250
Figure 10.6E Residuals Guilty Pleas Series 1-72	251
Figure 10.7A Jail Population Experimental Group	253
Figure 10.7B Jail Population Differenced Series	254
Figure 10.7C ACF/PACF Jail Population	255
Figure 10.7D Residuals Jail Population	256
Figure 10.7E Residuals Jail Population Series 1-72	257
Figure 10.8A Jail Population Control Group	259
Figure 10.8B Jail Population Differenced Series ...	260

Figure 10.8C ACF/PACF Jail Population	261
Figure 10.8D Residuals Jail Population	262
Figure 10.8E Residuals Jail Population Series 1-72	263
Figure 10.9A Prison Population	265
Figure 10.9B Prison Population Differenced Series ..	266
Figure 10.9C ACF/PACF Prison Population	267
Figure 10.9D Residuals Prison Population	268
Figure 10.9E Residuals Prison Population Series 1-72	269
Figure 11.1 ARIMA Models/Intervention Component	276
Figure 11.2 Post-Indictment Backlog/Total County No. 16	279

CHAPTER I

THE PROCESS OF CHANGE

The goal of this study is to assess through time series analysis the impact of implementing "judicial units" at the post-indictment stage of defendant processing and if the units were an effective management tool in reducing case processing backlogs in New Jersey. This evaluation will examine the resources ordinarily and historically allocated to pre-indictment case processing programming and how they blend into the organizational maze of the local legal culture.

Also, in part, this evaluation will examine New Jersey's court system, with its strong centralized bench and its capacity to over-ride local legal culture in terms of case processing programs. This evaluation considers the concept of contingency management models which call for relatively autonomous local court operations but with a strong central management focus, which at times of crisis, will override the systems at the county level.

Accordingly, in the spring of 1989, New Jersey was responding to a crisis in their court system where a majority of their twenty-one counties was faced with a serious backlog problem. The increased volume of drug cases contributed to the system's inability to adequately process cases.

Coupled with an increase of drug arrests, a series of events eventually led to the conceptualization and implementation of the drug court program in the State of New

Jersey. In October of 1986, Governor Thomas H. Kean released his "Blueprint for a Drug-Free New Jersey." The Blueprint was followed by the enactment of the "Comprehensive Drug Reform Act of 1986." The Drug Reform Act was the impetus for the release of the "Attorney General's Statewide Action Plan for Narcotics Enforcement" in January 1988. In addition to these change agents a special committee was impanelled to study the needs of the criminal justice system in New Jersey. This committee, known as the Pashman-Belsole committee, released their findings in January 1990. The Committee produced "The Pashman-Belsole Report." The combination of these events permitted a number of state-mandated program changes including the Drug Court Program.

Blueprint For A Drug-Free New Jersey

New Jersey's Governor Kean, in his 1986 Blueprint identified five major reasons to introduce reform into the state's handling of drug problems. These are location, costs, children exposed to drugs, availability and profit for drug dealers, and danger to the public.

According to the blueprint New Jersey holds a strategic location for drug traffickers. The highway system in New Jersey serves as principal conduit for drug trafficking because of New Jersey's key location and relevance to the industrial northeast corridor. New Jersey serves drug traffickers as a passageway from the south to the northeast.

Governor Kean estimated that the "battle against drugs" costs New Jersey citizens \$1.5 billion each year. This includes costs of incarcerating drug offenders and providing treatment programs. Also, drug offenders affect insurance premiums, worker compensation expenses, and decrease employee productivity due to absenteeism, slow-downs, mistakes and sick leave.

Perhaps the most disturbing aspect of the drug problem, according to Kean, is the drug pervasiveness among school aged children. The Governor quoted a school survey where "fifty-seven percent of high school students surveyed said that they had used marijuana, 34 percent had used amphetamines and 18 percent had used cocaine. According to this survey, 41 percent of the students reported drug use before reaching the tenth grade. Also, nearly 90 percent of the students indicated that marijuana would be easy to get.¹

The availability of drugs and the resultant profits realized by drug traffickers was cited as another reason for reform. Arrests had increased for drug violations in New Jersey from 6,000 in 1981 to over 11,000 in 1985. Seizures of illegal drugs were also becoming more abundant. The Governor wrote that "Approximately 50 percent of all crimes prosecuted in New Jersey are drug related. One-third of all

¹ A 1983 survey completed by the New Jersey Departments of Law and Public Safety and Education entitled "Drug and Alcohol Abuse among New Jersey High School Students."

convicted offenders were under the influence of drugs when they committed their crimes."

The Blueprint went on to say that the danger posed by illicit drugs has drastically increased with the onset of the highly potent and addictive substance "crack." According to the Blueprint cocaine related deaths increased in New Jersey 77 percent between 1983 and 1984 and emergency room visits were up 51 percent in the same time frame as they relate to drugs. Crack is more likely to cause lung damage, brain seizures and heart attacks than the more traditional nasal cocaine use according to the Blueprint.

The Governor wrote, "New Jersey's laws and enforcement practices must therefore be reformed to ensure a credible threat of detection and prompt stern punishment for these drug network leaders" Kean highlighted the need for a strategy that included education, health care service, law enforcement, community groups and local business organizations. The Governor proposed the following strategy:

1. The creation of an Alliance for a Drug Free New Jersey made up of every community in the state to combine their efforts in the fight against drug abuse.

2. The development of long term prevention, intervention and treatment strategies aimed at educating the public about the dangers of drug abuse, identifying substance abusers at the earliest possible point and providing comprehensive treatment for them.

3. The reform of our drug laws to reduce sentencing discretion, to impose maximum penalties and fines on drug distributors and users and to create new offenses which target the leaders of illicit drug distribution networks.

The third strategy is a major concern of this study, in that this was the impetus for legal reform. The Governor was calling for legal reform that will provide harsh penalties, including substantial mandatory prison terms for dangerous and repeat offenders as well as those drug offenders who sell drugs to children or use children in the business of selling drugs.

"A cornerstone of any rational sentencing scheme must be swift and certain punishment," according to Kean. In addition to punishment reform, the Governor called for limiting judicial sentencing discretion and, at the same time, providing flexibility and leverage to prosecutors to "ferret" out the most dangerous offenders.

The Reform called for the passage of following laws to accomplish the Governor's goal: Anyone who is,

1. Leader of Narcotics Trafficking Networks;
2. Maintaining or operating a Controlled Dangerous Substance Laboratory;
3. Distribution or Possession of Drugs with intent to distribute on or near school property or buses;
4. Employing a Juvenile in a Drug Distribution Scheme;
5. The creation of mandatory penalties for all drug offenses;
6. Enhancement of discretionary fines;
7. The publication of the names of those arrested for drug offenses.

The Governor's supply side program called for the complete reorganization of the criminal laws governing the sales and distribution of narcotics. His program called for stiff sanctions to punish those who sell drugs to school children and it called for new measures to pursue upper echelon drug dealers by taking the profit out of illicit drug distribution.

The Comprehensive Drug Reform Act of 1986
(Introduced October 20, 1986)

By the enactment of "The New Jersey Code of Criminal Justice" (N.J.S. c:1-1 et seq.) The Legislature responded to the need for revisions of criminal laws with regard to controlled dangerous substances. The legislation was enacted to ensure a uniform, consistent and predictable sentencing

system with its focus on the seriousness and degree of dangerousness inherent in the particular drug offense. The legislature recognized the need for consistent sentencing as the prerequisite for rational deterrent schemes designed to reduce the incidence of crime.

The bill was introduced because this illegal activity (narcotics violations) continues to pose serious threats to the health, safety, and welfare of the citizens of New Jersey. "Enhanced and coordinated efforts designed specifically to curtail drug-related offenses will lead inexorably to a reduction in the rate of crime generally."

The law's reform is aimed particularly at the expedited prosecution and enhanced punishment of those repeat drug offenders and upper echelon members of organized narcotics trafficking networks who pose the greatest danger to society. The legislature intends to provide for the strict punishment, deterrence and incapacitation of the most culpable and dangerous drug offenders. Also, the legislature focused particular attention to those offenders operating in and around school buildings.

The legislature called for the examination and amendments to minimize pretrial court delay, thereby ensuring the prompt disposition of all drug-related criminal charges and the prompt imposition of fair and certain punishment. Significant alterations of New Jersey's criminal code relating to narcotics enforcement are summarized as follows:

* **Leader of Narcotics Trafficking Network.**

If convicted a person shall be sentenced to an ordinary term of life imprisonment during which the person must serve 25 years before being eligible for parole.

* **Maintaining or Operating a Controlled Dangerous Substance Laboratory.** If convicted a person shall be sentenced to a term of imprisonment which shall include the imposition of a minimum term which shall be fixed at, or between, one-third and one-half of the sentence imposed, during which the defendant shall be ineligible for parole.

* **Manufacturing, Distributing or Dispensing.**

If convicted a person shall be sentenced to a term of imprisonment which shall include the imposition of a minimum term which shall be fixed at, or between, one-third and one-half of the sentence imposed, or five years, whichever is greater, during which the defendant shall be ineligible for parole.

* **Distribution to Persons Under Age 18; Enhanced Punishment.** If convicted a person shall be subject to twice the term of imprisonment, fine and penalty, including twice the term of parole ineligibility.

* **Any person who violates this subsection while on any property used for school purposes which is owned by any elementary or secondary school or school board, or within 1,000 feet of any school property or school bus, or while on any school bus, and who is not sentenced to a term of imprisonment, shall, in addition to any other sentence which the court may impose, be required to perform not less than 100 hours of community service.**

* **Mandatory Drug Enforcement and Demand Reduction Penalties.**

- * All penalties provided for in this section shall be in addition to and not in lieu of any fine authorized by law.
- * Mandatory Forfeiture or Postponement of Driving Privileges. In addition to any disposition authorized by this title, every person convicted of or adjudicated delinquent for a violation of any offense defined in this chapter or chapter 36 of this title shall forthwith forfeit his right to operate a motor vehicle over the highways of this State for a period to be fixed by the court at not less than six months.
- * In all other cases, the term of imprisonment shall include the imposition of a minimum term which shall be fixed at, or between, one-third and one-half of the sentence imposed, or three years, whichever is greater, during which the defendant shall be ineligible for parole.
- * Except as otherwise provided, a person who has been convicted of a crime may be sentenced to imprisonment, as follows:
 - (1) In the case of a crime of the first degree, for a specific term of years which shall be fixed by the court and shall be between 10 years and 20 years;
 - (2) In the case of a crime of the second degree, for a specific term of years which shall be fixed by the court and shall be between five years and 10 years;
 - (3) In the case of a crime of the third degree, for a specific term of years which shall be fixed by the court and shall be between three years and five years;
 - (4) In the case of a crime of the fourth degree, for a specific term which shall be fixed by the court and shall not exceed 18 months.

The Attorney General's Statewide Action Plan For
Narcotics Enforcement

Attorney General Cary Edwards responded to the Governor's Blueprint and the Comprehensive Drug Reform Act by implementing a Statewide Action Plan. Edwards wrote,

"The effectiveness of a penal law depends almost entirely on the dedication of those who must enforce it. It is thus incumbent upon the entire New Jersey law enforcement community, working as a tightly-knit network, to augment and redirect existing resources, to make better use of well-established operational factors and to devise innovative new techniques and technologies with which to take full advantage of the new law" (Edwards, 1988).

The provisions of the Attorney General's Action Plan were specifically designed to promote clearly the stated legislative policies announced in the Comprehensive Drug Reform Act. This plan aimed to assist and direct state, local, county and municipal police toward a unified and standard enforcement response to the new drug legislation.

The Attorney General supported the Comprehensive Reform Act insofar as to accept the responsibility to transmit that support to the law enforcement community. It became the responsibility of the law enforcement community to aggressively enforce every provision of the act, and to adopt law enforcement strategies and tactics that will take full advantage of all the features of the new law.

The Attorney General proposed eight strategic objectives that, once implemented, will enhance and expand New Jersey's level of narcotics enforcement efforts. The objectives call for increased enforcement along the "drug distribution chain." These objectives are listed below:

Strategic Objective 2.1: to put every actor along the drug distribution chain at enhanced risk of identification, apprehension, swift prosecution and stern punishment.

Strategic Objective 2.2: to target certain offenders for arrest and expedited prosecution, including repeat offenders, large scale or prolific distributors, upper echelon members of organized trafficking networks, manufacturers, and persons who distribute to or employ juveniles in drug distribution schemes.

Strategic Objective 2.3: to eliminate open and notorious commercial drug transactions and "casual" or "recreational" drug use.

Strategic Objective 2.4: to discourage all persons, and especially young people, from using or purchasing illicit substances.

Strategic Objective 2.5: to prevent, or at a minimum to delay as much as possible, students; exposure to and first use of illicit substances.

Strategic Objective 2.6: to eliminate all drug distribution activities from designated school safety zones so as to provide a secure environment conducive to education.

Strategic Objective 2.7: to disrupt organized drug trafficking networks by targeting those upper echelon network members who could not be easily replaced, and to discourage other persons from entering the network to replace those participants who have been arrested.

Strategic Objective 2.8: to reduce the profit margins currently enjoyed by drug trafficking networks by 1) reducing demand and 2) by increasing perceived and actual "overhead" costs associated with operating the network and avoiding detection and stern punishment.

In addition to the eight Strategic Objectives the Attorney General also enacted a series of directives (See Appendix A) to further increase local law enforcement efforts directed at narcotics violators at all levels.

The Action Plan included directives to begin new programming statewide including a state-level commitment to form a statewide narcotics task force. This task force was to accept authority over the implementation of the Attorney General's directives.

The Action Plan also laid out detailed plans for interagency cooperation, sharing law enforcement resources, programs to protect youth, patrol enhancement, enhanced air and sea interdiction, enhanced prosecution functions, along with a focus on seizing assets of narcotics law violators.

The implementation of the Action Plan was supported with a statewide "media blitz." Also, local governments were

given an extra incentive in the form of grant funds to formulate drug enforcement strategies of their own. This effort by state, county, and local law enforcement officials caused a "rally" of drug enforcement activity throughout the state. The result was an onslaught of narcotics cases at the "front-end" of the criminal justice system. Thus, the report of the special committee to assess Criminal Division needs (The Pashman-Belsole Report) was produced. This report is the forth "event" leading to the creation of the Drug Court project in New Jersey.

The Pashman-Belsole Report: "Report Of The Special Committee To Assess Criminal Division Needs"

The Pashman-Belsole Committee was established in the Fall of 1989 to review the state of the criminal court system in New Jersey. The committee members represented a broad spectrum of state and local officials from the criminal justice system. Formal testimony was taken from over twenty witnesses representing the three branches of state government, local government and the various components of the system.

The Committee, along with the witnesses did not dispute the fact that New Jersey's criminal justice system "is in a state of crisis which is directly attributable to the tremendous increase in criminal cases resulting from the war on drugs being waged on both a state and federal level."

The Committee recognized that it was addressing problems that were multi-faceted and that the war on drugs had significantly impacted the courts, corrections, rehabilitation facilities, and law enforcement.

Overcrowded state correctional institutions, unconscionable conditions in local correctional facilities, inadequate treatment, non-existent incarceration alternatives, and Civil Division backlogs were all variables considered by the Committee.

The sheer number of additional cases, caused by the law enforcement priority on drug arrests, has taxed the court system in New Jersey beyond its ability to respond according to the Committee. The front-end of the criminal justice system has become an efficient armed force on the war on drugs. The past two years have seen a 40 percent increase in drug arrests.

The problems faced by New Jersey's court system are not unlike those seen throughout the country. A fifteen member committee commissioned by the Chief Justice of the United States proclaimed that "the flood of drug cases has pushed a manageable crisis to the brink of cataclysm in New York State." New Jersey's Chief Justice Wilentz stated "1989 has been an unrelenting struggle to continue to provide meaningful justice despite overwhelming caseload growth."

In New Jersey, "the court system met serious delays because of mandatory sentencing legislation", according to Wilentz. This has caused levels of backlogs to reach unprecedented levels. "The time from arrest to disposition has grown and will continue to grow longer." The war on drugs has critically impaired swift and fair administration of justice. The credibility of the justice system remains threatened according to the committee.

The committee identified deficiencies in public defender staffing, support staff such as sheriffs officers and probation staff, case management styles, relationships among components of the criminal system and at the correctional system level.

The committee felt that the establishment of "Judicial Units" with clear case processing standards (such as processing 500 cases per year), would be a progressive management innovation. These units will consist of courtroom personal, prosecutors, public defenders, case managers, sheriffs and probation officers.

Specifically, the committee recommended the transfer of 17 judges, five for calendar clearing and twelve for backlog reduction, from the civil bench to the criminal court. Also, additional public defender staff (24) should be added. This

is to be done as an emergency stopgap measure.'

In addition to the recommendation to create judicial units, including 24 new public defenders and the transfer of civil judges to the criminal bench, the Pashman-Belsole Committee made five general recommendations for long-term change.

1.) The first step was for each county to form a speedy trial committee with leadership from the Chief Justice the Attorney General and the Public Defender. These county committees should develop written plans to reduce backlogs and court delay. Participation and input from all components of the criminal justice system will help to make time goals achievable and backlogs manageable, according to the Pashman-Belsole Committee.

2.) The second Committee recommendation was to implement proven case management techniques on a statewide basis. The counties should adopt central judicial processing courts, central remand courts or differentiated case management schemes. These programs should be experimented with in each county as well as the use of certain pilot projects. These pilot projects should explore use of masters for ancillary proceedings, include community groups in some cases, and make more use of criminal justice planning boards.

3.) The third recommendation was to explore alternatives

² This recommendation is important to note as it represents Phase I of the Drug Court Concept.

as part of the court's sentencing array. The committee wrote that in the long run, the solution to jail overcrowding "will be the effective and sophisticated use of alternatives to incarceration, including psychological and drug counseling and meaningful rehabilitation."

4.) Some of the witnesses addressing the Pashman-Belsole Committee believed that the mandatory sentences were the cornerstone of the war on drugs. However, others argued that these sanctions have proven to be ineffective. The fourth recommendation then, was to evaluate this aspect of the Drug Act by both the Legislative and Executive branch of government studying the merits of mandatory sentencing and their impact.

5.) The final recommendation was that each county prosecutor (in the 21 counties throughout the state) should investigate methods to explore consistent charging and plea bargaining policies.

The Pashman-Belsole Committee concluded by writing, "It has been our singular purpose to set the framework for a viable criminal justice system - one in which the judges, lawyers and all support staff can function free from undue stress motivated by their desire to participate in the administration of justice and limited only by their skills and imagination."

Arrest Activity

The onset of increased drug arrest activity as experienced in New Jersey at the beginning of 1987 coincided with the "Drug War" beginning with the new Legislation and the Attorney General's Action Plan along with increased program dollars and a related law enforcement public relations campaign. The change in arrest activity whether it was caused by a war or drugs, or an increased prevalence of street drugs (possibly production levels were up) is noteworthy as its increase contributed to the court backlog problem.

Table 1-1
New Jersey Drug Arrests By Quarter 1985-1990

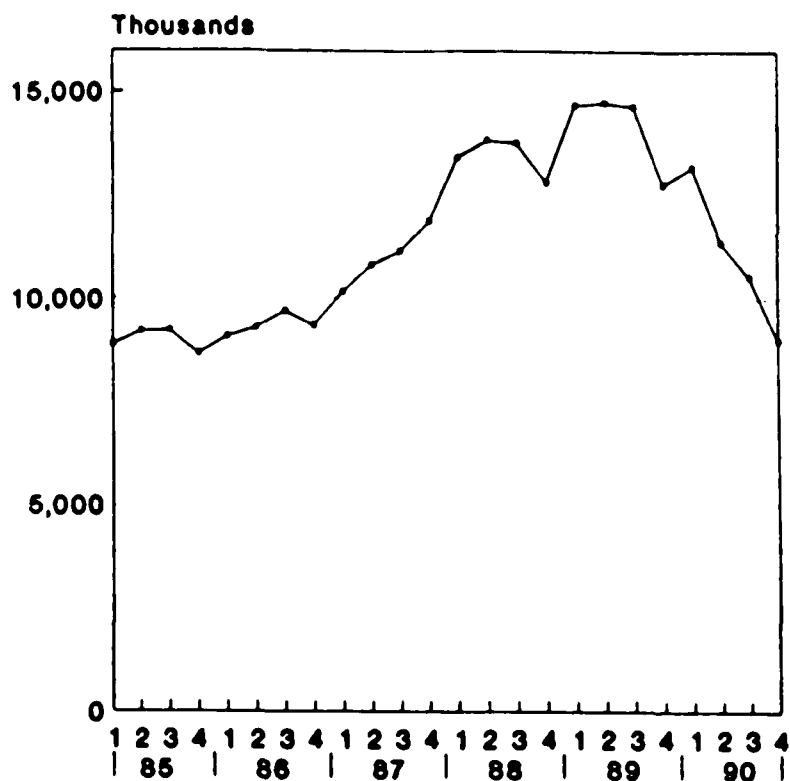


Table 1-1 displays drug arrests in New Jersey from January 1, 1985 to December 31, 1990 by quarter. The first quarters through the end of 1986 show that drug arrest activity remained somewhat stable. The total number of arrests ranged between 8667 and 9703 in this time frame. However, the first quarter of 1987 saw the number of arrests increase to 10,157 and generally continued to rise until the second quarter of 1989 at a high of 14,746. The third quarter of 1989 saw a slight decrease in drug arrests to

14,654 and a steady reduction of arrests until the end of the study period at 8,987 in the last quarter of 1990. These increases and decreases are conveniently displayed as a time line.

Table 1-2
Total Arrests, New Jersey 1985-1990

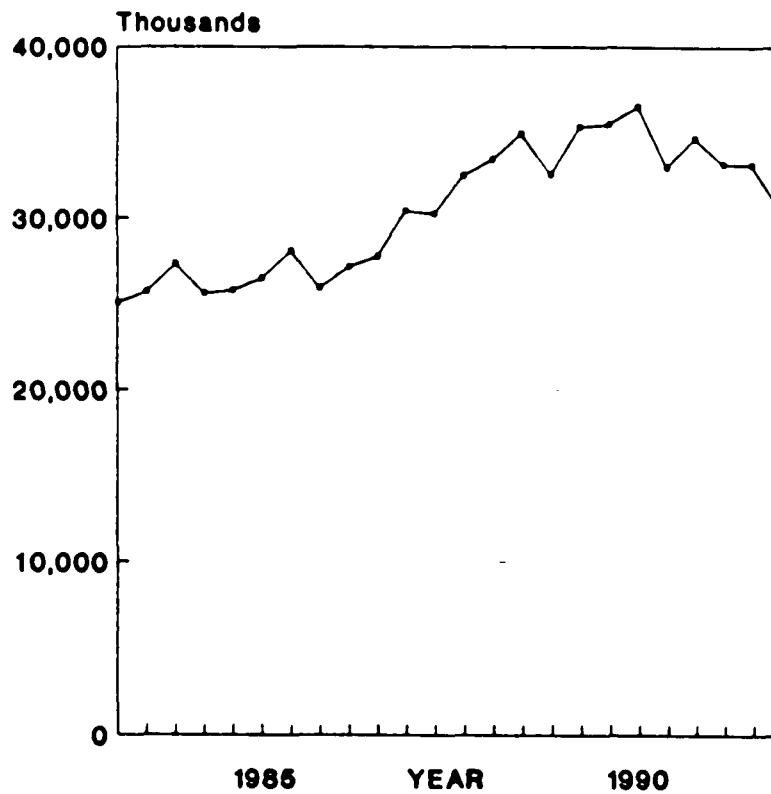


Table 1-2 displays total arrest data including drug arrests for the study period. The data show that total

arrests remain stable between the first quarter of 1985 through 1986 and an increase in the beginning of 1987. The total arrests generally increased until the third quarter of 1989 (36,499). The total arrests then declined slightly throughout the study period until the fourth quarter of 1990 at 30,469.

Table 1-3
Total Arrests and Drug Arrests
New Jersey 1985-1990

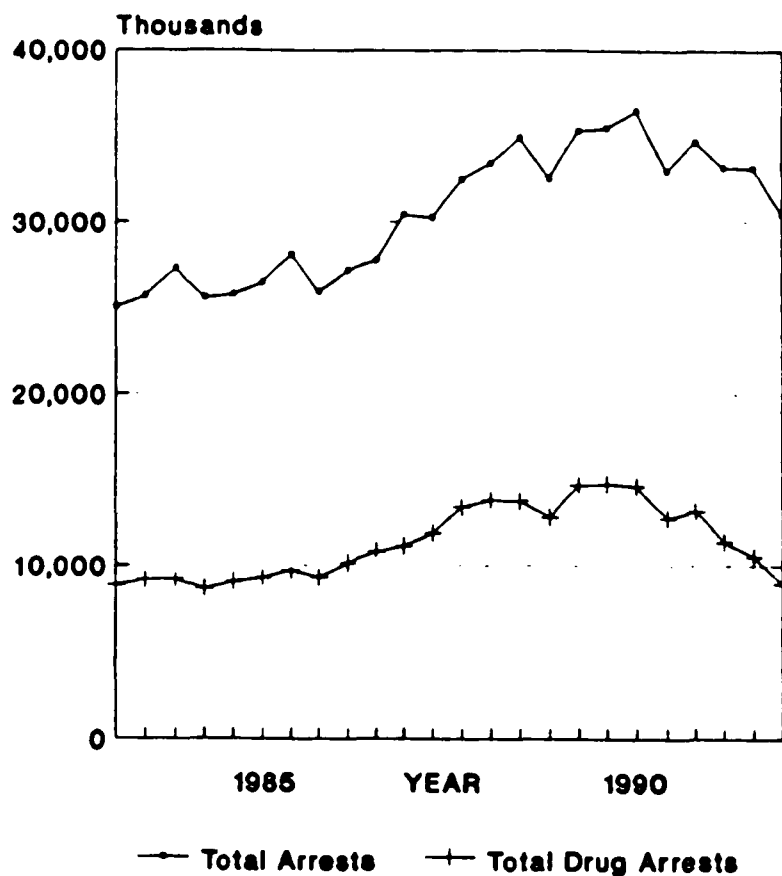
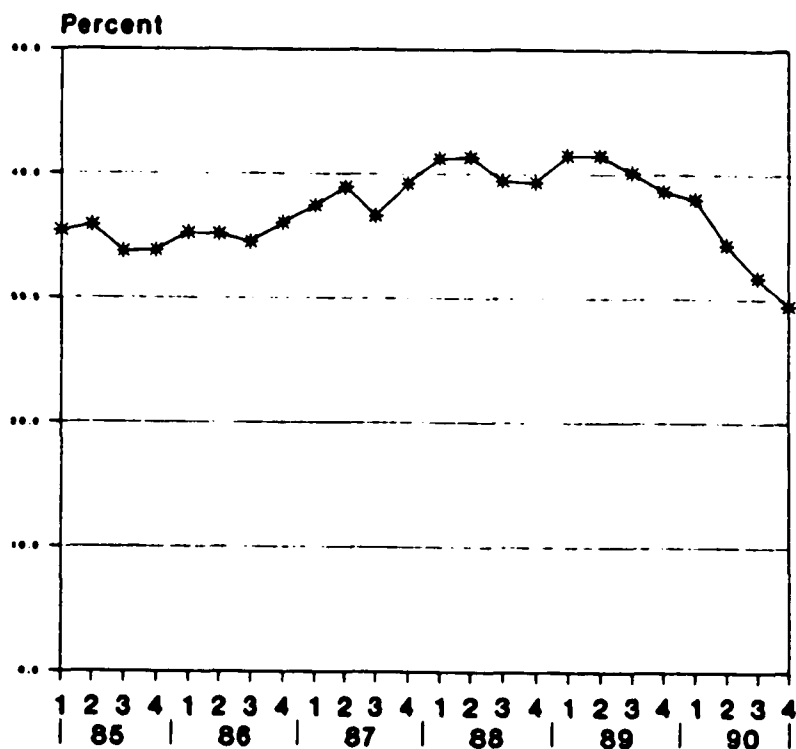


Table 1-3 displays two time lines, one for the total arrests statewide and one for the total drug arrests statewide. This display shows a general pattern consistent in both lines where a supposition could be drawn that the drug arrest activity drove the total arrests upward. Also note there was a decrease when the drug arrests fell at the end of 1989. To support that supposition, Table 1-4 displays the percentage of drug arrests to all arrests throughout the study period.

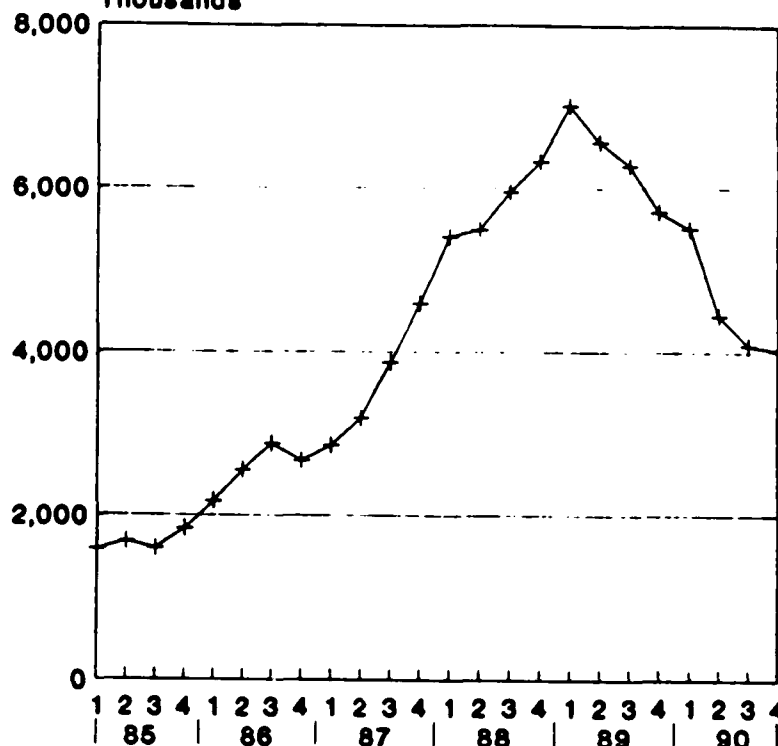
Table 1-4
Percent of Drug Arrests to all Arrests
New Jersey 1985-1990, By Quarter



The percent of drug arrests increases in the same general time-line pattern as the drug arrest and total arrest data display. The percentage of drug arrest ranges between 35 and 36 percent until the beginning of 1987 and then increases to a high of 41.5 percent in the middle of 1989, and then the percentage decreases to 29.4 at the end of the study period. This low period is actually lower at the end of the study period than at the beginning. Nonetheless, this pattern is consistent with the rising drug arrest activity and subsequent decrease at the end of 1989 and continuing through 1990.

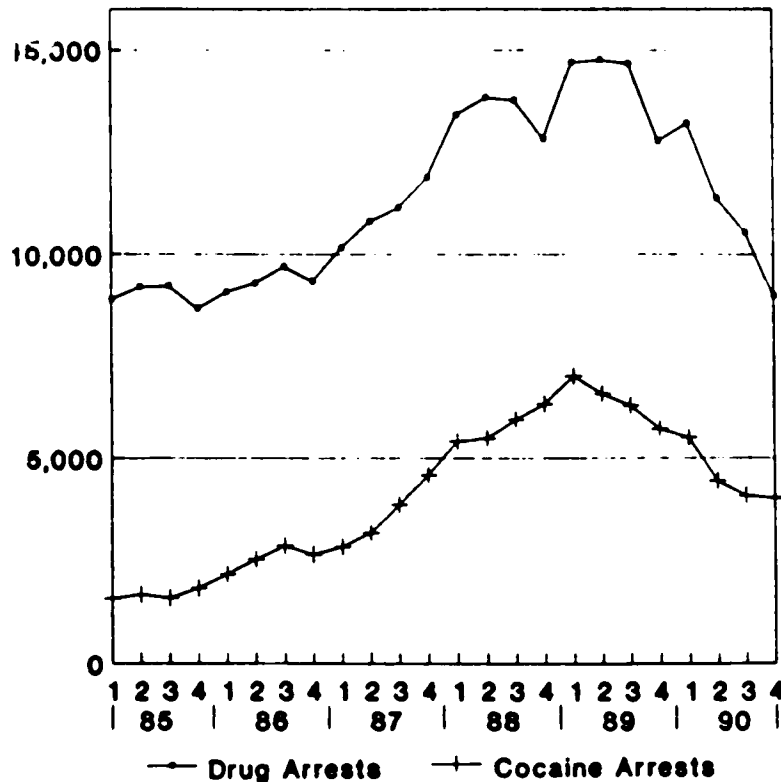
Further analysis of arrest data led to the discovery of a rapid increase in cocaine arrests during the study period (see Table 1-5).

Table 1-5/New Jersey Cocaine Arrests, By Quarter 1985-1990
Thousands



Cocaine arrests were at 1,586 for the first quarter in 1985 and rapidly increased to a high of 7,016 during the first quarter of 1989. This represents an increase of 5,430 quarterly cocaine arrests in a four year period. These arrests numbers then decline from the second quarter in 1989 to 4,022 at the end of 1990. This rapid increase in cocaine arrests followed by a similar decrease raises questions as to the role increased cocaine arrests played in overall arrest rates. Table 1-6 graphically displays two time-lines representing cocaine arrests, by quarter, from 1985 to 1990 and the total number of arrests for all drug offenses during the same time frame.

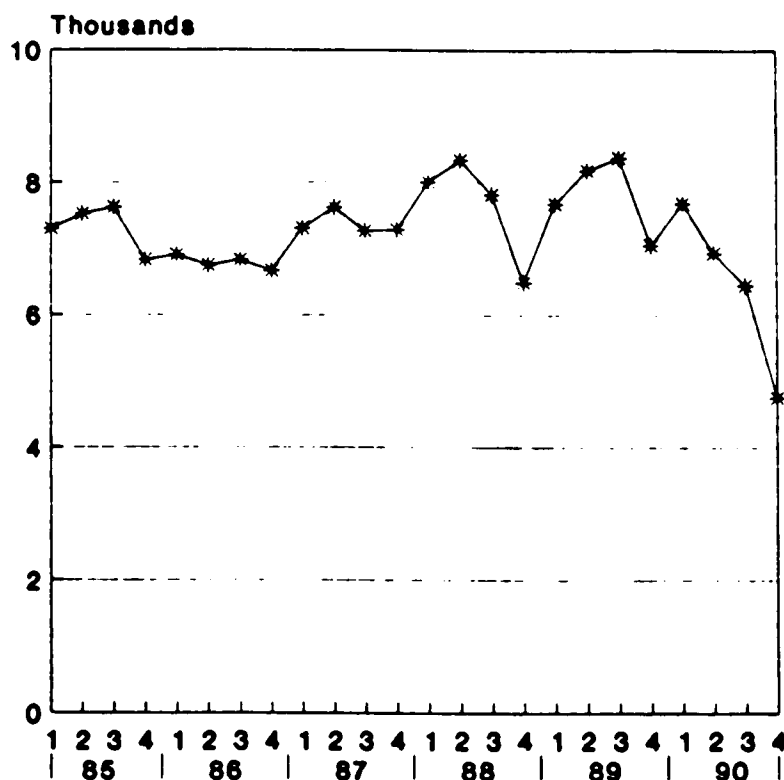
Table 1-6/ M. J. Drug Arrests and Cocaine Arrests, By Quarter
Thousands



This graphic representation (Table 1-6) supports the supposition that cocaine arrests drove total arrests numbers up proportionally.

To support the notion that cocaine arrests impacted drug arrest totals, cocaine arrests, by quarter, were subtracted from total drug arrests and the result was represented as a time line in Table 1-7.

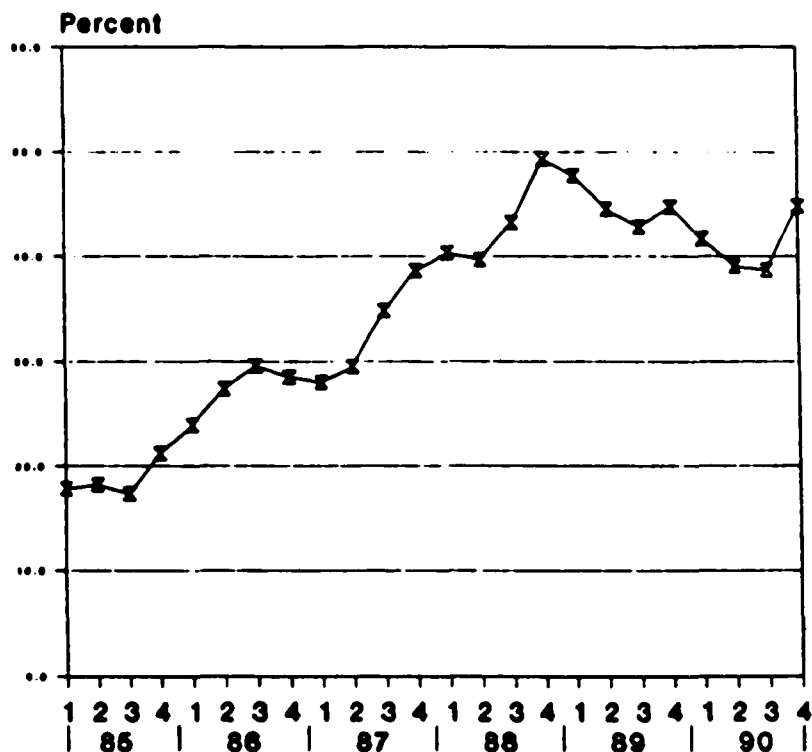
Table 1-7
New Jersey Drug Arrests Not Including Cocaine
By Quarter 1985-1990



The drug arrests without the inclusion of cocaine arrests show trend. In other words, except for the fourth quarter in 1988 and the fourth quarter of 1989 the drug arrests without cocaine arrests from 1985 to the end of 1989 would be trendless. After the second quarter in 1990, the arrest numbers fall to less than 5,000 when cocaine is controlled for.

Furthermore, in Table 1-8 the percent of cocaine arrests to all drug arrests is represented in a time line.

Table 1-8
Percent of Cocaine Arrests to Drug Arrests
New Jersey By Quarter 1985-1990



The first three quarters of 1985 show a percentage of cocaine arrests that is less than 20%. After the third quarter of 1985 however the percentage rapidly increases to nearly 60% in the fourth quarter of 1988. The percentages then drop. Additionally, the percentage of cocaine arrests remains above 38 percent and even rises at the last quarter of 1990.

Two major suppositions can be drawn from the arrest data presented. First, the drug arrests are cocaine driven (as the total arrests are drug arrest driven). In other words, cocaine enforcement activity significantly impacted the criminal justice system in New Jersey. Secondly, the arrest data tends to drop off at the end of the study period but remains at a higher percentage of the overall arrests than at the beginning of 1985. This suggests the presence of cocaine in the drug market has remained consistent. In terms of how arrest activity has impacted the court system; this will be discussed later in the text.

CHAPTER II

THE GENESIS OF THE DRUG COURT PROGRAM

The New Jersey Administrative Office of the Courts is the bureau responsible for setting program goals and in this instance it provided programming supported by federal and state grant funds to eight of the twenty-one counties in the state to meet speedy trial and backlog reduction goals. The assignment and management of program dollars to these eight counties created a quasi experimental situation where the programmatic outcomes of program counties could be compared with those activities of non-program counties. These counties are mixed so that an average of the concurrent variables balance out in terms of size, population, and other characteristics.

Time series analysis offer a method to compare those data points prior to an intervention with those occurring after an intervention. Thus, the statistical comparisons are made within each discrete time series. The impact of this program will be statistically analyzed within a time series, that is, the hypothesis that an event caused some change in behavior in the time series can be tested.

The State of New Jersey funded, along with federal drug enforcement dollars, a series of courts dedicated to processing narcotics cases. These courts were established to address a rising case backlog problem and associated processing delays.

The objective of this evaluation is to assess the impact of these drug courts on the overall court system in the state.

Phase I - Drug Case Backlog Reduction Program

A Statewide Speedy Trial Coordinating Committee, chaired by New Jersey's Chief Justice Wilentz responded to the increase in drug backlogs by announcing a short-term stopgap program, entitled "Phase I." In 1988, the committee reported, there were 65,317 reported adult and juvenile drug violation arrests. This represented a 29% increase over the number of drug arrests reported in 1987. The programmatic response, announced in March of 1989, was to transfer twenty judges from the Civil to the Criminal Division. Each judge along with two prosecutors and two defenders were to represent teams. In order to ensure manpower allocations to fill these teams the Attorney General's office transferred eleven deputy attorney generals to local prosecutor's offices and the Public Advocate received funding to hire thirty-nine additional public defenders. All of these manpower increases were intended to support a ninety-day backlog reduction effort.

The goal of this program was to reduce case backlogs (statewide) by 2,200 drug cases in 90 days. The trial teams were formed throughout May and June. Each trial team received a list of at least 110 drug cases and they were to dispose of them within 90 days.

The cases assigned to the trial teams were directed to be either single or double defendant public defender cases which were approximately four to six months old. These cases were judicially defined as backlog cases.

The Statewide Speedy Trial Committee established a Drug Case Backlog Monitoring Committee and they were charged to meet regularly to address the needs of the program. They also assumed the responsibility of evaluating this 90 day effort. Thirty-four interviews were conducted throughout each participating county. Representatives from each component of the trial teams were represented in the interviews.

The Drug Case Backlog Committee set out to collect information on ten main issues: Project efficiency, team cooperation, impact on plea negotiations, processing methods, ancillary effects, cost effectiveness, implementation ideas, jail overcrowding, and productivity.

Several conclusions were reported by the committee as to the information collected from the program-participant interviews. The disposition of cases increased with additional resources effected in the program counties. The committee reported significant dispositions compared to the previous year. Subsequently, the backlogs were reportedly reduced as well.

"Burn out" was reported as a significant problem. Due to the lack of time in which to dispose of concentrated cases

and the lack of additional support for added courts, "exhaustion claimed the energy of some participants." Without additional resources, the committee wrote, that program efforts could not be sustained.

The committee reported that respondents recommended statewide programming with case management techniques, and other proven programs such as early case judicial processing, early screening, faster downgrades and meaningful pleas. Essentially, the county participants were calling for the state to take a stronger role in resource support and technical assistance.

Phase II Drug Court Program

As a result of the experience of the short-term stopgap program seen in Phase I the decision makers from the Executive and Judicial branches of government decided to continue support of the backlog reduction concept. Phase II was implemented in October of 1989 and contained three main components. First, the Office of the Public Defender was allocated \$700,000 in order to hire private attorneys (pool attorneys) to augment narcotics-trial teams.

The second component of Phase II included the transfer of civil judges to the criminal bench to hear narcotics cases. The third component was the implementation of drug courts in targeted counties in the State.

These drug courts were to support the judge transfers in County 14, County 15, County 16, County 9, County 7, County 11, County 12 and County 20.

Phase II was initially developed to continue Phase I for 90 additional days. However, in August of 1990 the Chief Justice announced the permanent transfer of civil judges to the criminal bench, thus committing to long-term drug court programming.

Phase II began with the assignment of 1000 trial-ready drug cases from the Public Defender's office to newly created pool of private attorneys. The judges were expected to maintain a caseload of 110 cases for the three months, therefore coinciding with the 1000 public defenders cases allowing for the disposition of those cases within three months. The critical component of this program rests on the team concept of judge, prosecutor and defense attorney.

In an effort to support the judicial and public defender components of the trial team concept, the New Jersey Division of Criminal Justice made grant money available to the program counties. The drug court counties submitted grant applications depending upon the particular need of the individual county.

Some counties for example, needed sheriff's officers to ensure case processing where others needed prosecutor's personnel. Each county was entitled to add support to their staff where the result will ensure a complete trial team.

Therefore, each county submitted slightly different sets of goals, objectives and activities. These goals and objectives are listed, by program county, in the following project descriptions.

County 12

Goal

The new drug court will ensure just disposition of indictable drug complaints at the earliest possible juncture in the criminal justice system. If guilty of the offense charged or some lesser offense, early disposition will benefit the accused who in turn receives the State's best plea at the initial stage and the opportunity to escape the attendant anxiety and uncertainty.

Objectives

1. Expeditious processing of indigency requirement paperwork and, respectively, PTI forms must occur at the earliest possible moment following arrest.
2. Judicial determination by the appointed judge of whether the accused is eligible for public defender representation must be accelerated.
3. To capitalize on the post-arrest incentive to admit guilt.

County 16**Goal**

Two additional criminal courts will be created and committed exclusively to the prosecution of drug cases.

The cases assigned to the courts will meet certain criteria.

Objectives

1. The increased disposition of drug cases by the two drug courts will impact on the workload of the Criminal Case Manager's Office and require increased staffing.
2. Two (2) probation officers will be hired to prepare pre-sentence and pre-trial investigation reports.
3. Two (2) clerk typists will be hired to handle the clerical aspects of the generation of the reports and a docket clerk will be hired to perform docketing fundings relative to the drug cases to be adjudicated under the program.

County 9**Goal**

The overall goal for the Drug Case Backlog Reduction Program in this County is to improve case processing in terms of time and number events and decrease court delays. The statewide goals for expeditious criminal case processing have been in place in New Jersey since 1980. The goals provide for case processing to take no longer than the period indicated here, except in exceptional cases.

Objectives

1. To screen all cases from the filing of an indictable complaint to its disposition by the C.J.P. Court.
2. To aid in the disposition of all indictable complaints within the required speedy trial time goals and to aid in clearance of the criminal calendar.
3. To prepare all post-indictment paperwork in a timely, efficient manner.
4. To expedite the imposition of sentencing.

County 7**Goal**

To reduce the backlog of Criminal Drug cases in the county. Dispose of a minimum of 500 cases. Reduce the attendant costs of the county judicial system.

Objectives

1. Creation of an additional criminal court dedicated to the focus of handling narcotic cases is necessary.
2. Concentrate on the disposition of cases at the earliest possible time.
3. A list of cases for this "Drug Court" will be established by taking narcotics cases from other court lists.
4. Specific cases emanating from the Narcotic Task Force case load will be assigned to the "Drug Court."

County 11**Goal**

This new court is oriented toward disposition of these complaints at the earliest possible juncture in the system.

This court will implement "fast track" methodologies which should facilitate equitable, expedient resolution of the voluminous cases now encumbered by pending motions to suppress, pleas conferences and/or trials. Experienced assistant prosecutors will be assigned to drug cases developed by the narcotics unit in selected municipalities.

Objectives

1. Improved compliance with State Speedy Trial pre and post indictment goals.
2. Decreased pretrial detainee processing backlogs.
3. Increased volume of drug trials.
4. Increased sentencing uniformity of similar drug cases.
5. Conservation of State Police Laboratory Resources.

County 20**Goal**

Through the implementation of this project it is anticipated that a demonstrable decrease in criminal court delays will occur, as well as an overall reduction in the costs associated with funding the judicial system, as no new judicial resources are required to achieve the goals and objectives of the project.

Objectives

1. Compliance with State Speedy Trial post indictment goals, (reducing the current 64% over goal rate to an acceptable level of 20%).
2. Decreased pre-trial detainee processing backlogs.
3. Increased volume of drug trials.
4. Increased sentencing uniformity of similar drug cases.
5. Conservation of the County Prosecutor's Office Laboratory Resources (through a 30% projected decrease in cases processed past plea stage).

County 15Goal

The goal of the County Expeditious Processing Project would be to address the very questions the Chief Justice raised regarding the method by which we could clear the calendar and dispose of drug cases within acceptable time-frames. The program in this county is designed to meet this goal. The expeditious processing of narcotics cases would establish a notion of a special project for that purpose. By virtue of establishing such a process of a special programs approach, it will effect the annual dispositions per judge in a very positive way. The two new assistant prosecutors requested will address the motion delay and in addition, case supervisors needed to complete pre-sentence investigations for the program would be dedicated to that program and its proceedings. This will help to finalize our overall sense of a team approach in conjunction with the other changes already in place. Doing case specific investigations should result in higher productivity by the case managers. The expeditious processing team will keep accurate information and records to provide a comparative analysis of statistics between the drug cases and other cases handled by investigators doing different pre-sentence investigations.

The addition of two new assistant prosecutors will permit the expeditious handling of the many motions to suppress and forfeitures that are related to the new cases

and by speeding up the motions practice it will ready the new drug cases for jury in the county that deals exclusively with drug cases has allowed these cases to be put into the system at a much earlier date, thereby allowing us to have a much better chance of meeting speedy trial goals. The addition of the two new assistant prosecutors should make those goals more of a reality.

Objectives

The overall object will be to provide special attention to drug cases and bring them to disposition consistent with speedy trial guidelines. Activity will include conducting pre-sentence investigations, but will be unique in that it will exclusively consist of assigning case supervisors in this program drug related investigations.

The addition of the two new assistant prosecutors will allow us to plug the one remaining gap in the system, the delay encountered in the motion practice (PTI appeals, motion to suppress, forfeiture motions, etc.)

County 14Goal

The goals and objectives of the this county project will be:

1. Have new staff trained within 30-35 days of start date.
2. Reduce current caseloads by 32%.
3. Process PTI automatic acceptance/rejection drug cases within 48 hours.
4. Process all other PTI drug cases within 30 days.
5. Reduce sentence delay from current 6-8 weeks to 4 weeks.

The first project activity under the Expeditious Processing Program will be the integration of our existing Differentiated Case Management Program with this new one. It is our desire to generally assign and select all cases that proceeded through benefit in providing the case managers with advance information thus, allowing them to spend less time on each investigation, thereby completing more of them. It would give them a familiarity with the file and save a lot of investigative time collecting information which is contained in the DCM Project file. We would know whether the case is a Track I, II, III or IV and thereby have excellent criteria for case management purposes.

This will make recommendations to the court by these case supervisors much more consistent.

Project activities

Although each county participating in this project had slightly different goals and activities, these goals and objectives served as general program guides.

The drug courts were all to support the judge drawn from the civil bench, who will be charged with processing all indictable drug cases from arraignment through disposition. These courts are to be oriented toward disposition of drug complaints at the earliest possible juncture in the system. These courts will employ "fast track" methodologies which should facilitate equitable resolutions of narcotics cases currently pending motions to suppress or waiting plea negotiations.

The public defender's office will be able to maintain its vertical representation scheme as the trial teams (drug courts) will conduct proceedings in drug cases from arraignment to sentencing.

Case processing in the office of the Public Defender will be enhanced by increasing efficiencies of indigency - report processing and pre-trial investigation reports. This will, in turn, enhance judicial determination by the judge whether the accused is eligible for public defender representations.

To ensure speedy processing the accused must be assigned an attorney as soon as possible.

The prosecutor's office will enhance their efforts to speed processing by ensuring the timely completion and transmittal of all police reports and forensic lab information. The prosecutor's offices will best ensure speedy case processing by assigning experienced prosecutors to the drug court program.

Summary Of Objectives

The key to the "speediness" of this drug court project is the interaction of the judge, the defense attorney, and the prosecutor. A decision to plea a case cannot be made until these three actors are in communication with each other, and each actor is supplied with all necessary and pertinent information regarding the case as well as the defendant.

Regardless of the individual needs and objectives of the program counties, the major objective of the drug court program is to reduce the backlogs created by the increase of drug cases. A second major objective is to reduce the time involved in processing narcotics cases. A display of objectives is listed below. These objectives represent a compilation of all those objectives listed by the program counties.

They have been arraigned in a hierarchy depending upon their order of importance. (Accomplishment of the lower objectives will ensure the meeting of the higher objectives).

- **REDUCE DRUG-CASE BACKLOG**
- **DECREASE CASE DISPOSITION TIME**
- **REDUCE SENTENCING DELAY**
- **IMPROVE SENTENCING UNIFORMITY**
- **DECREASE PRE-TRIAL DETAINER BACKLOGS**
- **DECREASE DELAY AT "MOTIONS" STAGE**
 - Improve Early Screening
 - Establish Eligibility For Public Defender Quicker
 - Increase Processing Of Paperwork:
 - Indigency Request
 - Pre-Trial Investigations
 - Quicker Processing Of Pre-Trial Reports
 - Reduce Processing Costs

The above objectives appearing in capital letters are those variables that can be readily quantified with available data. The remaining objectives, although not readily measurable in this evaluation are still topics for further discussion.

The remaining objectives may best be described as activities and their completion can be analyzed county by county.

CHAPTER III

THE RESEARCH PROCESS

Interrupted Time Series Design

The principal methodology used in this study will be time-series analysis. Time series studies are quasi-experiments which are distinguished from "true" experiments primarily by the lack of random assignments to either an experimental or a control group.

"The time series quasi-experiment was proposed initially as a means of assessing the impact of a discrete intervention on a social process" (McDowall, 1988). A conventional time series quasi-experiment can be diagrammed as:

OOOOOOOXOOOOOOO

Here each "O" denotes an observation and the "X" denotes a discrete intervention. The intervention separates the time series into one pre-intervention and one post-intervention segment.

Time series quasi-experiments ordinarily focus on a test of the null hypothesis; that is, did the intervention have an impact on the time series? The null hypothesis is tested by comparison of the pre-intervention segment with the post-intervention segment. If the intervention component statistically affects the time series model by a significant amount, a conclusion may be drawn that the exogenous intervention has had a significant impact on the time series.

Impact assessments (statistical analysis of time series quasi-experiment) contain two key elements. First, impact assessment is concerned with the effects of an event that can be represented as binary variables indicating the absence or presence of a certain event. In the legal studies area, enactment of a law is an event that can be associated with a change from "absence to presence."

A second element of an impact assessment is the specification of the onset of an event. This is when the hypothesis event is said to have occurred.

Impact can be thought of in terms of two characteristics: onset and duration. An impact on any social process may either be gradual or abrupt, either permanent or temporary in duration. These components can be determined by time series analysis.

A frequent use of time series quasi-experiments has been in the area of legal impact assessment. Before the assessments could begin, however, certain requirements were necessary. First, the social process under study has been operationalized as a time series; second, there was a discrete intervention; that is, the intervention divided the observations into two distinct segments so that one segment was free of one intervention; whereas the other set of observations were under the effect of the intervention. Third, the analysis was a statistical comparison of the pre and post intervention observations. Also, the analysis

requires a representation of the time series involved.

The null hypothesis for a time series model states that there is no statistically significant difference between the pre and the post intervention series level, that the intervention had no statistically significant impact on the series level.

Data for a time series can be plotted for visual ease along both sides of the mean. For example, if we plotted statewide arrest totals over a period of fifty months, the raw scores would be presented in such a manner that the data points may alternate from left to right around the mean. The mean is represented by a line through the series. The data points may not represent a visible program intervention. Instead, these points may be the result of "noise" obscuring the intervention.

A time series in general can be decomposed into trend, seasonality and random error. Trend is noted when the series drifts upward or downward throughout most of its history. Seasonality is seen when a pattern repeats itself periodically and is noted at consistent intervals. Random error is when, after the series is detrended and deseasonalized, observations continue to fluctuate randomly around the mean.

Trend, seasonality and random error are all common in social science time series and tend to obscure any intervention.

The goal is to model a time series using the process of "Auto Regressive Integrated Moving Average (ARIMA). Using the ARIMA model to process noise we can assess the impact of an intervention." An ARIMA model is a model which is assumed to generate the observed time series (McDowall, 1988).

Box and Jenkins' propose a three-stage procedure for developing a good model. The first stage is identification, the second is estimation and the third is diagnostic checking (Pankratz, 1983).

The identification stage uses two graphical devices to measure the correlations between the observations, auto correlation function (acf) and partial auto correlation function (pacf). The use of acf and pacf allows for the tentative identification of an ARIMA model. Whatever model is selected at this stage remains only a candidate. To select a final model the analyst must proceed to the next two stages.

¹ George E.P. Box and Gwilyn M. Jenkins are the developers of the univariate Box Jenkins models and have formalized the ARIMA analysis procedure.

The next stage is the estimation phase. This stage provides us with "warning signals" regarding the adequacy of our model. Estimation is used to make more efficient use of available data with parsimonious variable sets. It is carried out on a computer using a nonlinear least squares approach. The typical estimation-stage computer printout of the parameters of the model provides estimates of the parameters of the model.

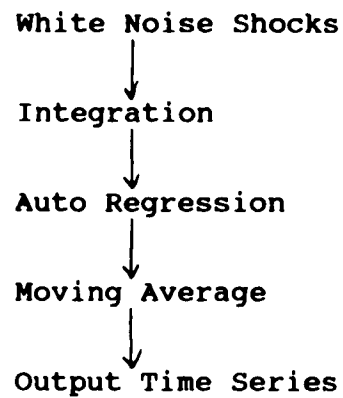
The third stage in building an ARIMA model is diagnostic checking. If the model fails this stage, the analyst returns to the identification stage and improves on the model.

Time series data is a realization of a stochastic process. Central to the time series process is the concept of random shocks. Random shocks conveniently summarize the multitude of factors producing the variation observed in the series. In order to model a time series process the following assumptions are required:

- * zero mean for the shocks
- * a constant variance for the shocks
- * independent shocks: covariance = 0
- * the shocks are normally distributed

The basis for an ARIMA (p, d, q) where p is the order of the autoregressive relationship, q is the order of the moving average structures and d = the number of times the series is differenced, is a series of random shocks or "white noise".

"White noise" may be thought of in terms of the input into the ARIMA model. This can be diagrammed as:



This diagram depicts random shocks entering the ARIMA model, passing through a series of filters and leaving an ARIMA model as the underlying time series.

CHAPTER IV

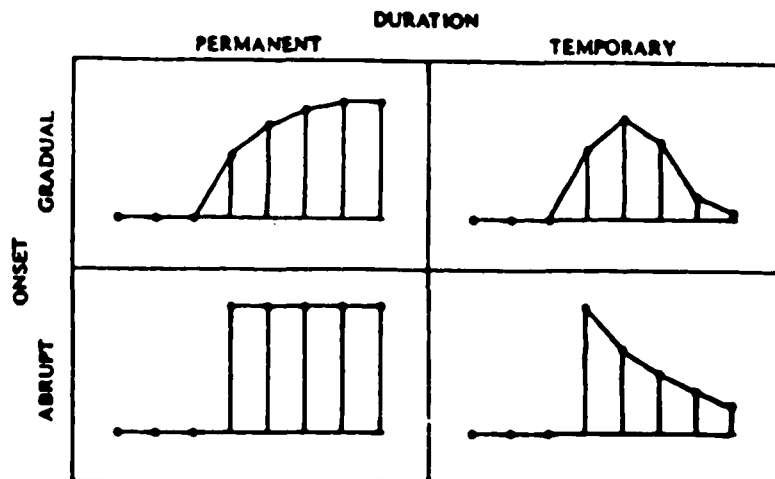
THE EXPERIMENTAL PROCESS

The Impact Assessment

The principal aim of an impact assessment is to provide an estimate of the net effects of a program intervention. This estimate must be obtained in such a way that the effects from other variables have been removed or controlled for.

Impact assessments begin with an ARIMA model for the time series. This model describes the stochastic behavior of the time series process and it is referred to as the noise component of the impact assessment model. An intervention component is then added to the model. The intervention component will take on one of several distinct types of impact. McDowall, et. al. (1980) found it useful to think of impact in terms of two characteristics: onset and duration "An impact on a social process may either be abrupt or gradual in onset and either permanent or temporary in duration." Table 4-1 shows patterns of impact which differ in terms of onset and duration (McDowell, 1980).

IMPACT PATTERNS
Table 4-1

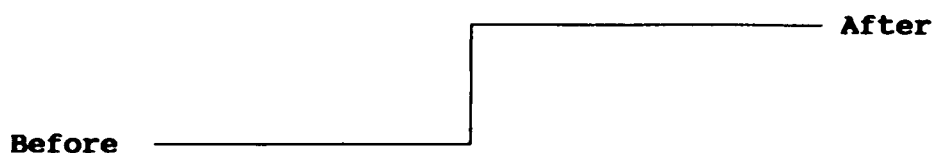


Throughout this study these patterns will be seen depending on the particular time series being presented. According to McDowell (1980) three of the above patterns are easily determined by simple intervention components, but the fourth pattern, gradual-temporary, cannot easily be modeled. When this pattern occurs the analyst should be able to explain the affect on the null hypothesis not only in statistically significant terms, but in terms of its theoretical form.

The gradual-temporary model is prevalent when describing this program for a number of reasons. Primarily, the state realized a rapid increase of narcotic arrests due to a number of causes but after a rapid increase the number of arrests rapidly returned to pre-program status. The reason for this decline is subject to a number of different theories as well.

The simplest intervention component determines an abrupt and permanent shift in the level of a time series represented below in Table 4-2.

ABRUPT-PERMANENT SHIFT
Table 4-2



An impact assessment model determines a change in the level and the trend of the generated time series.

THE DATA

The data provided for this evaluation was generated from the monthly reports filled out by court employees in each county throughout the state. The data is analyzed monthly from January 1, 1985 to December 31, 1990.

All Drug Arrests - The total number of indictable narcotics violations (distribution and possession)

All Arrests - The total number of indictable arrests for all offenses, including narcotics violations

Pre-Indictment Backlog - Case is considered a pre-indictment backlog if it has not gone to grand jury within two months (actually four months since filing). These cases are equal to or greater than two months old.

Pre-Indictment Backlog Over Four Months - Those cases pending for four or more months. These cases are four or more months old.

Post-Indictment Backlog Total - Those cases awaiting trial beyond four months (all post-indictment backlog cases). Cases four months and older. (After Grand Jury)

Post-Indictment Backlog Pending Twelve Months - Those cases pending trial that are twelve or more months old (sixteen months from complaint). Cases twelve months and older. (After Grand Jury)

Pre-Indictment Case Disposal Time - Computed by dividing the active number of pending cases (per month) by the average number of dispositions per month. For example:

Total Pending	834
Cases disposed	375

or, 2.22 months to dispose number of cases pending.

Post-Indictment Case Disposal Time - Computed the same way as pre-indictment disposal time.

Total Pre-Indictment Terminations - Those cases dismissed by the prosecutor prior to grand jury and those remanded

Pre-Indictment Cases Dismissed - Total cases dismissed prior to grand jury action.

Total Post-Indictment Terminations - Those cases dismissed administratively by the court, after indictment

Number Guilty Pleas - Total number of defendants pleading guilty

Percent To Trial - Monthly percentage of those cases heard by trial

Total Jail Population - Monthly total, by county of the number of inmates housed in county jails, excluding those held as state prisoners

Total Prison Population - Monthly total of all inmates held in state prisons

NOTE: From this point all references to four month data will actually be four or more months.

The data is presented and analyzed by each variable over seventy-two months. The data is collected from monthly reports in the aggregate. For example, when pre-indictment numbers are presented, the pre-indictment backlog represents those backlog cases including all types of cases. The numbers do not filter-out the narcotic cases. Therefore, the data measures net outcomes of the intervention (the drug court program) on the overall problem of backlog. This method allows for the impact assessment on the entire court system. This data will be presented in a number of ways depending on the variable being analyzed. The data, when presented as a total, mean that all twenty-one counties in New Jersey have totaled their numbers. When the data is presented as an experimental group, this represents the total

numbers from those counties receiving the programming. When the numbers are presented as the control group they represent the activity of those counties not receiving specific program funds. The data may also be presented by individual county depending on the particular presentation. The counties have not been identified by name in this study, instead each county is represented by a number.

In Tables 4-3 and 4-4 the population of each county is presented as well as the number of judges per 100,000 population in terms of the experimental and control groups.

JUDGES PER 100,000 POPULATION
Experimental Group
Table 4-3

<u>County</u>	<u>1989 Populations</u>	<u>Judges</u>	<u>Rate</u>
7	838,455	24	2.9
9	540,979	12	2.2
11	331,713	7	2.1
12	653,218	10	1.5
14	420,607	4	.9
15	412,974	3	.7
16	463,408	9	1.9
20	499,727	7	1.4
Total	4,161,081	76	1.83

**JUDGES PER 100,000 POPULATION
CONTROL GROUP
Table 4-4**

<u>County</u>	<u>1989 Populations</u>	<u>Judges</u>	<u>Rate</u>
1	212,880	5	2.3
2	827,076	8	.9
3	396,994	3	.7
4	500,553	7	1.4
5	95,889	1.8	1.9
6	138,425	2	1.4
8	218,777	2	.9
10	100,510	3	2.9
13	559,717	5	.9
17	66,254	1	1.5
18	227,312	7	3.0
19	126,633	1.25	1.0
21	88,976	1.2	1.3

Total	3,559,996	47.25	1.33

The control group has an average of 1.33 judges per 100,000 while the experimental group has 1.83.

In Tables 4-5 and 4-6 the judge to arrest ratio is presented. This table indicates the average number of arrests that each judge would theoretically be responsible for in his/her respective county. Also, the average percent of arrests that go to trial is presented along with the trials per judge.

JUDGE TO ARREST ANALYSIS
Experimental Group
Table 4-5

County	Mean # of Arrests	Mean % To Trial	# Judges	Trials Per Judge
7	1684.3	8.2	24	5.7
9	1050.6	3.9	12	3.4
11	578.5	6.6	7	5.4
12	712.1	4.7	10	3.3
14	338.9	4.6	4	3.8
15	355.	4.3	3	5.0
16	621.6	9.4	9	6.4
20	612.3	4.3	7	7.1
Total	7682.0	11.2	76	40.2

JUDGE TO ARREST ANALYSIS
Control Group
Table 4-6

County	Mean # of Arrests	Mean % To Trial	# Judges	Trials Per Judge
1	578.7	3.6	5	4.1
2	737.3	4.9	8	4.5
3	438.9	3.9	3	5.7
4	612.	3.7	7	3.2
5	156.3	4.3	1.8	3.7
6	210.5	2.7	2	2.8
8	256.3	3.2	2	4.1
10	70.7	6.6	3	1.5
13	552.6	6.6	5	7.2
17	112.4	6.5	1	7.3
18	161.0	7.2	7	1.6
19	54.4	3.2	1.25	1.3
21	93.1	4.3	1.2	3.3
Total	1538.0	4.3	47.25	50.3

JUDICIAL WORKLOAD ASSESSMENT**TABLE 4-7**

Mean	Experimental Group	Control Group	"t"
	N = 8	N = 13	
	$\bar{X}$ Exper	$\bar{X}$ Contr	
Arrests	7682	1538	2.23
Trials	860	861	2.41
Judges	76	47.2	3.03
Trials per Judge	40.0	50.3	-1.69
Population	520,135	273,845	-2.63
Judges per 100,000	1.6	1.5	-.42

Critical value for two-tailed test (df 19) = 2.093
at the .05 level.

In order to compare the "theoretical" average workloads of judges between the experimental group and control group assessments were made and presented in Table 4-7. Table 4-7 presents the mean number of arrests between the two groups, the mean number of trials, the mean number of judges, the mean percent to trial, the trials per judge, the populations per county and the judges per 100,000 population.

To statistically test the difference between the means of the two groups a t-test was employed (as seen in Table 4-7). The most important piece of information extractible for the t-test is that no statistical difference was found between the means of the groups in terms of judges per 100,000 and trials per judge.

Where these rates of "theoretical performance" are compared there is no statistical difference between the experimental and the control groups.

In short, this evaluation was designed based upon the data made available to the researcher. The state made decisions to implement this program based on perceived need, thus eliminating pure randomization. However, this did not diminish the intent of this inquiry in terms of impact assessment. Accepting the fact that the comparison groups are not perfectly matched, often times this is the best that researchers can do given the political circumstances.

CHAPTER V

EVALUATING COURT PROGRAMS

Before analyzing the time series data, some basic issues of court delay and evaluation are presented in this chapter. This allows for a basic understanding of the paradigms involved when developing conclusions insofar as the impact of this program on backlog reduction and speedier case processing.

In an attempt to resolve academic curiosity and at the same time offer operational solutions to the pressing social problems of court delay social scientists tend to view court efficiency in logical form. That is, they tend to view court delay as a problem requiring the matching of resources to workload. Delay (as a variable) is operationalized as a problem of too many cases chasing too few judges. However, a problem arises when research is conducted with conventional views such as these. They become an article of faith on the part of the researcher.

The cures for court delay have historically been directed at the resources, organization and formal procedures of the courts because conventional wisdom assumes that these resource-oriented variables controlled the pace of litigation. Thomas W. Church wrote:

"Faster courts were not distinguished from slower ones by their workload, their trial rates and judicial involvement in settlement, the type of cases in their caseload, or by the presence of speedy-trial rules. Rather, it appeared that courts could be relatively speedy despite

burdensome caseloads, high trial rates, limited judicial settlement activity and the absence of speedy-trial rules" (Church, 1982).

The conventional wisdom of judicial resources being linked to court delay is grounded in formal procedures within court systems. The research conducted under this assumption emphasizes individual incentives to reduce delay and stresses the need to focus on management by case managers and professional courtesy among lawyers. A research problem remains, however, as the central precepts of this type of research has not been rigorously tested. So, the researcher is left with an ambiguous beginning when the aforementioned assumptions are made.

For example, the term "Local legal culture" has become a buzzword in the field of court administration. These are the informal elements of a court system found to affect the pace of litigation. The research problem arises in defining the terms associated with local legal culture as they inherently are vague.

Local legal culture generally includes such concepts as: the importance of informal practices and the centrality of practitioner expectations and norms. These concepts remain vague and difficult to operationalize. Also, the definition of court delay can also be ambiguous. "One courts delay may be another court's speedy disposition" (Church, 1982, p.413).

In addition to definitional problems, the study of trial court systems has been approached from a number of different

perspectives. This creates another problem because, perhaps, too many competing perspectives are present and conflicts between them remain unresolved.

"The jurisprudential approach to the study of trial courts has been almost completely abandoned by socio-legal researchers" (Jacob, 1983, p.413). This type of research focuses on the content and context of the formal rules of evidence and procedure and will concentrate on the judge's subsequent decisions. Law journals and law schools typically coordinate this type of research. These efforts usually involve doctrinal analysis rather than efforts to learn more about the formation and application of rules in an empirical manner.

Some of the jurisprudential studies have added empirical strength to the study of judicial decision making. Behavioral studies have been conducted on the work of Supreme Court justices and these studies have been extended to trial courts. The weakness however of judicial decision making regarding sentencing rests in the fact that sentencing decisions are often the result of a negotiation process where the judge is not even involved. Thus, trial court studies relying on judicial decision making are likely to be misleading.

The second type of court system study has its roots in organizational theory. An organizational theorist can better point out that all elements of a conventional organizational

model may not necessary apply comfortably to all courts. The organizational theorists call attention to the interactional elements of trial court proceedings. These studies investigate the interactions within court working groups. Court working groups are characterized in terms of their continuing relationships. Their varying degrees of intensity or concern is indicated in their communication process and patterns which allow shortcut ways of transmitting information. Since the key to trial decisions is the communication of information, organizational theorists presume that the ongoing links between workgroup members have important consequences for the work of courts.

The third type of court system studies are role theory. This type of study is influenced by research on appellate judges. Role theory focuses primarily on individuals and not on groups. Role theory evaluations are closely related to organizational studies. Comparisons of the two types however have not been guided through enough research to produce significant results.

Sentencing models, the fourth type of court system studies, examine the degree to which criminal court judges show bias toward women, toward blacks and toward various .. classes of defendants.

Organizational models are the most comprehensive of the models previously described. They incorporate the concept of role and consider the conditions of governmental decision

making. However, variables such as output characteristics, output distributions, or adjudication timing need still further theoretical consideration.

The process of adjudication can also be viewed as a process of conflict resolution or dispute processing and is another evaluation approach. Adjudication in this context is viewed as only one of a large repertoire of options available to disputants for resolving conflicts.

The problem is that the disputes and conflicts that come into a court system are not all the conflicts in a society nor are they a random sample. Rather, they are a biased selection taking the court processing route for any one of many special reasons. Disputes are seen as continuing through a series of processing areas.

Social control is yet another theoretical perspective guiding some interpretation of court processing. The law is used by the modern state to maintain its power over the population, either in the name of capitalism or socialism. Social control models call attention to the macro-level elements of court proceedings. Mostly this is done in a way that considers how courts affect particular groups in society. This approach focuses more on ultimate consequences as opposed to immediate effects.

Table 5-1
APPROACHES TO COURT STUDIES

<u>APPROACH</u>	<u>FOCUS</u>
Jurisprudential	Formal Rules
Organizational	Interactions
Role Theory	Individuals
Sentencing	Decisions
Conflict Resolution	Effects
Social Control	Consequences

However lacking in scientific structure current court studies might prove to be, the study of trial courts should remain in the mainstream of social research. While it may suffer from faults common to social research, it also benefits from the social scientific approach to knowledge.

Assessing The Reform Process

According to Raymond Nimmer (1978) various assumptions are implicit when assessing how judicial behavior can be modified in order to accomplish or effect some new objective.

The primary assumptions can be reduced to five basis premises: the technocratic premise, the resource premise, the rule obedience premise, the pragmatist premise, and the administrative law premise.

Prior to describing the above assumptions, it will be beneficial to describe the influences on court reform programs. These influences include three authority structures that dominate Court Reform: legislation, appellate decisions and bureaucratic administrations.

The legislature has the ultimate authority for influencing the judicial system. The legislature's enactments implement reform in the criminal justice system that typically involve substantive definitions of crimes and related punishments. There is contemporary pressure (e.g. the Drug War) for increased and determinate sentences for convicted offenders, as an example.

The appellate process is outwardly more concerned with neutral legal terms such as equal protection and due process. Court reform, as it pertains to appellate processes, is not self-initiating as in legislative reform. The appellate section must respond to the issues presented to them. Nonetheless, the appellate process remains an influence.

The most influential authority structures within court systems are bureaucratic administrations. The motivation for reform can be extremely complex. Reform may serve to fulfill personal egos or to validate ideas. There is a desire in

bureaucracies to convey the "new" with a missionary zeal. This zeal leads to an informal marketing process that allows other bureaucrats an avenue to exchange information. Knowing this, considering the three main types of reform helps to structure a discussion on basic premises.

The first premise is that the more technocratic a system is the more expeditious and efficient it will be. For court organizations, the presence of a computer system, for example, allows for the resolution of two major problems. One resolution is records retrieval the other is performance measurement. If a reform "problem" has been defined as an information problem then a ready-made solution is a computer system. Given the nature of the problem, computer technology represents a direct solution to the problem. When the performance of the technological advance comes due, difficulty arises in separating humans from machines when measuring cause and effect.

The resource premise supports the theme that most of the judicial problems would be solved if the courts had a significant number of judges, courtrooms, clerks, and attorneys. "This premise both defines a reform methodology and provides an excuse for reform failures" (Nimmer, 1978). Increased resources may allow actors more time to contemplate their actions but they will not guarantee their acceptance of program goals. The relationship between caseload and judicial behavior is complex. A reduced caseload, therefore,

will not necessarily eliminate or reduce the need for reform. The study of increased resources will not readily address the manipulative function of reform.

The rule-obedience premise suggests that a direct relationship exists between changes in legal rules and courtroom behavior. This premise is grounded in two assumptions. First, judges and lawyers trained in criminal law will abide by the rules of law. The second assumption is that critical decisions by courtroom actors will be subject to review by the appellate process. This only has a possibility of happening in less than five percent of cases as ninety-five percent of dispositions are plea bargains and not really subject to appeal as suggested in this context. A move to solidify these two assumptions may result in the fear of absence of discretion for courtroom decision makers.

The "universal-pragmatist" approach (Nimmer, 1978) emphasizes the informal persuasion ability of courtroom actors and those personal relationships develop between those committed to court reform. This aspect addresses discretion but is dependent on the personality of the reformer. As a result, the reform is not readily repeatable. With a high reliance upon personalities to support reform activities difficulty arises in achieving credibility and cooperation with the judicial system.

The "administrative law premise" (Nimmer, 1978) assumes that judicial reform is accomplished through the

manipulations of intra-agency policies and procedures. This assumption rests on the belief that a change in policy will change the behavior of agency subordinates. This premise over-estimates the influence of imposed norms and underestimates the role of interaction and shared discretion in shaping judicial behavior.

The assumptions underlying court reform projects are generally inaccurate. The deficiencies can be observed when courtroom participants are asked why they should alter their "professional" behavior in response to a reform. Current practice in the judicial process reflects long standing accommodations of various interests. Since these accommodations are considered to be desirable by the actors, change will not occur spontaneously but must be induced by the reform. Therefore, the reform process, with regard to the influences on court processing, must be included as a valuable component of this evaluation.

According to Peter Nardulli (1978) integrating court evaluations in such a way to include internal, environmental, and physical settings of court rooms will yield significant and unique contributions to the study of criminal courts. Organizational analysis of this type explicitly deals with the unique characteristics that have been ignored in previous studies. Organizational studies recognize the important implications that the elite power structure and tightly knit interest structure in criminal courts have for internal

operations, while, at the same time, not ignoring external considerations. Also, the interplay between these two factors may have different ramifications in different settings. Instead of viewing criminal justice officials as being responsive only to professional norms and ethics, the organizational perspective is premised on the view that these individuals have a vested interest in the procedures used to handle cases as well as the inclination and power to effectuate those interests.

There remains a pressing issue, however, in how program implementations really affect organizational structures including internal, environmental and court settings. An evaluation objective should include the study of this affect so that effective programs can ultimately assume a position within an organizational structure. This will ensure lasting programming within bureaucracies.

The reform process encompasses a myriad of evaluative information especially for utilization purposes. Programs of value should be incorporated into court systems. The external and internal influences on court structures can offer analytical support to program implementation and policy maker's decisions.

There exists strong internal pressures on organizations such as dynamics of political coalitions and the tendency for precedents to become normative standards. External influences, on the other hand, may be legal in nature that

present barriers to change or may be restricted by the lack of cooperation of other agencies not willing to undergo an equal investment to the program. Any radical system change may also threaten legitimacy and cause lack of institutional support.

According to Hannan and Freeman (1984) contemporary literature contains three points of view on organizational change. The first is population ecology theory and it postulates that most of the variability in organization comes about as the result of the creation of new organizations and the replacement of old ones.

A second point of view, called rational adaptation theory, proposes that organizational variation reflects the designed changes in strategy and structure of individual organizations in response to environmental changes, threats and opportunities. Rational adoption theories include contingency theories, resource dependence theories and Marxist theories of organization.

The third perspective, random transformation theory, claims that organizations change their structures mainly in response to endogenous processes. This can also be seen as being loosely coupled with a series of organizational leaders and the demands or threats by environmental influences.

These theories are of evaluative benefit as we are ultimately interested in the value of innovations. If they are useful, will they be retained and spread throughout the

population of benefit?

From the perspective of resource utilization, the main aspects of an organization are:

- (1) Its stated goals
- (2) Its forms of authority and bases of information exchange
- (3) Its core technology (including member's skills)
- (4) Its marketing strategy.

(Hannan et. al. 1984)

These four aspects stand in a hierarchy, thus we can expect the likelihood of change by transformation to decline as one proceeds up the hierarchy. Once an organization makes a public commitment to change, it usually must concede some control in return for certain inducements or, it has invested at some level in the program change, or it has designed a service of some appeal to other organizations.

Major organizations most typically don't reorganize overnight. Organizations most typically spend time reorganizing, either by design or by happenstance. Existing rules and structures need to be dismantled, challenged, or created. This process of dismantling and creating new rules and structures can make organizations unstable. Consequently, the variance of quality and timeliness of member's actions can decline during reorganization. The change may be better implemented if the old structure is permitted to remain at the same time the new one is instituted. On the other hand, change effectiveness may be a result of adequate resources.

Program implementation and expected utility can't always be assumed to be successful because organizations tend to remain in a state of inertia regardless of the change. It can be argued however that the more fundamental a program, the better its chances for reproducibility. An appropriate evaluation goal, then, is to analyze program development issues and offer explanation as to level of state involvement in the successful implementation of this program complete with an explanation of the complexities involved.

CHAPTER VI

CONSTRUCTING A PARADIGM

BUILDING A FUNCTIONAL COURT MODEL

A Discussion of Basic Organizational Theory

Drawing conclusions about the effectiveness of this drug court project requires a working knowledge of New Jersey's court structure. This is because certain assumptions about the level of innovation by the state regarding this project need to be supported or challenged. Without a discussion of the organizational issues involved in this study appropriate prescriptions in terms of organizational improvements or changes can not be made.

The basic organizational structure of today's Anglo-American Criminal Court System is readily understood when viewed as a tripartite body composed of a neutral arbiter, the community's advocate and the defendant's advocate. While each of these individuals have the authority and the power to process cases with a basic level of fundamental fairness, the interplay between these actors and their functions greatly impact criminal case processing. Thus, the organizational structure of the criminal court becomes an expansive network of communication systems between each segment of the court's organization.

The organizational structure of New Jersey's court system, if analyzed in terms of its interacting complexities,

will allow for the consideration of all interacting phenomenon, either singularly or totally. For example, police influence on prosecutor's decisions can be considered as an outside factor causing little management variation. Or police influence can be analyzed as a major-numbers producing variable change on all components of the system. The most productive way to present this concept is to describe some basic organizational thoughts as they pertain to model structuring.

Two common and well established organizational typologies are the mechanical and the organic models. An understanding of these models will provide the framework for discussion of a modern-system structure.

In the mechanical model, man is considered a physical object, a kind of elaborate machine, whose actions and processes are analyzed in terms of mechanical principles. Social Systems, in the mechanical model, are seen as "astronomical systems" whose elements are individual humans bound together by basic attractions or repulsions. The systems, then, are of balanced opposition.

Man, his groups, and his interactions constitute an unbroken continuity with the rest of the mechanically interpreted universe.

Man and these systems are studied as systems of interplay and are measured in terms of laws and social mechanics. The mechanical model uses for measurement purposes physical

concepts such as space, time, attraction, inertia, force and power.

We find in this model, moral and social space, positions in social space, systems of social coordinates, gravitation, attraction, and inertia. The central point being "systems in equilibrium". Power and authority are considered as social pressure and social dynamics.

Social systems are conceptualized and analyzed as they would be in rational mechanics or engineering. Mechanically, every social system tends to maintain itself, to preserve its present state until compelled by some force to alter that state. To analyze social change some reference point from which the change occurs is needed. The change, according to mechanical theory, must be analyzed in terms of some mechanical action or other physical concept.

Organic models, on the other hand, are associated with biology. The organic models search for the mutual dependence of all parts, analogous with the functioning of the heart, brain, and circulatory system.

Organic models compare societies to species in that their conservation and change of structure are characteristic features under certain conditions.

Neither species or societies die as do organisms. The struggle is not for survival, but more for a "struggle for structure" (Buckley, 1967).

The organic models emphasize order, cooperation and consensus. The issue is whether or not society is pre-eminently cooperative or in basic conflict. This model views organizations as organisms that can't change their basic given structure beyond very narrow limits and still remain viable. These systems are seen to operate under a condition of homeostasis, a condition which may vary, but is relatively constant.

Moving beyond the mechanical and organic models of organizations there emerges a more abstract construct referred to as "The Process Model". The process model views organizations as temporary and accommodative in nature. Society is viewed as a complex, multi-faceted, fluid interplay which varies depending upon the level of association or dissociation. The key to the process model is the focus on actions and interactions of the components of an ongoing system such that varying degrees of structuring arise, persist, dissolve or change. Thus, the system is influenced by external conditions and must continually shift their structures or adapt to the environment.

Individuals are seen as institutions where persistent structural relationships exist between them in an organization.⁴

⁴ "Marx and Engels, with their view of history as a dialectic process whereby new structures arise out of conditions immanent in previous ones, are perhaps the first names in process modeling." (Buckley, 1967).

Social process can be viewed as a tentative one involving inherent energy and growth where ongoing development is selective put into action by action tendencies and surrounding conditions. "That grows which works".

The Equilibrium - Function Model, on the other hand, postulates that the most general and fundamental property of a system is the interdependence of its parts. Interdependence exists in the determinate relationships among the parts or variables. In other words, interdependence is order in the relationship among the components which enter into a system.

One of the very first imperatives of social systems is order or peaceful co-existence under conditions of scarcity. If the system's mechanisms are out of control or do not work properly the system changes its state or disintegrates it. In short, either the system works or it doesn't. The equilibrium model is applicable to systems that tend to lose organization and tend to hold that minimum level within relatively narrow conditions of disturbance.

The modern systems approach, however, will allow for the development of a system that will explain the following descriptive components of a system.

1. Allows for the development of a common vocabulary unifying all systems.
2. Allows for a descriptive technique that can treat large, complex organizations.
3. Allows for a synthetic approach of analysis when piecemeal analysis is not possible.
4. Sees social systems in terms of their information and communication networks.
5. Studies relationships rather than entities. Emphasizes processes and transitions and remains flexible.
6. Allows for definition of operational objectives, goals and system behavior. (Buckley, 1967)

The models presented in this paper are conveniently represented in Table 6-1. This generalized descriptive diagram allows for comparison of the basic critical distinctions of each social model.

BASIC ORGANIZATIONAL MODELS**Table 6-1**

SYSTEM	FUNCTION
Mechanical	Equilibrium Mechanical Action
Organic	Order Cooperation Consensus Consistency
Process	Temporary Functions Accommodative Influenced by Outside
Equilibrium	Interdependence of Parts
Modern-Systems	Treats Large Complex Systems

Familiarity with the above concepts will facilitate the analysis of New Jersey's court system within general parameters as well as providing organizational understanding within this context. For example, analyzing a temporary stop-gap program to reduce a serious delay problem may be best suited for analysis in terms of a process system. Also, as New Jersey's system unfolds, familiarity with these general concepts will provide a baseline of understanding to the reader and allow this information to be used when making policy recommendations.

Traditional, Contemporary and
Contingency Organizational Court Models

According to Donald Dahlin (1986) court management models can be described in terms of one of three basic categories: traditional, contemporary or contingency. The traditional court model places emphasis on consolidation and simplification with a centralized management scheme. This model is widely accepted and may be considered the "conventional wisdom" with regard to efficient courtroom administration.

A contemporary view of court functioning however, sees courts as an essential protector of government and law fostering individual freedom and social justice. To preserve this role the courts require enough independence to prevent subversion by other institutions. The model is one of a decentralized, consultive nature.

Building upon the traditional and the contemporary models the contingency approach incorporates their strengths as well as permitting flexibility to allow for the adaptation to changing circumstances. Among the key variables in a contingency approach are environment, workflow, and personnel.

Understanding traditional contemporary and contingency court models will permit a logical connection to be drawn between them and the previously described models (e.g. Mechanical, Organic, Process, Equilibrium-Function).

See Table 6-2. This connection is noteworthy because New Jersey has a unique court system with a strong centralized state bench. This allows for a highly structured program mechanism that ultimately influences policy.

"Traditional Models"

The traditional model of court management relies heavily on classical organizational theory. Fundamental to classical theory is the concept of bureaucracy as articulated by Max Weber (Dahlin, 1986). The first characteristic of Weber's bureaucracy is the principle of division of labor. What is important to note is not so much how bureaucracy divides labor but in which manner the bureaucracy accomplishes the division. Bureaucracies contain fixed areas of responsibility and there exists clear statements of who does what. The division of labor in traditional court models are manifest throughout the system. Most readily this division of labor is seen between the tripartite system of American Criminal Justice.

In Max Weber's analysis, the second characteristic of bureaucracy is hierarchy. The principles of office hierarchy and levels of graded authority result in a firmly ordered system of supervisory and subordination. Such a system offers the subordinate the possibility of appealing decisions to a higher authority. A centralized management and rule making court system are evidence that this hierarchy is in place and supported.

The third characteristic of Weber's theory is that the management of office systems is based upon the existence of written documents. The files are preserved in their original

form and standards are set in bureaucracies regulating the keeping of such files. Court systems rely heavily on the high volume of records they keep. Not only are current records valuable, past files are sometimes of greater value.

A fourth characteristic of bureaucracy is the emphasis on thorough and expert training. The more complicated a system becomes, according to Weber, the more reliance is on external supporting apparatus to fulfill this need. The educational system within the legal field is a major bureaucracy in of itself as an example.

The fifth characteristic of a model bureaucracy emphasizes the importance of full-time positions. When an office is fully developed, official activity demand full working capacity of officials. This is noteworthy as judicial positions, as one example, were not always full time. The final characteristic of bureaucracy identified by Weber is its reliance on rules. Knowledge of office rules represent a special technical training and learning which members of the bureaucracy possess. The authority to establish rules of all types and matter is based in the modern day court system.

Classical organizational theory furnishes a great deal of the theoretical foundations for developing a traditional model. However, to develop such a system without considering other aspects of court functioning would leave much of the contemporary organization thought process out of the formula.

"Contemporary Models"

An alternative to traditional court management thinking is one of contemporary analysis (Dahlin, 1986). The central theme of contemporary thinking in court management is independence. This independence allows the court system to foster individual freedom and support social justice. This view considers external factors affecting this independence such as relationships flowing out of the separation of powers, external factors resulting from relationships with other criminal justice agencies and external factors with regard to the general community. The ability to analyze court management systems in terms of their independence of each of these influencing variables will reinforce the court's ability to ensure freedom and foster justice.

Shifting from a traditional model of analysis and a change from the "conventional wisdom" of this traditional model will require a decentralized model of organization with a consultive-collegial management model. Viewing court management in this manner will address two arguments.

The first argument is that we live in an ambiguous world and solutions to problems are often partial and dated. A contemporary design will shift more toward requirements for learning and evolution rather than managerial certainty and control. The second argument facing this change is that courts tend to rely on bureaucratic solutions to current

problems as they relate to protecting individual rights and promoting social justice. Local court independence is more apt to allow space for ethical values that respect individuals over systems and institutions. Donald Dahlin adds order to this discussion by explaining the importance of local trial courts in terms of workflow, environment and human resources (Dahlin, 1986).

Trial courts initially handle disputes requiring formal adjudication and, in a majority of cases, disposition of a case is final disposition, as well. To complicate the role of trial courts disputes must be handled by application of the law and this application can be reviewed by appellate courts. However, trial courts are also required to be fact finders and there exists no similar review process. Also, the resultant delay caused by increased workloads distorts the presentation of facts and reduces the quality of justice and prevents the courts from fulfilling their reason for existence. Delay causes, distortion of memory, one-sidedness and bias. Presentation of the facts then become severely hampered. Without proper court administration the achievement of the substantive purposes of the court can thwarted.

Adding to the complexity of the court system, as it is impacted by workflow, is the defendant's right to a jury trial. The design of the courtroom, the nature of the hearings, and the rules of evidence can all be affected by

workflow. These things if overtaxed can affect the overall sense of fairness essential to our adversary system.

The environment, that is, factors affecting court administration from outside the system, can play an essential part in changing the composition of a court. Attorneys, for example, can be part of a court system, but exert pressure by means of a bar association to hamper managerial change. The bar can lend or enhance support from the outside. To manage the workflow of a trial court requires more than just managing a court system, it requires managing a court environment.

Professionalism displayed by attorneys can hamper court leadership or lend to it. Professionals tend to resist a chain of command approach to management.

Professionals must be made aware of the importance of the organization's commitments, goals and processes.

Organizational theorists understand that there is no one best way to structure and explain all organizations in every situation. Their goal is more than a descriptive one.

If relevant variables can be identified and their impact specified, organizational designers can suggest more appropriate systems as a result of their precision. Contingency models use precision and utilize this precision to suggest appropriate organizational structures and systems.

"Contingency Models"

Contingency theory perceives organizations as open rather than closed systems where the key to understanding the survival or success of any organization is its relationship to the environment. The relationship between the organization and the environment can be a reciprocal one, but this discussion will concentrate on the impact of the environment on the organization. An important influencing environmental factor is the degree of political and cultural homogenization in the court system. If people in the state, for example, are relatively homogenous in background it may be easier to achieve uniformity in court organization and procedure. However, relatively homogenous groups can equally resist the value of a centralized system and support local control. An important second factor in understanding court organizational patterns is the level of development at the state level. A state with a strong level of leadership at the state level will have less difficulty establishing centralized court systems where states with weak governmental systems may tend to resist such a move.

The actual political operation of the state's system is a third important variable in analyzing the environment's impact on court systems. Strong political bases of power can implement and influence programs and motivate people in a variety of ways. Program implementation from the State level

down to the local level may influence court management strategies, for example.

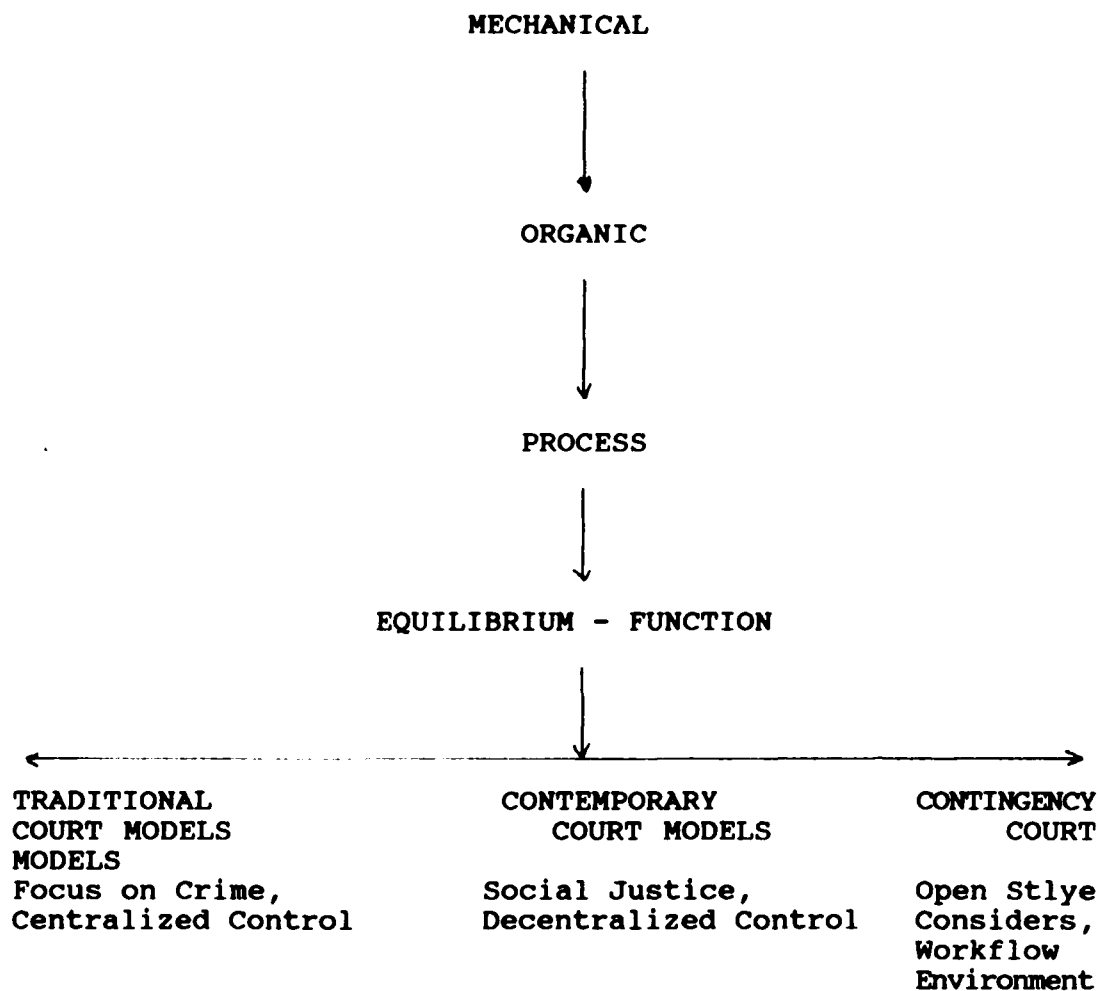
The economic condition of the state is a fourth variable to consider in the organizational analysis, whether or not the state has the economic resources to lend the proper level of support to court system is a critical factor. General pressure to reduce spending or any other abrupt change in economic support is another variable affecting environmental influences over court systems.

The final practical factor to consider is whether or not the jurisdiction is rural or urban in nature. Rural court managers tend to be rooted to the community rather than support strong centralized management.

In addition to the environmental factors to be considered in court management analysis the following factors must also be part of the equation, workflow, trial court organization, judicial control over personnel, judicial independence, personnel considerations, type of judges and their relationship to trial court administrators.

The contingency approach of structuring organizational models develops its approach based on a careful analysis of key variables rather than the court participants. The contingency model is practical, with a focus on day to day organizational problem solving based on analysis of the best available evidence. See Table 6-2 for an organizational paradigm schematic.

A Schematic of Organization Paradigms (Table 6-2)



Combining the organizational style with the three basic court models allows for the above presentation (Table 6-2) of a schematic of court organizational paradigms.

Considering all of the information that goes into a complex court model is a prerequisite for building a specific court model.

Contextual, Proximate And Cultural Influences

There remains no more of an efficient method in which to measure an organization's precision, continuity, discretion, unity and costs than to consider its speed. Time serves to organize social behavior. Criminal justice researchers refer to time and speed when they discuss case processing, court efficiency and court management improvement. Time, then, is a central issue for all those involved in the criminal justice system.

Research on court delay provides no single explanation for case disposition times. In order to consider all pertinent variables associated with court delay, three main areas require analysis. "These three factors influence court processing time: proximate influences, contextual influences and cultural influences" (Fleming, 1987).

The cultural influences refer to the local legal cultures present in courthouses. These local legal cultures broadly define what courthouse participants believe is an appropriate pace for disposing of cases.

The proximate influences refer to those variables associated primarily with the voluntary behavior of the judges, defense attorneys, and prosecutors. The rate of case processing is associated with the methods and outcomes of interactions between these courtroom actors.

The third group of variables are the contextual factors affecting court processing times. This group refers to

administrative structures and policies that impact on case management. These variables include scheduling, calendaring, case management, and classification schemes. A better distinction may be made between the proximate and contextual factors by referring to them as individual perspectives and structural perspectives respectively.

Sometimes court participants may see a benefit from extending court processing times. It may very well be a conscious choice. A judge, may, for example chose to delay his docket if he desires to have more varied work experiences or because of political reasons. Judges may, ironically lengthen processing times in order to preserve their own autonomy. In short, they will resist pressure to speed case processing to save their individual style. Movement of cases requires more administrative control thus affecting judicial control. Also the legitimacy of legal ideals may conflict with efficiency.

Contextual Influences

Contextual influences refer to those structural and case-level influences on processing time. These variables are 1) participant's incentives to speed or slow the case. 2) The case's intrinsic complexity. 3) The event-sequence of the case. 4) General incentives resulting from the general structure of the court. 5) Structural efficiencies versus inefficiencies. 6) Caseload (Luskin, 1987).

These general influences can be explained within a narrower context. The case-specific definition begins with attorney type. The privately retained attorneys may keep cases active longer or they may feel less bound to the court than their counter parts, the public defenders.

The defendant who does not have to spend time in jail awaiting his trial may make use of delay tactics. On the other hand, jailed defendants may receive priority due to statute or scarcity of jail space. Also, defendants with a prior record especially if it is extensive have an interest in causing delay.

The seriousness of the crime affects the expected length of sentence and increases the likelihood of the defendant seeking delay. The more serious cases generally are seen as requiring more time to prepare, thus affecting processing time.

Whether the judge is a regular or visiting may affect case processing time. Also, if the case goes to trial, time-consuming delay can be anticipated. This can be exacerbated if multiple offenders are involved.

Early dismissals, pretrial motions, continuances, secondary exams and mistrials all affect case processing time. The failure of the defendant to appear slows court processing as well as the need for psychiatric examinations.

Structural variables such as docket type, the existence of case-tracking, the presence of case processing goals and

court's control of case scheduling all affect processing time. Other programs such as scheduling by one judge or decentralized plea bargaining or other crash programs will impact on time measures.

Measuring caseloads, either average or individually will affect processing. This refers to the type of measurement used to calculate processing by caseload. Average caseloads result in an subjective number while individual caseload measurement will indicate the individual judge's responsibility for case processing.

CONTEXTUAL INFLUENCES**Table 6-3**

Attorney Type	Secondary Preliminary Exam
Pretrial Release	Mistrial
Seriousness	Docket Type
Prior Record	Case-track
Regular or Visiting Judge	Case Processing Time Goal
Number of Defendants	Court's Scheduling Control
Trial	Administrative Judge
Early Dismissal	Decentralized Plea Bargaining
Psychiatric Tests	Crash Programs
Defendant Absent	Average Caseload
Continuances	Individual Caseload

(Luskin, 1987)

Proximate Influences

The proximate influences on case processing time refer to those personal interactions between actors in the courtroom setting. These interactions are between defense attorneys and their clients, the prosecutor and the defendant, the judge and the defendant, as well as the interaction between the court actors as they organize into a workgroup.

According to Dahlin court workgroups establish a complex network of ongoing relationships that determine who in the courtroom does what, how and to whom. Courtroom workgroups have characteristics commonly found among other organized workgroups (Dahlin, 1986).

- They exhibit authority relationships
- They display influence relationships, which modify the authority relationships
- They are held together by common goals
- They have specialized roles
- They have a variety of work techniques
- They engage in a variety of tasks
- They have different degrees of stability and familiarity (Dahlin, 1986)

The basic task of the courtroom workgroup is to dispose of defendant's cases. The composition of the workgroups include a judge, a prosecutor and a defense attorney. The techniques used are adversarial, negotiations or unilateral decision making. Familiarity between members facilitates decision making where unfamiliarity slows the process. The courtroom workgroups are labor intensive. They provide a service rather than a product. The authority structure is not necessarily hierarchical but rather the judge is often managed by others. The key to the effectiveness of the workgroups is communication. Members must communicate in order to facilitate its task.

Defendants are interested in one basic thing - what will happen to them after they leave the courtroom. Most times, an effective system of plea bargaining depends on the courtroom workgroup's ability to assure that the negotiation process will result in the resolution of the defendant's

concern. After all, the resolution of these cases exclusively depend on the plea negotiation.

An intrical component of the workgroup, the judge, in theory, remains free to impose a sentence either more severe or more lenient than any sentence recommended by the prosecutor, but in reality the system can achieve its basic objectives for case processing by transferring this responsibility to the prosecutor's office.

According to Albert W. Alschuler, judges sometimes put "bottoms on some pleas". There exist unwritten rules in some courtrooms the effectively establish minimum sentences for certain crimes. The prosecutors assigned to these courtrooms do not attempt to recommend lighter sentences than the judges are willing to accept. A prosecutor is not really limited by the judge, but the judge's temperament shapes the adversary duties of the courtroom workgroup. At issue, with regard to the judicial role in the workgroup is his/her abdication of judicial power (Alschuler, 1976).

The prosecutor has the power within the courtroom workgroup to bind the court in the majority of cases. Case processing, then, will require communication between the judge and the prosecutor with a keen awareness by both actors of the balance of power at risk. This awareness involves clear choices between the prosecutor and the judge regarding the vesting of power.

The primary reason a judge will participate in a plea negotiation is to process large caseloads despite institutional political and social pressures. This pressure to process can be exacerbated by seriously inadequate resources. Other factors may influence the judge's decision to participate such as pressure to produce certain statistics or to maintain a level of popularity or reputation.

The defense attorney, on the other hand, is seen as the equalizer in the bargaining process. The defense attorney insures (in theory) that a guilty plea is truthful, is based on consent, and is entered with awareness of the consequences. As defense attorneys meld into the courtroom "system" their roles play a critical part of case processing. Richard Nardulli points out:

"The urbanization of America has permitted some private attorneys to specialize in the practice of criminal law, and the establishment of indigent defense systems have resulted in a "regulars" defense bar in many areas. Its size and importance varies considerably from system to system. In some systems, regulars dominate criminal defense practice, while in others a large number of "one timers" play a significant role. In every instance, however, there will be much more variance in the defense attorneys' ties to the court community than is the case with judges and prosecutors" (Nardulli, 1983).

Defense attorneys who have established close ties with the local court community are better able to obtain maximum benefits for their clients. Regardless if the defense attorney is privately retained or is a public defender, this

"tie" to the court community has an impact.

Handling a large number of cases, for a private attorney, even if they are less than spectacular, may lead to a measure of substantial wealth for the defense counsel. "A guilty plea is a quick buck." A defense attorney, from the private bar, has economic incentives to move his cases but still (ethically) maintaining adequate representation for the client, according to Alschuler.

Public defenders, unlike private lawyers, are lawyers whose salaries do not depend upon the amount of time devoted to individual cases. In most jurisdictions, however, public defenders enter guilty pleas as often as private attorneys (Alschuler, 1975).

A disadvantage for the public defender is that the client did not seek the counselor before hand and case preparation becomes an issue in case processing. The private attorney generally does not acquire the same level of bargaining power as the public defender because the private attorney is not as readily apt to spend day after day with the same prosecutor or judge.

Private attorneys may be more inclined to create delay, in certain circumstances. Delay almost always lends an advantage to the defendant, unless the defendant is incarcerated. Delay helps to cool tempers, fade memories and wear down witnesses. Defense attorneys' clients are more likely to be in jail, therefore delay is of little advantage.

Regardless of the ethical issues that arise from the discussion of defense attorneys, for purposes of this study their involvement in the bureaucratic process affects case processing time and these issues remain of concern to the managerial process.

When the prosecutor's goal is to expedite cases as quickly as possible and to manage his/her end of the bureaucracy in terms of getting the work done the role assumed is that of an administrator. At the same time, the prosecutor may act as an advocate. The prosecutor is responsible for securing convictions as well as the imposition of appropriate sentences.

The prosecutor may also act as a judge when circumstances are such that securing a plea bargain will result in what is best for the defendant.

When laws are too harsh, the prosecutor has the authority to act as a legislator. No matter which role the prosecutor is required to assume, routine processing of cases is rare. These cases must be dealt with on a case by case basis. The benefits of speedy trial goals are, in reality, customized for each individual defendant.

Many variables brought into the equation by the prosecutor's office have impact on case processing. Variables such as the personal relationship between the prosecutor and the defense attorney, the attitudes of the police, the race of the defendant, and the desires of the

victim are all related to the basic process involved in case preparation and prosecution.

Administrative considerations may assume the position as the most important role of a prosecutor. When backlogs exist and pressure is maintained to "grind out" cases, the prosecutor will ultimately accept the responsibility of speedy case processing.

Knowing the pressure put on prosecutors, defense attorneys devise strategies whose only utility lies in the threat posed to processing time.

Pre-trial motions rank with jury demands as the most valuable time-consuming strategy (Alschuler, 1968).

"The majority of prosecutors view the strength or weakness of the state's case as the most important factor in the task of plea bargaining" (Alschuler, 1968). Sometimes the only time a prosecutor will "Make a deal" is when his case is weak.

Plea bargaining, the machinery behind speedy case processing relies upon the judge, the defense attorney, and the prosecutor's ability to negotiate together and compromise a deal. Thus, lawyers view themselves as judges and administrators rather than defenders. Court personnel become figureheads of plea negotiations whose power has been transferred to those with considerably less power. This process of bargaining for sake of court administration's mechanical ease, may at times distort traditional roles of

the actors. Nonetheless, the nuances of the bargaining process must be addressed in order to understand speedy-processing interventions or to build organizational models.

Cultural Influences

"The local legal culture is conceptualized as those common practitioner norms governing case handling and participant behavior in a court" (Church, 1985).

Legal culture is an attitudinal agreement on a disposition of criminal cases and concerns itself with procedural issues such as disposition time, and the necessity of a trial to resolve disputes in a case.

After considering the dimensions of local legal cultures it may be argued that both the pace of litigation and court backlog are determined by established expectations, practices, and informal rules of behavior of judges and lawyers.

Much of the variation attributed to courtroom structures can be traced to courtroom environments or courtroom workgroups. Courtroom workgroups are comprised of the social networks between sponsoring agencies. These sponsoring agencies include the police, legislatures, appellate courts, and the partisan milieu in which courts operate.

"Courtroom workgroups depend heavily on sponsoring organizations. Such organizations determine who will be on the workgroup staff, and how long the staff, and how long the staff members will stay. Workgroup members come from several distinct organizations. One, loosely called the courts sends judges; the state's attorneys' office sends prosecutors; the public defender's office sends defense counsel for indigents (private counsel come from the general bar); the clerk of courts sends clerks; the sheriff sends bailiffs.

(Nardulli, 1978)

Each member of the workgroup brings his/her own resources from their sponsoring agency. Each sponsoring agency has its own power base along with objectives and goals. Each participant, then, may attempt to achieve their agency's goals through the workgroup.

When sponsors supervise the operations of workgroups closely, little variation is seen. When supervision is lax, more differences are the result. Supervision by sponsors transfers their interests to the workgroup. Lax supervision, by judges on prosecutors may result in court delays or public defenders may push for continuances. The sponsor's policies become the norm for the particular workgroup.

External factors also influence the activities and actions of workgroups. These external factors include the police, legislatures, appellate courts, media, and others. The police supply the numbers to the workgroup. The police determine not only numbers, they also dictate who is charged with a felony, or supply the evidence necessary to present a strong case. The vigor of the police will determine the number and composition of those cases coming to court.

Also affecting the process is the appellate court. The appellate courts and legislatures are more distant from the workgroup, but they define criminal behavior, establish standards and procedures, and dictate or limit punitive measures. They also determine available resources as well.

Correctional systems also affect processing speed. Prison officials ultimately determine how long inmates stay in jail.

Thus, the real prison sentence rests on those outside the courtroom. This outside influence is of critical importance to the court workgroup so they can apply the appropriate (real) formula for the sentences they are working with.

The news media, on the other hand, may not have the same kinds of direct influence on courtroom working groups as do the police and prison authorities but society's fascination with shocking news and human cruelty strengthens each members interest in how the crime story is portrayed. Public officials, are accountable to the public through the news media. Each member of the courtroom working group depends on public exposure via the news media. Thus, reporters are both wooed and feared. The news papers can offer criticism of court performance beyond the handling of specific cases. Damaging news stories may have important impacts on certain courtroom working group members, especially if they hold or plan to hold elected positions. The news media will portray court performance in a certain way affecting the local legal

culture, thus affecting public opinion. The office of the prosecutor may be regarded as the most powerful political machine of local political organizations. Therefore, political influence is definitely an influencing factor on courtroom workgroups. The political influence on courtroom working groups may include interest groups such as the Bar Association, civic groups, labor unions, homeowner's groups and ethnic groups. The key power holders of these groups influence the workgroup's decision making.

CHARACTERISTICS INFLUENCING WORKGROUPS (TABLE 6-4)

Characteristics of Workgroups

Member's familiarity with one another
 Member's dependence on one another
 Workgroup Stability
 The relative importance of workgroup's goals
 The degree of workgroup task specialization

Characteristics of Sponsoring Organizations

Recruitment and assignment procedures
 The amount of control and supervision
 The content of sponsoring organizations policies

Characteristics of the Larger Context

Physical layout of the courthouse influences by:

Police
 Legislative Bodies
 Appellate Courts
 Prison Officials
 The Media
 Political Organizations

In a study by Thomas W. Church (1986) he found that courts are often depicted as quasi-bureaucratic institutions where judges, prosecutors and defense attorneys cooperate in a series of rituals (or process) where defendants are processed with agreed-upon informal roles. Church wrote:

"Experiences with court reform over the past several decades demonstrate the extraordinary ability of criminal courts to absorb reform efforts, both large and small, without substantial change in operation. This uniformly sobering picture of the difficulties involved in bringing about change in the existing pattern of criminal court dispositions extends to attempts to eliminate plea bargaining (by either legislative or prosecutorial mandate), to "conquer court delay" (by adding resources, instituting crash settlement programs, or promulgating speedy trial rules), or to alter sentencing practices through imposition of fixed or

minimum sentences" (Church, 1986).

The problems arising out of workgroups manifest when the workgroup displays such tenacity in maintaining existing ways of doing things that resistance to change occurs. "When faced with an unpleasant policy, resourceful attorneys, assistant prosecutors, and judges will generally find acceptable ways to get around it" (Church, 1986). This resistance to change may be due to the informal network of relationships and their expectations found in any court culture.

This resistance to change may have policy implications because so many court reforms are based simply on "pumping" more personnel into courts. Efforts to reduce delay should contend with the inertia and attachment to the status quo common to any complete organization. Such court reforms could run counter to the beliefs of practitioners concerning the minimum time necessary for adequate trial readiness, thus, running counter to the local courtroom culture.

Building A Functional Court Model Of
New Jersey's Court System

A model of a system where disposing criminal defendant's cases within a given time frame can not be conceptualized without careful consideration of how these cases progress through the various stages. Accordingly, research calls for longitudinal examination of the cases in transit through the system, realizing that outcomes of one stage will impact on the outcome of subsequent stages. Therefore, processing (as it relates to court systems) needs to be studied as a system of relations in time.

According to Mary Luskin (1978) much of what we can gather from court delay literature is inspirational. Judges, or prosecutors feel that they are successful in their personal efforts to reduce delay in their own jurisdictions. This type of literature lacks theory applicable to other jurisdictions, lacks definition of variables and, because of lack of clarity, lacks an operational definition of delay.

Luskin postulates that a case processing theory must consider time as the key variable that can be explained across individual court cases and jurisdictions. Also, systematic differences between cases (affecting processing time) and personal, community and court differences that affect court processing times must be built into the model.

To build a court system model some understanding of basic concepts, must be present. At the core of all organizations is the concept of conditionality. As soon as the relation between two entities (A and B) becomes conditional on C's value, then conditionality is present. Thus, an organization is present.

Once we realize the presence of an organization between variables we can hypothesize that "the organization is equivalent to the existence of a constraint in the product space of all the possibilities" (Buckley, 1967).

Given a set of elements, then, we can conceptualize an organization as one in which each element is associated with its own set of alternate couplings with other elements. In other words, all possible outcomes, or all possible states of nature when combined equal the elements of an organization.

A well organized system is a system that is predictable. When something happens it rarely happens by surprise. A perfectly organized system is completely predictable. The outcomes are affected by the organizations "complexion" or entropy measure. The opposite of entropy is zero. When we see zero entropy we see complete disorganization.

One method for measuring or displaying the dyadic sequence of an organization is "mapping". Mapping an organization allows the researcher to produce the environmental events for others.

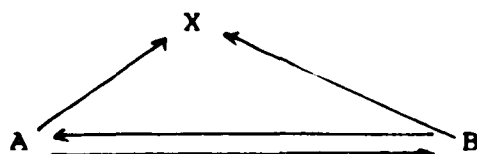
Mapping builds an equation where function can be related to sets of destinations or, better stated, input can be associated with output.

A relatively basic approach to mapping is described by Becker as Newcomb's A-B-X Model, which focuses on social interaction specifically as a process of communicative acts (Buckley, 1967). Because the A-B-X theory defines interaction in terms of communicative acts, the social-psychological mechanisms underlying the organization can be examined in terms of the actors symbolic communication.

Newcomb's basic assumption is that communication between humans enables two or more people to maintain simultaneous orientation toward one another as communicators and toward objects of communication. Communication is seen as a transmission of information, consisting of discriminative stimuli, from one source to a recipient. Person A transmits information to person B about something X. The A and B - X transaction is seen as a system, with certain definable characteristics of each element.

The basic A-B-X schematic is given below. Four orientations are possible, and especially notable is the dynamic feature of the A-B interrelationship as compared to the person to object (X) relations.

In the A-B relationship there exists a general-reciprocal process, or feedback, that exists at the center of human behavior.



Newcomb's Model

A-B-X

A basic problem remains, however, when the dyadic micro process is applied to large institutions. The inter-personal communications question can be lost. The solution to this problem can be rectified if the institution is mapped as an open system and the institution is conceptualized in terms of its collective behavior. What is needed is an explicit-ongoing circular process that is open ended. What is needed then, for a proper systematic mapping will contain:

- normative ambiguity
- permissive alterations
- planned and unplanned innovation
- deviance
- social/cultural differences
- tension-conflict
- communication networks
- process of exchange
- level of feedback
- differentiated power distribution

(Buckley, 1967)

Building a court processing model requires five stages. First, desired goals and objectives are controlled. Second, administrative action outputs are considered. Third, information is put into feedback loops. Fourth, if errors leave the system they can be controlled.

Organizations seeking material and social goals in a physical and sociocultural environment generate meanings, create patterns and arrangements that are more or less temporary adjustments always open to redefinition and rearrangement. The patterns involve internal components of voluntary, informed self control and an external component of direct or indirect constraint.

Simple models of explicit group goal seeking will not fit into most current organizations because these models omit the affect of interdependent goal behaviors of individuals and subgroups common in most complex organizations. Also, complex organizations have a capacity to persist or develop by changing its own structure, some times in fundamental ways. Therefore, to build a model representing a complex organization such as a court case processing scheme, internal, external and change variables must be included.

Two tasks remain for the completion of a court-processing model. First, a communication process of courtroom actors must be built. Then, this communication model must be integrated into a model considering time as a variable.

In order to consider both time and communication process two models as presented in tables 6-5 and 6-6. Table 6-5, Defendant-Processing Model, considers court processing in terms of the stages a defendant must go through; from arrest to disposition. The dependent variable here is indicated as time (days).

In table 6-6 a basic Newcomb's Model (A - B - X) is presented as the action within a workgroup (Defense - Judge Prosecutor). The communication between these actors is represented by the arrows placed between the circles. In order for the workgroup to function these six arrows must be present.

The goal for these court workgroups is the disposition of criminal cases and is indicated as "outcome" on the communication model. The feedback loops in this model are represented as arrows. The arrows represent some outside influences entering into the equation to single components of the workgroup in these cases. The communication is going into the workgroup but not necessary returning. On the other hand the cultural and contextual influences are represented in such a way as to allow for the influences as they pertain to the proximate influences (designated as a double circle). The proximate influences are those interpersonal components present between the actions in the workgroup.

To consider the utility of combining both models the model presented in table 6-5 can be abstractly inserted into the time line in table 6-6. This way the working group can be represented at any place along the processing-time line.

These models were represented in this fashion because when the twenty-one counties in New Jersey are analyzed it will become apparent that this model exists in all court systems, but exists in various places along the line depending on the county being analyzed. These models will serve the reader as this evaluation continues.

DEFENDANT-PROCESSING MODEL

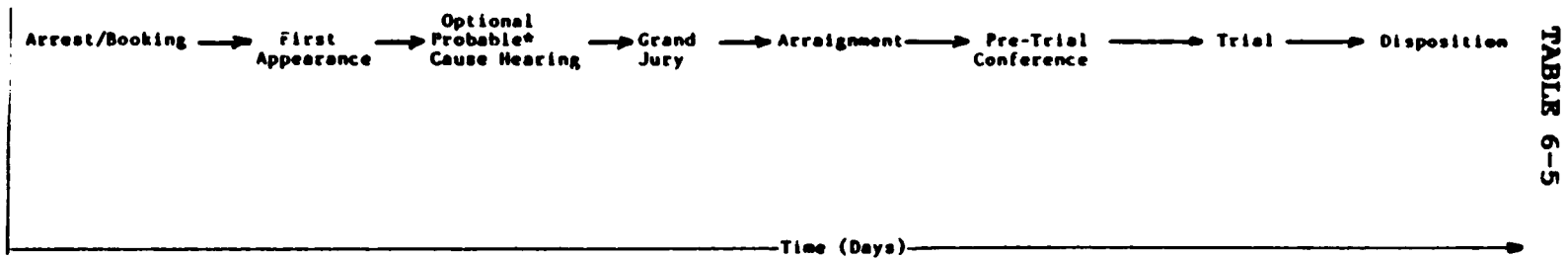
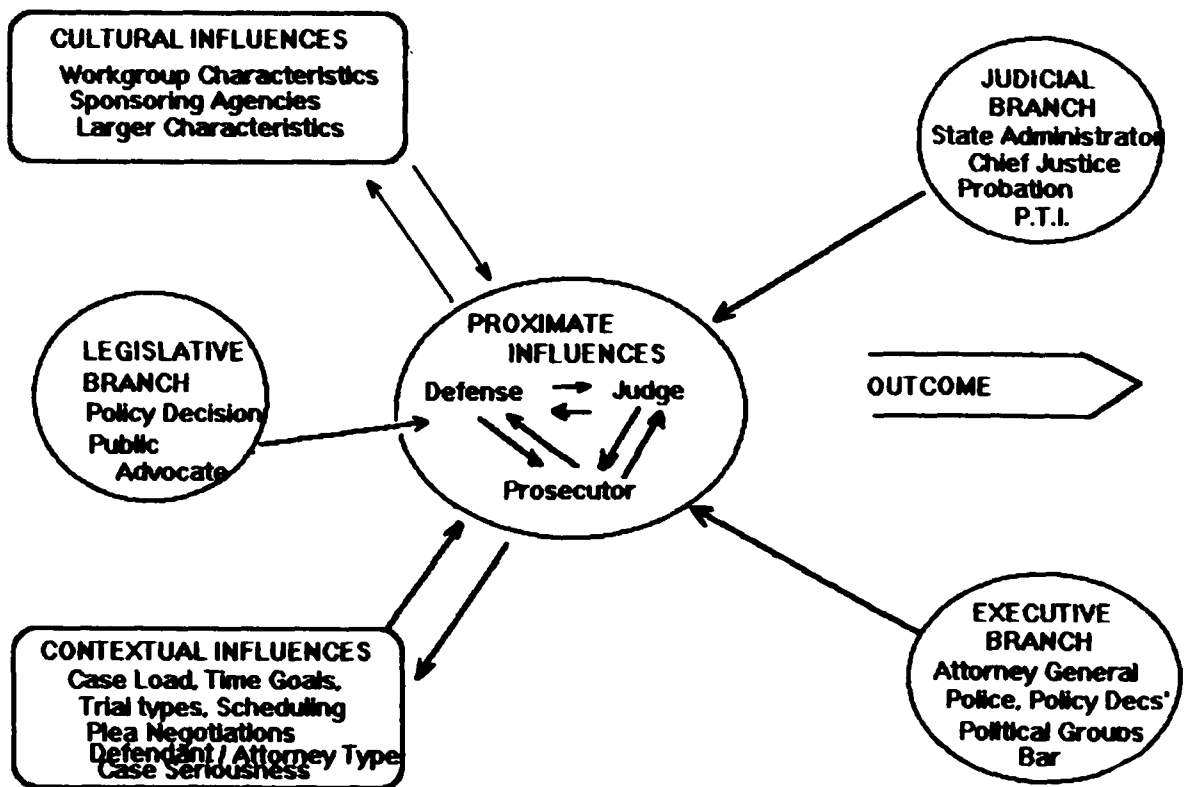


TABLE 6-5

* For Serious Felonies (Bail is Set)

TABLE 6-6

NEW JERSEY'S COURT SYSTEM: ORGANIZATIONAL MODEL



Other State Programs

There are twelve major state-sanctioned programs operating in New Jersey's court system. (See Table 6-8 for an overview). The drug court project is one of the twelve state-sanctioned programs. Each of these other programs may influence certain policies or outcomes of this project. Therefore, care must be used in drawing conclusions when extra programs are in place in a county under analysis. Also, the reader must be thoroughly apprised of concurrently operating programs.

Prosecutor's Screening

Screening activities are most often conducted by specialized units at one of four stages during the criminal disposition process. This screening can occur at the post-arrest/pre-complaint stage, at the post-complaint in municipal court by the prosecutor's office, or at the grand jury preparatory stage. The screening rests on the responsibility of the prosecutor's office and is not tracked by the State Administrative Office of The Courts.

The defendant's case, if it involves an indictable charge is reviewed to determine the quality and urgency of each case. Also, the case is reviewed to ascertain applicability for grand jury presentation and if the investigative reports are sufficient for prosecution.

If it is determined that prosecution is warranted then the matter is referred for grand jury action. If, on the other hand, the case does not meet the grand jury criteria, the matter is screened out. The cases may be administratively dismissed, downgraded to a disorderly persons offense, recommended for diversion, or otherwise screened out.

The Uniform Defendant Reporting System (UDRS)

The Uniform Defendant Reporting System offers decision makers in the New Jersey court system a uniform report which captures the main "objective" information needed about a given defendant. This is relevant to the examination of speedy court processing as the UDRS has as its primary objective efficient defendant processing. This system was approved and mandated by the Superior Court in October of 1990. However, certain counties had implemented this system prior to this date.

The UDRS breaks down the total of the court's needs for intake, bail, PTI, and sentencing into a series of independent sections. This system permits the collection of information once, but may serve the needs of various decision points in the case process. The system includes nine separate forms, the uniform defendant intake report, the uniform defendant intake report/supplemented defendant report, the case history report, the bail report, the prior history report, the pre-trial investigative report, the

presentence report, and the case supervisor analysis report.

The UDIR is the foundation report for each of the important decision points, bail, PTI, PST, etc., of a case. Additional information, narrative, or recommendations are added to the UDIR at the time of the decision.

Speedy Trial Committees

The Pashman-Belsole Report (1990) dated January 31, 1990, recommended the revitalization of the Speedy Trial Program. The report stated that continued personal leadership of the Chief Justice along with the Attorney General and Public Advocate is essential for reduction of trial delay. Planning committees should be established in each county and these committees should meet no less than monthly. Each county should develop written plans of action addressing backlog problems. These plans should then be forwarded to the statewide committee. Open lines of communication and state level leadership are felt to be the key ingredients of speedy trial committees.

The speedy trial committee concept was in place during the 80's and this process worked well. Time goals were achievable and backlogs manageable. Participation and input from all components of the criminal justice system fashioned a statewide commitment to achieving speedy trial goals. However, not every county adheres to this involvement.

Pure Calendar Systems vs. Master Calendar Systems

A pure calendar system or "Individual" calendar is best described as one where the judge stays with a case from arrest to disposition through sentencing. Whereas, the master calendar system is usually managed by a presiding judge and he/she calls a list daily and assigns cases on an as-needed basis. The pure system requires powerful team leadership where the master calendar lacks overall - personal power. The pure system lacks specialization where the master calendar places value on power within special units, such as bail or PTI units.

The state supports the use of individual calendars as they optimize the organizational values held by the judiciary. These values include independence, consistency, familiarity, accountability, productivity, and development of human resource potential. The State Administrative Office of the Courts supports this type of system as "the most effective organization of resources is one that focuses on individual cases assigned to specific counts." Nevertheless, not all twenty-one counties use the individual calendar system.

Systems Design/Promis-Gavel

The State of New Jersey employs a computerized management system entitled, "Prosecutor Management Information System."

The essential difference between the systems design and Promis/Gavel is whether or not the county is connected to the statewide main frame computer system. The management system is in effect throughout the state but seven counties still remain independent of the main computer system.

The management system is used to track defendants as to their position in the case processing system. The records are easily accessible to the prosecutor's office. The information is processed initially by a court clerk and if the defendant is indicted the data is entered into the statewide criminal history file. If the offense is non-indictable it is coded as a disorderly persons offense and is not entered into the CCH System. Non-indictable offenses are handled at the municipal court level.

This system is utilized as a speedy information devise and allows criminal case management as well as prosecutor's ready access to defendant information. The distinction between levels of computerized sophistication (Main Frame v. Non-Main Frame) is made only as a point of reference. This program may, or may not, affect criminal case processing time.

The Promis/Gavel system contains case and defendant files that include all charges filed, pending and disposed as well as records on each defendant's case pertaining to the following items:

1. Bail
2. Diversion (PTI)
3. Warrants
4. Motions
5. Grand Jury
6. Court Appearances
7. Sentencing

The Promis/Gavel system generates court calendars and notices to attorneys, defendants and witness for all hearings. Monthly statistical reports to the AOC and an annual report to the Attorney General are generated by the system. The reports include aggregate data on cases added, dispositions by type and pending cases in separate categories of jail, bail, fugitive and inactive with aging detail in 30 day intervals. A monthly exception report is generated on all cases aged with excludible time for warrants or diversionary treatment deducted to evaluate achievement of speedy trial goals adopted by the Supreme Court. The system also contains a simplified report generating feature for local users that enables them to create special reports containing any group of fields in the system.

Centralized Judicial Processing

The CJP was initially established in Hudson County New Jersey in 1981. The Hudson County Unit is actually part of the municipal court. The CSP Unit was established to fill the perceived need for speeding up case processing at the pre-indictment stage. The program's main goal is the elimination of lengthy delays arisen from the use of various municipal courts for a defendant's first appearance in an indictable matter. CJP courts were viewed as successful and were subsequently initiated in other counties.

The Unit acts primarily as a clearing house for potentially indictable offenses. This process helps to assure that the grand jury receives only those cases that belong before them. The defendant appears before the CJP immediately following his arrest. The defendant will face a municipal court judge experienced in criminal matters as well as a representative for the prosecutor's office, a representative from the public defender's office and representative from a bail processing unit. Therefore, the prosecutor and the judge can make informed decisions on downgrading issues, bail, and insuring the defendants rights are protected. Also, if the defendant is represented, plea negotiations can take place. In theory, a case can be totally disposed of the day after an arrest.

The CJP court reduces delay because it allows for downgrading at the municipal court level, it allows for attorney representation no matter what the level of crime and representation permits early decision making by the judge, the prosecutor and defense counsel. The CJP court takes advantage of the trial team concept and initiates their cooperative working relationship early in the defendant's court processing process.

Simultaneous Sentencing

Simultaneous sentencing is a speedy-trial technique that recognizes the intake process, in conjunction with the use of the Omnibus Uniform Defendant Intake Form, resulting in the functional equivalent of a pre-sentencing on the same day the plea is accepted. This allows for sentencing without the "legally required" pre-sentence report.

The use of uniform intake forms is a step toward statewide standardization of these forms. Simultaneous sentencing offers counties a speedy-trial incentive to participate in uniform reporting. The degree of wasted time awaiting pre-sentence reports and calling defendants back into court for sentencing could be substantially decreased in those counties adopting simultaneous sentencing. This program requires the case supervisor to interview the defendant within forty-eight hours after the complaint is filed.

The case manager makes an early determination if the case can be appropriately referred to an early settlement panel. The caseworker, if he/she determines appropriateness, then contacts the prosecutor's office and the public defender (or private counsel) this invoking communication between these parties. The early screening energizes the prosecutor into an early screening determination and will ultimately reduce the risk of unnecessary managerial waste.

Case Management Teams

The criminal case manager position is a key aspect of the vicinage management structure that exists in three divisions of New Jersey's Court structure. The structure was implemented as a means of assuring accountability and maximizing the efficiency of court operations especially in the area of support functions that could readily be consolidated. Bail, diversion and presentence investigation units, for example, were merged.

The support staff includes teams of court-support professionals known as criminal case supervisors who are responsible for assuring the quality and efficiency of support functions on cases from filing through disposition.

Differentiated Case Management Systems

The Differentiated Case Management System is a program that was initiated in anticipation of increased drug caseloads and its overall goal was to prepare certain jurisdictions for increased drug cases and enhance their ability and capacity to handle caseloads in an expeditious manner.

This system of case management distinguishes between cases in terms of the nature and extent of judicial resources needed to process the case. The DCM system establishes appropriate monitoring mechanisms to assure the timely provision of expected resources. This program establishes multiple case tracks which contain different management requirements and specific time frames. Each case is assigned to a track depending upon the criteria established by the jurisdiction. The criteria is pre-set.

Tracking responsibilities fall to the criminal case manager and that person will address case processing needs regardless of which track the case is ultimately assigned. Camden County, for example, developed a four track system; expedited, standard, complex, and priority. Each track contained different processing time goals.

The critical aspect of DCM is active centralized coordination of caseflow among the individual courts. The trial calendars centrally managed on a regular basis with consultation by members of the judicial, prosecutorial and defense staff.

This centralized management scheme allows for tracking cases into underscheduled trial calendars when necessary.

TABLE 6-7
PERCENTAGE OF COUNTIES PARTICIPATING
IN STATE SANCTIONED PROGRAMS

<u>Program</u>	<u>Experimental Group</u>	<u>Control</u>
<u>Group</u>		
Prosecutor's Screening	100%	100%
UDRS Use	100%	85%
Speedy Trial Committee	100%	77%
Pure Calendar System	62%	92%
PROMIS/GAVEL	75%	39%
Drug Courts	100%	0%
Systems Design	25%	47%
Master Calendar	62%	31%
Centralized Processing	75%	8%
Simultaneous Sentencing	50%	23%
Case Management Teams	25%	23%
Differentiated Case Management	38%	8%

As can be seen in Table 6-7 no clear distinctions can be made between these two groups of programs other than the drug courts. The drug courts are clearly described with a 100 and a zero percent dichotomy. Uncertainty can make drawing conclusions between these two groups cumbersome.

However, this may be the best we can hope for under these circumstances. At best, programs and circumstances surrounding this project have been adequately displayed and explained. Any individual influence by these programs on the drug court's performance are abstract. In short, these programs did not measurably impact on drug court performance.

This program specifically directed resources to either pre-indictment backlog reduction or post-indictment backlog reduction depending upon the particular need of that county. In addition to meeting the needs of individual counties in their attempts to expedite drug cases, a clearly defined objective aimed specifically at the post-indictment level emerged. This specific post-indictment program included the placement of judicial units organized to process seriously delayed post-indictment cases. Overall, the Drug Court Program evolved into a two-pronged attempt to impact on both pre and post-indictment backlogs.

CHAPTER VII

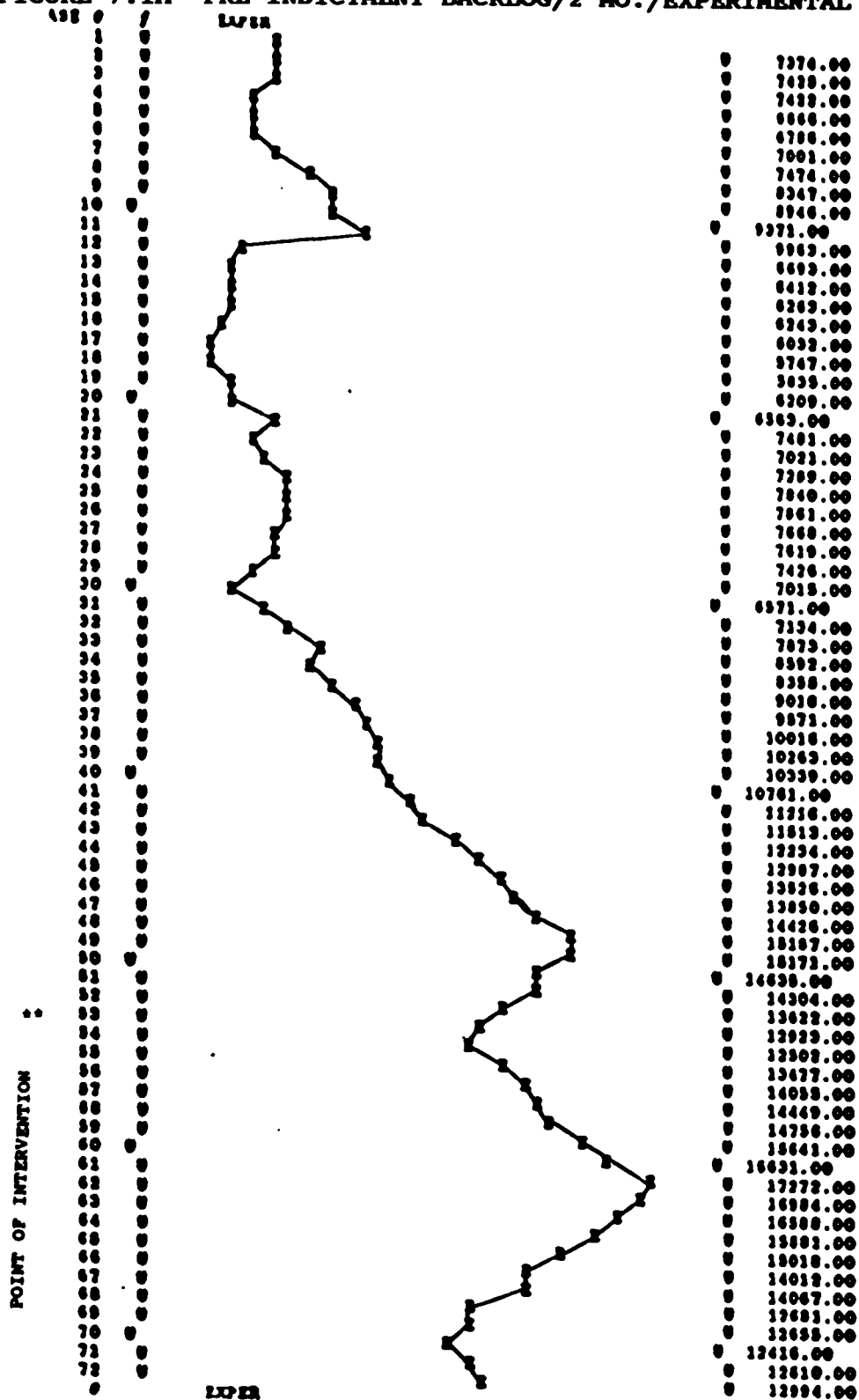
BACKLOG REDUCTION

Pre-indictment backlog reduction

The pre-indictment backlog data is available and reported by individual county on a monthly basis. The pre-indictment cases are identified as those cases in the system that have not yet progressed to the grand jury stage. The pre-indictment backlog data is presented and identified as one of two types; one at a two-month level (cases: arrest to two months old), and the other at a four-month level (cases: arrest to four months old). An analysis will be conducted on the two-month backlog first.

To begin our analysis we start by plotting the time series during the months of the study. In this study, all time series will be from January 1985 through December of 1990 and the data will be presented monthly. The time series plot of pre-indictment backlogs at two months for the experimental group is presented in Figure 7.1a. The experimental group consists of counties 7,9,11,12,14,15,16 and 20. The Control group counties 1,2,3,4,5,6,8,10,13,17,18,19 and 21. An IBM compatible PC with SPSSPC software is used for this analysis.

FIGURE 7.1A PRE-INDICTMENT BACKLOG/2 MO./EXPERIMENTAL GROUP



Notice this case plot lists the data months on the left vertical axis. Case number 1 represents January 1985 and case number 72 represents December 1990. The numbers on the right hand vertical axis represent the monthly data reported for the series. The letter representing the times series graph, in this case "E", stands for experimental group. The "E" represents the location in the graph where a dot may ordinarily appear in a time line series. In this study one of two letters will appear in the plots, an "E" for experimental and a "C" for control group. However, before beginning the identification stage of ARIMA modeling for this series some basic process and analysis information is presented below.

There are three types of processes involved in ARIMA modeling; autoregression (AR), differencing (I), and moving averages (MA). General ARIMA models are traditionally written $ARIMA(p,d,q)$ where p is the order of autoregression, d is the amount of differencing, and q is the order of moving average involved.

In an autoregressive process each value of a time series is a linear function of the preceding value. The coefficient is estimated from the observed series and indicates how strongly each value depends on the preceding one. An autoregressive process is one with a memory, in that each value is correlated with all the preceding value.

In a moving average process, each value is determined by the average of the current disturbance along with one or more previous disturbances. The moving average process specifies how many previous disturbances are averaged into the new value. In a moving average process, a disturbance affects the system for a finite number of periods and abruptly ceases to affect it.

An examination of the time series in Figure 7.1a will show a general trend upward from a backlog in month number 1 of 7,374 to a high of 17,272 in month number 61 and a decline from month 61 to 12,944 to month 72 which is the end of the study period. The trend of the series indicates non-stationarity and that differencing will be required. However, a closer examination of this series shows a sharp decline in backlogs in month number 11 from 9,963 to 6,693 cases in month number 12. This 3,270 difference is uncharacteristic of the overall series and efforts to model this series were hampered. Further investigation found this difference to be caused by the backlog data generated by County #7.

County #7 experienced management changes around the time of month number 11. The extreme change in the series is attributed to the method of calculating backlogged cases in that county. Management in that county dictated the change. Because time-series data is very sensitive, changes of series definition anywhere within the series cannot be tolerated.

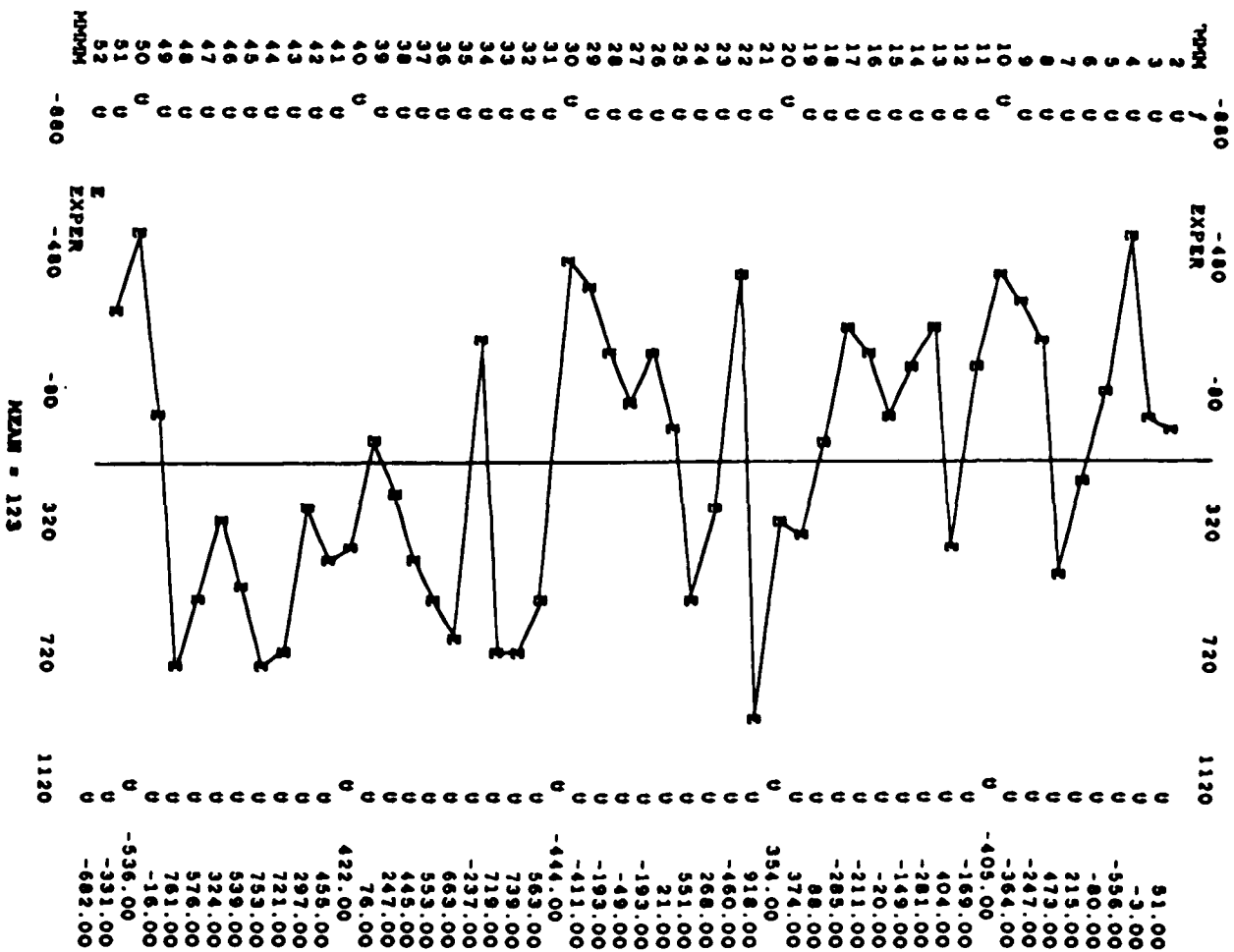
The first step in the identification of the series presented in Figure 7.1A is the examination of the data. The series rises overall through time suggesting non-stationarity. To achieve stationarity this series was differenced once. The differenced series is displayed in Figure 7.1B. Keep in mind that the intervention component attaches at month 53. Differencing amounts to subtracting the first observation of the series from the second observation, the second from the third, and so on. An ARIMA (0,1,0) model is written as:

$$Y_t - Y_{t-1} = a_t$$

$$Y_t = Y_{t-1} + a_t$$

Where Y is a time-series observation and a a random shock.

FIGURE 7.1B PRE-INDICTMENT BACKLOG/2 NO./DIFFERENCED SERIES



Furthermore, the modeling process requires familiarity with the behavior of autocorrelation functions and partial autocorrelation functions. These functions fall into recognizable patterns for the most common AR and MA models (These theoretical patterns are presented in Appendix C). In general, the analyst will have to know how many times to difference the data and how many autoregressive and/or moving average parameters to estimate. The autocorrelation function and the partial auto correlation functions for this series are presented in Figure 7.1C.

The ACF and PACF of the differenced series indicate an AR 1 model with seasonality. (Note the spikes at lag 12) The tentative model, then is ARIMA (1,1,0) (1,0,0)12 where the second set, in parenthesis, indicates an AR process applied to the seasonal data. The AR formula is written as:

$$Y_t = \phi_t Y_{t-12} + a_t$$

Where ϕ is the parameter that must lie within the bounds of stationarity in order to be accepted. That is the coefficient must be a fraction. In this model the $\phi = .470$ with a t statistic of 3.52. Additionally, the seasonal AR formula is written as:

$$Y_t = \phi_{12} Y_{t-12} + a_t$$

The model for this series can also be written as:

$$(1-\phi_1 B)(1-\phi_{12} B^{12})(1-B) \tilde{z}_t = a_t$$

FIGURE 7.1C ACF/PACF PRE-INDICTMENT BACKLOG/2 MO.

Transformations: difference (1)

Lag	Auto- Corr.	Stand. Err.	-1	-.75	-.5	-.25	0	.25	.5	.75	1	(PERCENT)
1	.401	.136					.	U	....	...		
2	.142	.135					.	U	...			
3	.074	.133					.	U				
4	.112	.132					.	U				
5	.072	.130					.	U				
6	-.043	.129					.	U				
7	-.063	.128					.	U				
8	-.008	.126					.	.				
9	-.025	.125					.	.				
10	-.097	.123					.	..U				
11	.049	.122					.	U				
12	.292	.120					.	U	....	.		
13	.074	.119					.	U				
14	-.041	.117					.	U				
15	-.145	.115					.	..U				
16	-.055	.114					.	U				
17	-.103	.112					.	..U				
18	-.152	.110					.	..U				
19	-.176	.109					.	U				
20	-.019	.107					.	.				
21	.021	.105					.	.				
22	.006	.104					.	.				
23	.044	.102					.	U				
24	.124	.100					.	U				

Plot Symbols: Autocorrelations * Two Standard Error Limits .

Partial Autocorrelations:

Transformations: difference (1)

Lag	Pr-Aut- Corr.	Stand. Err.	-1	-.75	-.5	-.25	0	.25	.5	.75	1	(PERCENT)
1	.401	.140					.	U	.....	..		
2	-.023	.140					.	.				
3	.030	.140					.	U				
4	.089	.140					.	U				
5	-.008	.140					.	.				
6	-.094	.140					.	..U				
7	-.019	.140					.	.				
8	.030	.140					.	U				
9	-.041	.140					.	..U				
10	-.078	.140					.	..U				
11	.163	.140					.	U	...			
12	.280	.140					.	U	.....			
13	-.207	.140					.	U				
14	-.045	.140					.	U				
15	-.132	.140					.	..U				
16	-.014	.140					.	.				
17	-.128	.140					.	..U				
18	-.007	.140					.	.				
19	-.041	.140					.	U				
20	.109	.140					.	U				
21	.038	.140					.	U				
22	.079	.140					.	U				
23	-.020	.140					.	.				
24	-.023	.140					.	.				

The AR parameter in the seasonal component of this model must also lie within the bounds of stationarity. The seasonal coefficient $\phi_{12} = .432$ and its t statistic = 3.09 thus satisfying this model.

The model can be checked further by examining the residuals or errors as they appear in Figure 7.1D. An adequate model will show the residuals of the ACF and PACF that are not significantly different than zero. One or two high-order correlations may exceed the 95% confidence level by chance. The residuals should be without pattern, that is "white noise". To assess the extent to which the residuals can be considered "white noise" a Box-Ljung Q statistic is presented.

For interrupted time-series or intervention analysis the ARIMA process is basically the same as described above except that an intervention variable is added to the series. The first step in an intervention analysis is to model the series prior to the intervention, which has been demonstrated. In this case the intervention began at month number 53, so months 12 through 52 were initially modeled.

FIGURE 7.1D RESIDUALS/PRE-INDICTMENT BACKLOGS/2 MO.

Autocorrelations: ERR#1

Lag	Auto- Corr.	Stand. Err.	-1	-.75	-.5	-.25	0	.25	.5	.75	1	Box-Ljung	Prob.
1	-.021	.136					.	.				.024	.877
2	.010	.135					.	.				.030	.985
3	.031	.133					u*	.				.083	.994
4	.074	.132					u*	.				.398	.983
5	.098	.130					u**	.				.968	.965
6	-.047	.129					u	.				1.096	.982
7	-.063	.128					u	.				1.336	.987
8	-.033	.126					u	.				1.406	.994
9	.029	.125					u	.				1.457	.997
10	-.180	.123					u	.				3.585	.964
11	-.007	.122					.	.				3.588	.980
12	.012	.120					.	.				3.598	.990
13	-.038	.119					u	.				3.701	.994
14	.035	.117					u*	.				3.792	.997
15	-.132	.115					u	.				5.106	.991
16	.039	.114					u*	.				5.224	.995
17	-.039	.112					u	.				5.347	.997
18	-.121	.110					u	.				6.553	.993
19	-.044	.109					u	.				6.713	.996
20	.087	.107					u**	.				7.375	.995
21	.008	.105					.	.				7.381	.997
22	.019	.104					.	.				7.414	.998
23	.034	.102					u*	.				7.529	.999
24	-.004	.100					.	.				7.530	.999

Plot Symbols: Autocorrelations * Two Standard Error Limits .

BOX LJUNG = 7.381 DF = 21

Variables in the Model:

	B	SEB	T-RATIO	APPROX. PROB.
AR1	.470747	.13345	3.5275574	.00093518
SAR1	.432680	.13998	3.0910348	.00331646
CONSTANT	91.749387	138.89428	.6605700	.51204616

The second step in an interrupted time series is to add dummy variables to the series. A zero is added to those months prior to the intervention and a one is added to months 53 through 72. Next the model is re-estimated with the dummy variables for the entire series.

The coefficient of the intervention variable of this series is -248.4 indicating an overall drop of 248 backlogged pre-indictment cases after month 53. However, the t statistic for the intervention is -.79 and is not statistically significant. Thus, there is no significant statistical difference between the pre and post intervention series.

The parameter estimates of the impact assessment model are:

$$\phi_1 = .51 \text{ with } t \text{ statistic} = 5.01$$

$$\phi_2 = .52 \text{ with } t \text{ statistic} = 4.26$$

$$\psi_t = 248.44 \text{ with } t \text{ statistic} = -.79$$

A final diagnostic check includes the analysis of the ACF of the residuals of the entire series after the intervention variable was incorporated into the series. This ACF appears in Figure 9.1E. Analysis of the errors indicate that they are not different than white noise. Thus the intervention model can be accepted.

FIGURE 7.1E RESIDUALS/MOS. 1-72/PRE-INDICT.BACKLOG/2 MO.

Autocorrelations: ERR#1

Lag	Auto- Corr.	Stand. Err.	-1	-.75	-.5	-.25	0	.25	.5	.75	1	Box-Ljung	Prob.
1	-.066	.116					•	•				.323	.570
2	.098	.115					•	•				1.044	.593
3	.007	.115					•	•				1.048	.790
4	.129	.114					•	•				2.331	.675
5	.015	.113					•	•				2.349	.799
6	-.047	.112					•	•				2.526	.865
7	-.175	.111					•	•				3.006	.659
8	-.089	.110					•	•				5.653	.686
9	-.049	.109					•	•				5.857	.754
10	-.117	.108					•	•				7.021	.723
11	-.027	.108					•	•				7.085	.792
12	.027	.107					•	•				7.148	.848
13	-.053	.106					•	•				7.402	.880
14	.196	.105					•	•				10.886	.695
15	.038	.104					•	•				11.018	.751
16	.103	.103					•	•				12.008	.743
17	.002	.102					•	•				12.008	.800
18	.030	.101					•	•				12.096	.842
19	.049	.100					•	•				12.337	.871
20	.029	.099					•	•				12.422	.901
21	.007	.098					•	•				12.428	.927
22	-.096	.097					•	•				13.402	.921
23	.068	.096					•	•				13.901	.930
24	.005	.095					•	•				13.904	.949

Plot Symbols: Autocorrelations • Two Standard Error Limits .

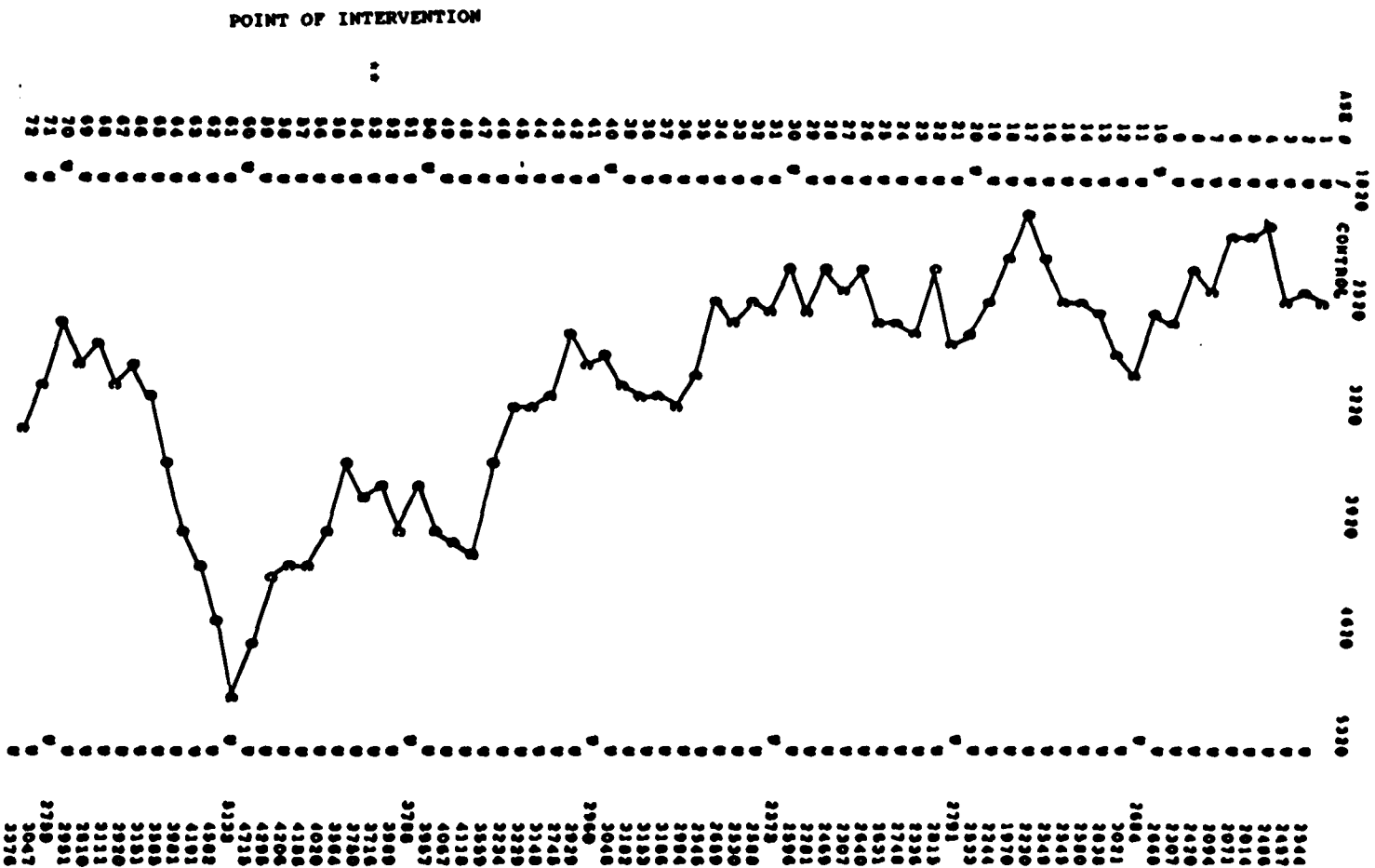
BOX LJUNG = 12.422 DF = 20

Variables in the Model:

	B	SEB	T-RATIO	APPROX. PROB.
AR1	.51642	.10307	5.0103459	.00000424
SAR1	.52369	.12289	4.2615197	.00006512
STEP	-248.44760	311.55654	-.7974399	.42801300
CONSTANT	8.03588	172.25871	.0466500	.96293110

Next an analysis of the pre-indictment case backlog at two months is conducted with the control group. Its case plot is presented in Figure 7.2A. An overview of the control group case plot shows that the backlog remained on a somewhat steady upward trend throughout the study period, except that at month number 60 the backlog data took a turn downward from 5133 to 2759 ten months later. This is noteworthy as the experimental group displayed the same general pattern. Thus all pre-indictment backlogs at two months, throughout the state, were reduced after month number 60. Incidentally, the drug arrest figures fell in the same general pattern as the backlogs (See Chapter I). Furthermore, I expected negative results in the control group. Any spurious results in the control series do not necessarily impact on the experimental group.

FIGURE 7.2A PRE-INDICTMENT BACKLOG/2 MO./CONTROL GROUP



Keeping in mind that only the first 52 months are used in modeling the series, a display of the series for the pre-intervention model appears in Figure 7.2B. The ACF and PACF on the series appears in Figure 7.2C. The ACF and PACF indicate an AR 1 model with a seasonal AR 1. These spikes seen in the errors of residuals show the need for a seasonal model. Therefore, an ARIMA model $(1,0,0) (1,0,0)_{12}$ was used. The residuals for this model are displayed in Figure 7.2D.

To test the model the coefficients are listed:

$$\phi_1 = .89 \text{ with a t statistic } 14.11$$

$$\phi_{12} = .42 \text{ with a t statistic } 2.91$$

The model for this series is written as:

$$(1-\phi_1 B)(1-\phi_{12} B^{12})z_t = a_t$$

Where each coefficient is significant and thus the model accepted. The coefficient of the intervention variable equals 241.8 but a t statistic of 1.17 is not statistically significant. Therefore, there is no significant difference between the pre and post intervention periods.

The parameter estimates of the impact assessment are:

$$\phi_1 = .91 \text{ with t statistic } = 19.58$$

$$\phi_{12} = .48 \text{ with t statistic } = 4.48$$

$$v_1 = 241.88 \text{ with t statistic } = 1.17$$

The final diagnostic check, the ACF of the errors of the residuals including the intervention appears in Figure 7.2E.

FIGURE 7.2B PRE-INDICTMENT BACKLOG/2 NO./ SERIES 1-52

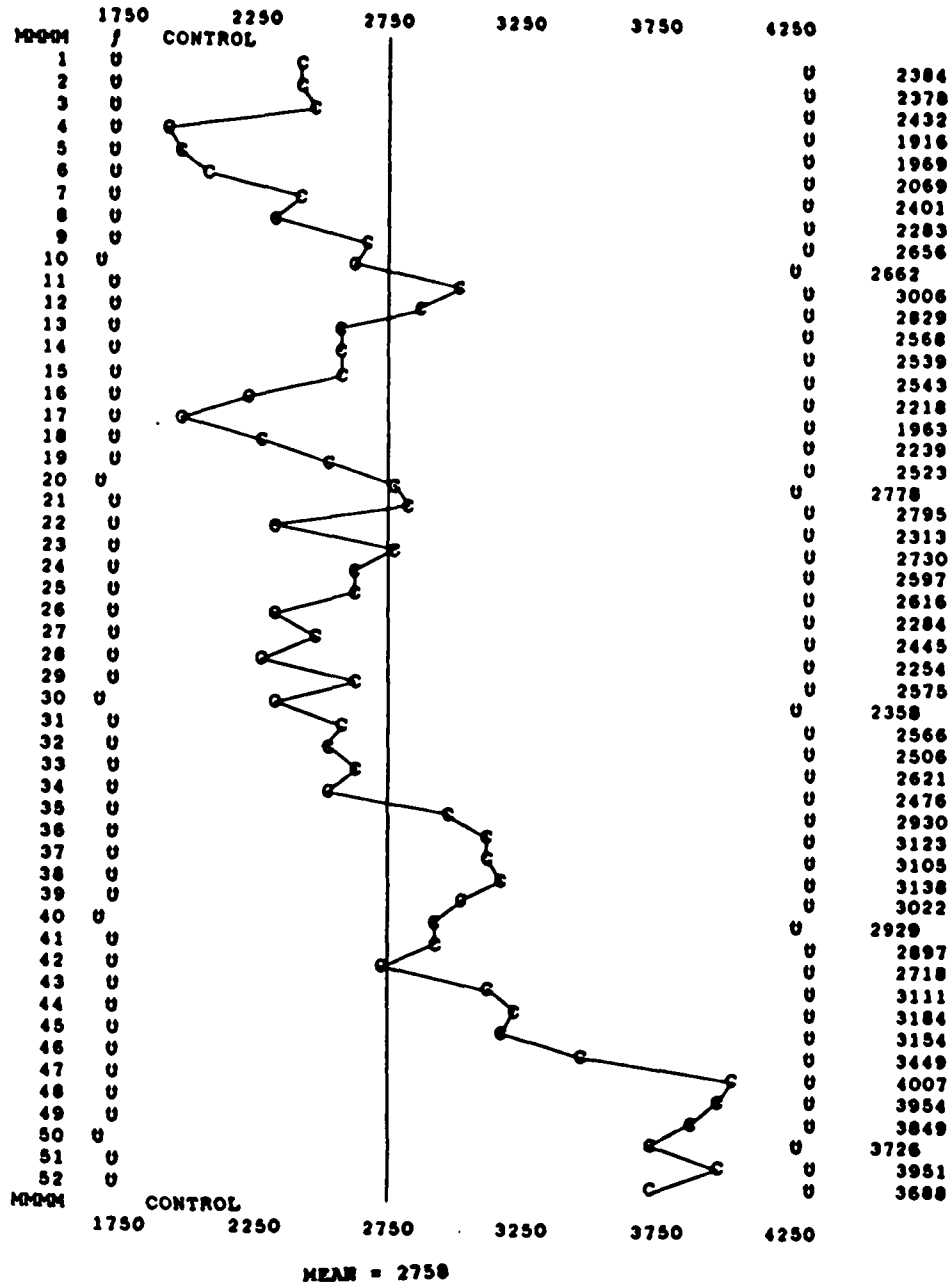


FIGURE 7.2C ACF/PACF PRE-INDICTMENT BACKLOG/2 MO.

Autocorrelations: CONTROL

Lag	Auto- Corr.	Stand. Err.	-1	-.75	-.5	-.25	0	.25	.5	.75	1	(PERCENT)
1	.858	.135	c					U	.....			
2	.732	.133						U	.....			
3	.603	.132						U	.....			
4	.503	.131						U	.....			
5	.342	.129						U	.....			
6	.237	.128						U	.....			
7	.187	.127						U	.....			
8	.223	.125						U	.....			
9	.226	.124						U	.....			
10	.228	.122						U	.....			
11	.254	.121						U	.....			
12	.263	.119						U	.....			
13	.199	.118						U	.....			
14	.140	.116						U	.....			
15	.062	.115						U	.....			
16	.007	.113						U	.....			
17	-.076	.112						U	.....			
18	-.116	.110						U	.....			
19	-.165	.108						U	.....			
20	-.147	.107						U	.....			
21	-.157	.105						U	.....			
22	-.130	.103						U	.....			
23	-.101	.102						U	.....			
24	-.068	.100						U	.....			

Plot Symbols: Autocorrelations * Two Standard Error Limits .

Partial Autocorrelations: CONTROL

Lag	Pr-Aut- Corr.	Stand. Err.	-1	-.75	-.5	-.25	0	.25	.5	.75	1	(PERCENT)
1	.858	.139	c					U	.....			
2	-.019	.139						U	.....			
3	-.081	.139						U	.....			
4	.030	.139						U	.....			
5	-.291	.139						U	.....			
6	.091	.139						U	.....			
7	.166	.139						U	.....			
8	.270	.139						U	.....			
9	-.030	.139						U	.....			
10	-.095	.139						U	.....			
11	.063	.139						U	.....			
12	-.142	.139						U	.....			
13	-.170	.139						U	.....			
14	.105	.139						U	.....			
15	-.107	.139						U	.....			
16	.033	.139						U	.....			
17	-.080	.139						U	.....			
18	.052	.139						U	.....			
19	-.176	.139						U	.....			
20	.081	.139						U	.....			
21	-.000	.139						U	.....			
22	.007	.139						U	.....			
23	.095	.139						U	.....			
24	-.039	.139						U	.....			

Plot Symbols: Autocorrelations * Two Standard Error Limits .

FIGURE 7.2D RESIDUALS/PRE-INDICTMENT BACKLOGS/2 MO.

Autocorrelations: ERR#1

Lag	Auto- Corr.	Stand. Err.	-1	-.75	-.5	-.25	0	.25	.5	.75	1	Box-Ljung	Prob.
1	-.087	.135					..U					.415	.519
2	.115	.133					U..					1.153	.562
3	-.116	.132					..U					1.921	.589
4	.217	.131					U....					4.682	.322
5	-.089	.129					..U					5.150	.398
6	-.157	.128					..U					6.650	.354
7	-.110	.127					..U					7.408	.388
8	.019	.125					.					7.430	.491
9	.265	.124					U.....					11.999	.213
10	-.096	.122					..U					12.619	.246
11	.139	.121					U...					13.943	.236
12	-.016	.119					.					13.962	.303
13	.082	.118					U..					14.447	.343
14	-.044	.116					..U					14.591	.407
15	-.016	.115					.					14.612	.480
16	.006	.113					.					14.614	.553
17	-.054	.112					..U					14.845	.607
18	.227	.110					U....					19.116	.385
19	-.229	.108					..U					23.584	.213
20	.142	.107					U...					25.362	.188
21	-.209	.105					..U					29.304	.107
22	.094	.103					U..					30.133	.115
23	-.083	.102					..U					30.805	.128
24	.069	.100					..U					31.286	.146

Plot Symbols: Autocorrelations * Two Standard Error Limits .

BOX LJUNG = 29.304 DF = 21

Variables in the Model:

	B	SEB	T-RATIO	APPROX. PROB.
AR1	.89399	.06335	14.112280	.00000000
SAR1	.42066	.14423	2.916541	.00532660
CONSTANT	2890.97089	390.30499	7.406953	.00000000

FIGURE 7.2E RESIDUALS/1-72/PRE-INDICT. BACKLOG/2 MO.

Autocorrelations: ERR#1

Lag	Auto- Corr.	Stand. Err.	-1	-.75	-.5	-.25	0	.25	.5	.75	1	Box-Ljung	Prob.
1	.008	.115					.					.005	.945
2	.173	.115					U...					2.285	.319
3	-.054	.114					U					2.514	.473
4	.222	.113					U...					6.383	.172
5	-.037	.112					U					6.489	.261
6	-.160	.111					...					8.544	.201
7	-.088	.110					U					9.179	.240
8	-.068	.110					U					9.559	.297
9	.267	.109					U...					15.603	.076
10	-.162	.108					...					17.863	.057
11	.054	.107					U					18.115	.079
12	-.038	.106					U					18.242	.109
13	.134	.105					U...					19.863	.099
14	-.071	.104					U					20.333	.120
15	-.097	.103					...					21.216	.130
16	-.019	.103					U					21.250	.169
17	-.060	.102					U					21.601	.201
18	.105	.101					U...					22.691	.203
19	-.239	.100					...					28.441	.075
20	.112	.099					U...					29.737	.074
21	-.210	.098					...					34.358	.033
22	.093	.097					U...					35.287	.036
23	-.091	.096					...					36.189	.039
24	.078	.095					U...					36.857	.045

Plot Symbols: Autocorrelations * Two Standard Error Limits .

BOX LJUNG = 29.737 DF = 20

Variables in the Model:

	B	SEB	T-RATIO	APPROX. PROB.
AR1	.91456	.04669	19.589681	.00000000
SAR1	.48703	.10871	4.480314	.00002941
STEP	241.88044	206.51784	1.171233	.24559294
CONSTANT	2694.73859	489.71135	5.502708	.00000062

The analysis of the errors indicates that the series including the intervention is not different than white noise. Thus the intervention model is accepted.

The salient point to note in the analysis of pre-indictment backlog at the two month level is the downward trend of the backlog data at month number 60 for both the experimental and control groups. Also, it is important to note that no statistical difference is seen between the pre and post intervention periods for this series. The reduction of this backlog in the control group at the same month as the experimental group leads to the conclusion that an exogenous variable other than the intervention created this shift in direction for the series.

Pre-indictment backlogs are calculated at a four month interval as well. The next time series presented is the four month pre-indictment backlog, experimental group. Figure 7.3A displays the series. Notice the overall upward trend of backlog cases with a reduction after month number 60. This is similar to the pattern seen in the pre-indictment two month series, in both the experimental and the control groups.

Figure 7.3C is the plot realized after differencing the series once and presented as pre-intervention for modeling

(months 13 through 72). The estimated ACF and PACF are presented in Figure 7.3C indicating that the series is white noise. Therefore, the model is ARIMA (0,1,0). The residual errors are displayed in Figure 7.3D. The residuals indicate white noise and that this model can be accepted.

This model can be written as:

$$(1-B)\hat{z}_t = a_t$$

FIGURE 7.3A PRE-INDICTMENT BACKLOG/4 MO./EXPERIMENTAL GROUP

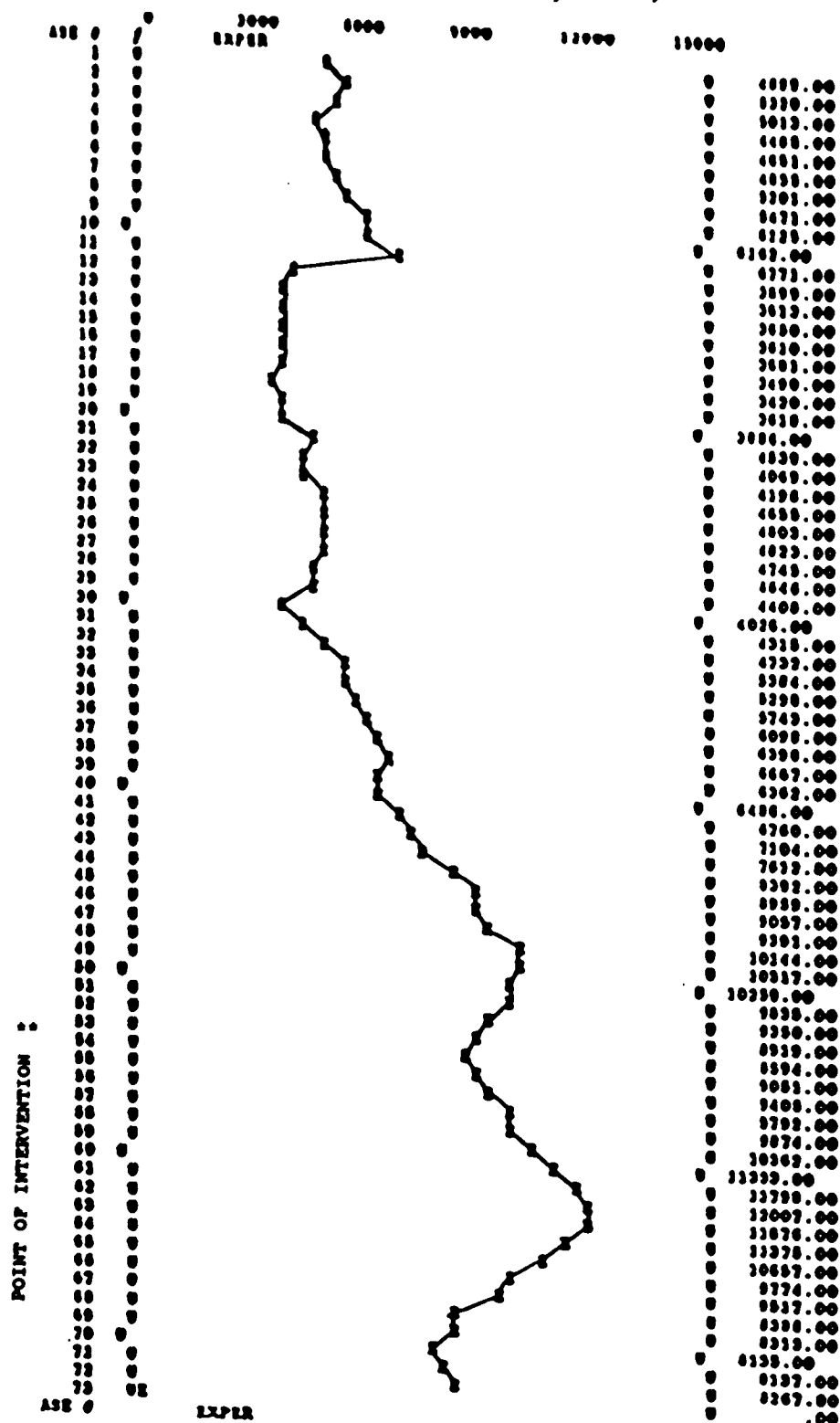


FIGURE 7.3B PRE-INDICTMENT BACKLOG/4 MO./DIFFERENCED SERIES

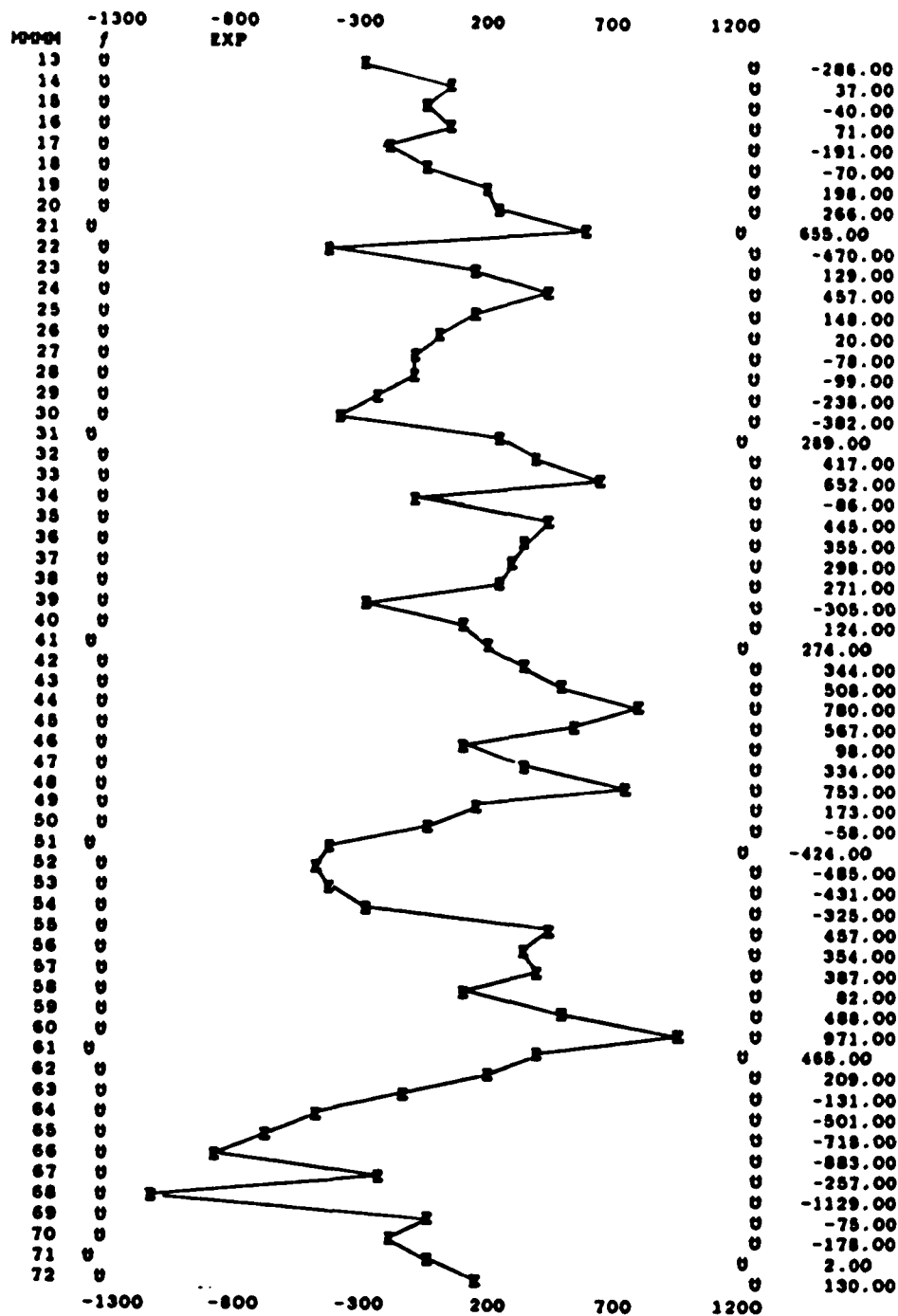


FIGURE 7.3C ACF/PACF PRE-INDICTMENT BACKLOG/4 MO.

Autocorrelations: EXPER

Transformations: difference (1)

Lag	Auto- Corr.	Stand. Err.	-1	-.75	-.5	-.25	0	.25	.5	.75	1	(PERCENT)
1	.093	.136					0**					
2	.050	.135					0*					
3	-.085	.133					**0					
4	-.042	.132					*0					
5	-.004	.130					.					
6	-.070	.129					*0					
7	-.090	.128					**0					
8	.025	.126					0*					
9	-.021	.125					.					
10	.084	.123					0**					
11	.009	.122					.					
12	.070	.120					0*					
13	.028	.119					0*					
14	.002	.117					.					
15	-.003	.115					.					
16	.006	.114					.					
17	.049	.112					0*					
18	.018	.110					.					
19	-.108	.109					**0					
20	-.141	.107					***0					
21	-.128	.105					***0					
22	.077	.104					0**					
23	-.033	.102					*0					
24	.047	.100					0*					

Plot Symbols: Autocorrelations * Two Standard Error Limits .

Partial Autocorrelations: EXPER

Transformations: difference (1)

Lag	Pr-Aut- Corr.	Stand. Err.	-1	-.75	-.5	-.25	0	.25	.5	.75	1	(PERCENT)
1	.093	.140					0**					
2	.042	.140					0*					
3	-.095	.140					**0					
4	-.028	.140					*0					
5	.011	.140					.					
6	-.077	.140					**0					
7	-.086	.140					**0					
8	.050	.140					0*					
9	-.032	.140					*0					
10	.065	.140					0*					
11	.001	.140					.					
12	.058	.140					0*					
13	.016	.140					.					
14	-.005	.140					.					
15	.009	.140					.					
16	.019	.140					.					
17	.063	.140					0*					
18	.009	.140					.					
19	-.101	.140					**0					
20	-.127	.140					***0					
21	-.094	.140					**0					
22	.089	.140					0**					
23	-.065	.140					*0					
24	.031	.140					0*					

Plot Symbols: Autocorrelations * Two Standard Error Limits .

FIGURE 7.3D RESIDUALS/PRE-INDICTMENT BACKLOGS/4 MO.

Autocorrelations: ERR#1

Lag	Auto- Corr.	Stand. Err.	-1	-.75	-.5	-.25	0	.25	.5	.75	1	Box-Ljung	Prob.
1	.093	.136					u					.467	.494
2	.050	.135					u					.603	.739
3	-.085	.133					u					1.016	.797
4	-.042	.132					u					1.116	.892
5	-.004	.130					u					1.117	.953
6	-.070	.129					u					1.416	.965
7	-.090	.128					u					1.919	.964
8	.025	.126					u					1.955	.982
9	-.021	.125					u					1.983	.992
10	.084	.123					u					2.452	.992
11	.009	.122					u					2.458	.996
12	.070	.120					u					2.795	.997
13	.028	.119					u					2.830	.998
14	.002	.117					u					2.851	.999
15	-.003	.115					u					2.851	1.000
16	.006	.114					u					2.854	1.000
17	.049	.112					u					3.044	1.000
18	.018	.110					u					3.070	1.000
19	-.108	.109					u					4.060	1.000
20	-.141	.107					u					5.803	.999
21	-.128	.105					u					7.278	.998
22	.077	.104					u					7.433	.998
23	-.033	.102					u					7.939	.998
24	.047	.100					u					8.156	.999

Plot Symbols: Autocorrelations • Two Standard Error Limits .

BOX LJUNG = 7.939 DF = 23

Variables in the Model:

	B	SEB	T-RATIO	APPROX. PROB.
CONSTANT	87.274510	75.749086	1.1521526	.25473741

FIGURE 7.3E RESIDUALS/SERIES 1-72/PRE-INDICT BKLOG/4 MO.

Autocorrelations: ERR#1

Lag	Auto- Corr.	Stand. Err.	-1	-.75	-.5	-.25	0	.25	.5	.75	1	Box-Ljung	Prob.
1	.223	.116					U.....					3.698	.054
2	.187	.115					U.....					6.319	.042
3	.011	.115					U.....					6.328	.097
4	-.016	.114					U.....					6.349	.175
5	-.046	.113					U.....					6.512	.260
6	-.151	.112					U.....					8.327	.215
7	-.145	.111					U.....					10.034	.187
8	-.096	.110					U.....					10.785	.214
9	-.117	.109					U.....					11.937	.217
10	.007	.108					U.....					11.940	.289
11	.009	.108					U.....					11.948	.368
12	.131	.107					U.....					13.457	.337
13	.088	.106					U.....					14.141	.364
14	.107	.105					U.....					15.192	.365
15	.083	.104					U.....					15.864	.391
16	.079	.103					U.....					16.446	.422
17	.077	.102					U.....					17.013	.454
18	.008	.101					U.....					17.020	.522
19	-.097	.100					U.....					17.963	.525
20	-.175	.099					U.....					21.086	.392
21	-.198	.098					U.....					25.163	.240
22	-.008	.097					U.....					25.169	.289
23	-.081	.096					U.....					25.878	.307
24	.020	.095					U.....					25.920	.357

Plot Symbols: Autocorrelations * Two Standard Error Limits .

BOX LJUNG = 25.169 DF = 22

Variables in the Model:

	B	SEB	T-RATIO	APPROX. PROB.
STEP	-485.27143	539.62456	-.89927603	.37163356
CONSTANT	54.27143	64.04165	.84743954	.39968038

The coefficient of the step variable equals - 485.2 but a t statistic of -.899 is not statistically significant. Therefore, there is no significant difference between the pre and post intervention periods. When the analyst finds a series to be white noise this does not preclude an analysis of the intervention component. In this case, however, the intervention component was not significant.

The control group series is presented in Figure 7.4A. This series slightly drifts upward throughout the study period and the backlog data drops off at month number 60. This series is also similar to the experimental group at four months and to the two month backlog series. The upward trend of this series indicated the need to difference the data. The differenced time series case plot is presented in Figure 7.4B.

The ACF and PACF from the differenced series is presented in Figure 7.4C. These residuals indicate that this series is white noise. When differencing a series reduces it to white noise, the modeling is complete. The model is simply ARIMA (0,1,0).

This model can be written as:

$$(1-B)Z_t = a_t$$

FIGURE 7.4A PRE-INDICTMENT BACKLOG/4 MO./CONTROL GROUP

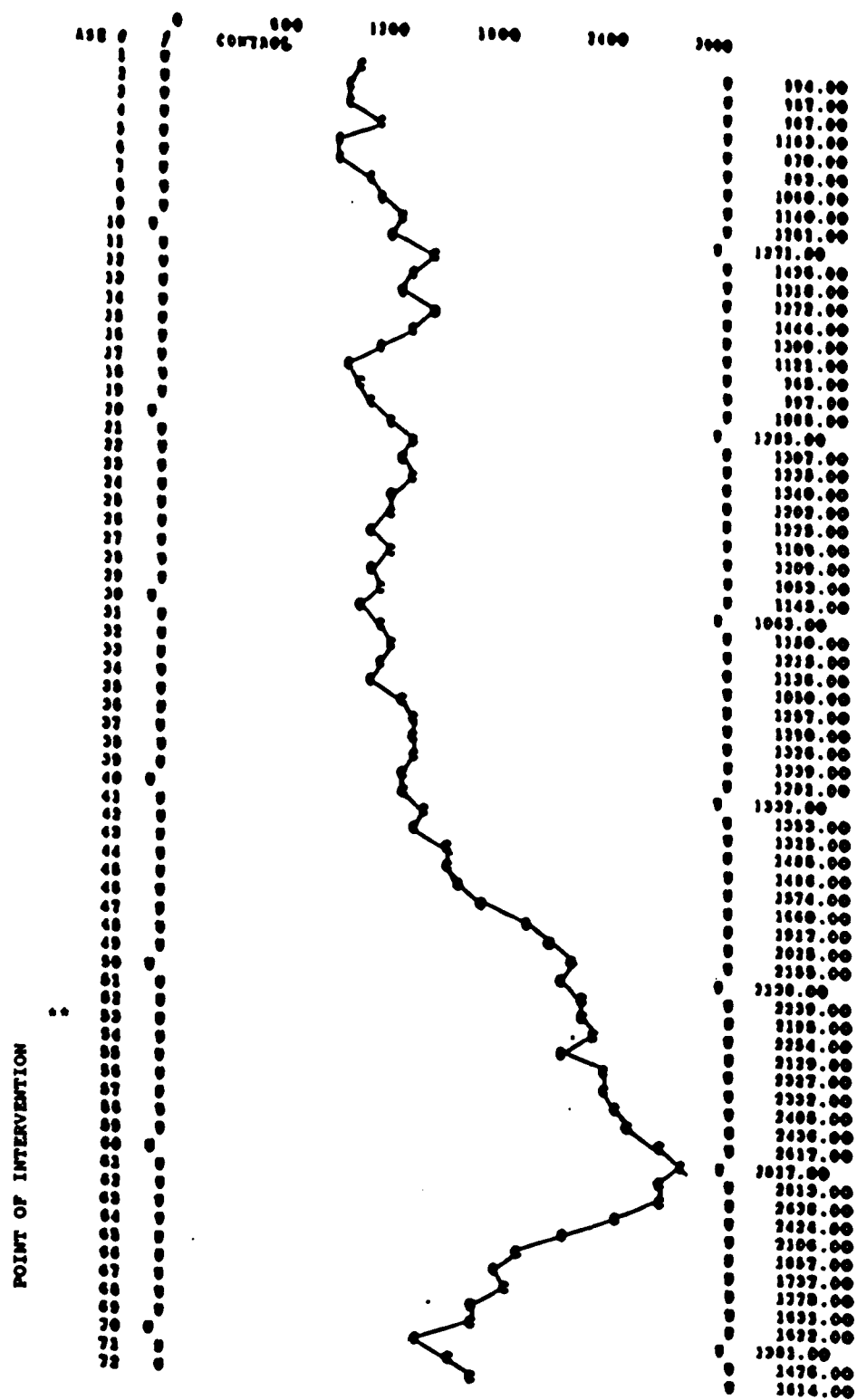


FIGURE 7.4B PRE-INDICTMENT BACKLOG/DIFFERENCED SERIES/4 MO.

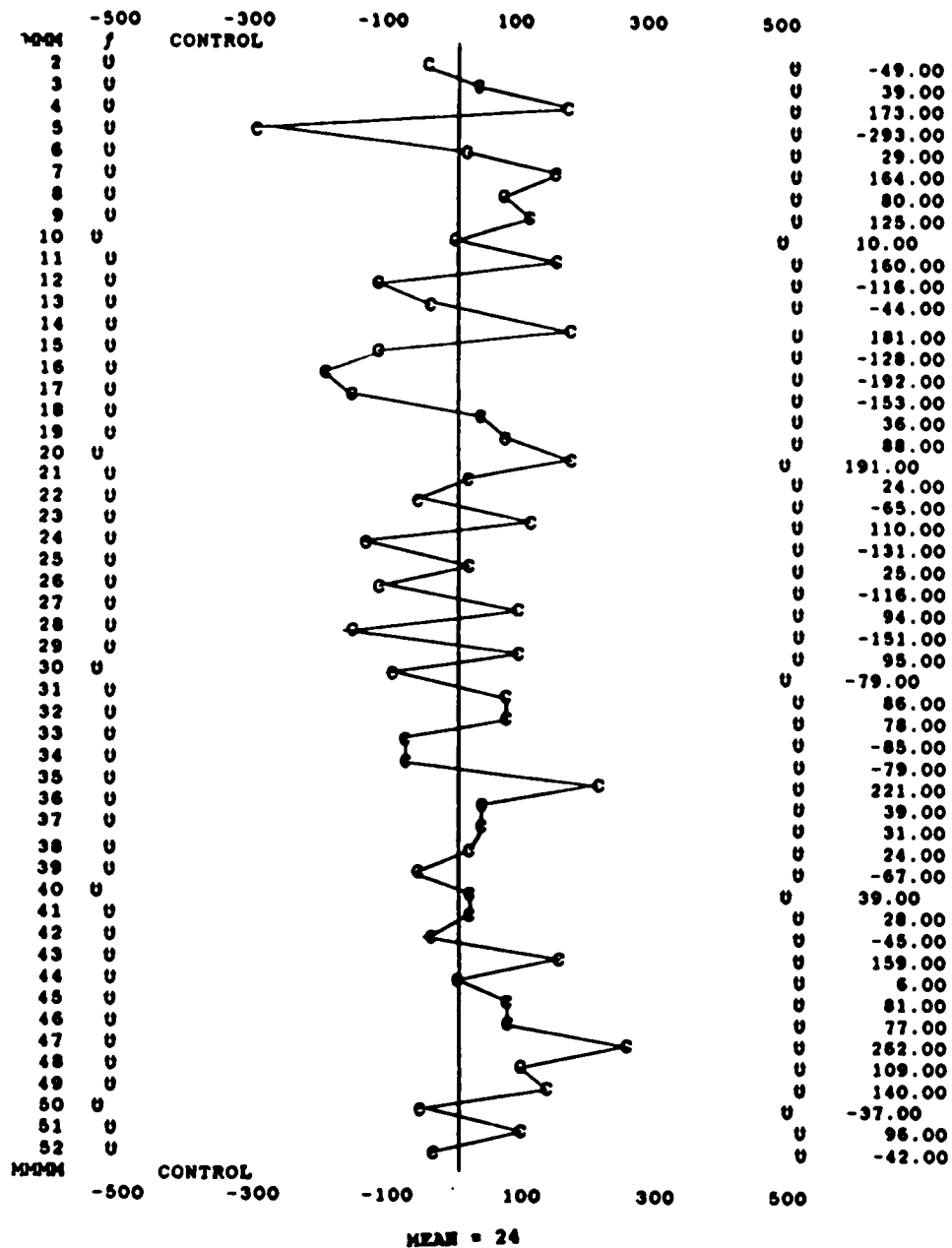


FIGURE 7.4C ACF/PACF PRE-INDICTMENT BACKLOG/4 MO.

Autocorrelations: CONTROL

Transformations: difference (1)

Lag	Auto- Corr.	Stand. Err.	-1	-.75	-.5	-.25	0	.25	.5	.75	1	(PERCENT)
1	-.095	.136					..U					
2	.034	.135					U.					
3	-.031	.133					..U					
4	.027	.132					U.					
5	-.091	.130					..U					
6	-.024	.129					..					
7	-.051	.128					..U					
8	-.039	.126					..U					
9	-.076	.125					..U					
10	.042	.123					..U					
11	.163	.122					U...					
12	.190	.120					U....					
13	-.032	.119					..U					
14	-.029	.117					..U					
15	-.121	.115					..U					
16	.137	.114					U...					
17	-.050	.112					..U					
18	-.001	.110					..					
19	-.200	.109					U					
20	-.034	.107					..U					
21	-.036	.108					..U					
22	-.019	.104					..					
23	-.032	.102					..U					
24	.046	.100					..U					

Plot Symbols: Autocorrelations * Two Standard Error Limits .

Partial Autocorrelations:

Transformations: difference (1)

Lag	Pr-Aut- Corr.	Stand. Err.	-1	-.75	-.5	-.25	0	.25	.5	.75	1	(PERCENT)
1	-.095	.140					..U					
2	.025	.140					U.					
3	-.026	.140					..U					
4	.021	.140					..					
5	-.086	.140					..U					
6	-.043	.140					..U					
7	-.053	.140					..U					
8	-.053	.140					..U					
9	-.082	.140					..U					
10	.020	.140					..					
11	.170	.140					U...					
12	.222	.140					U....					
13	.002	.140					..					
14	-.062	.140					..U					
15	-.155	.140					U					
16	.128	.140					U...					
17	.040	.140					..U					
18	.020	.140					..					
19	-.191	.140					U					
20	-.088	.140					..U					
21	-.007	.140					..					
22	-.071	.140					..U					
23	-.137	.140					U					
24	-.056	.140					..U					

FIGURE 7.4D RESIDUALS/PRE-INDICTMENT BACKLOGS/4 MO.

Autocorrelations: ERR#1

Lag	Auto- Corr.	Stand. Err.	-1	-.75	-.5	-.25	0	.25	.5	.75	1	Box-Ljung	Prob.
1	-.098	.136					•••					.484	.486
2	.034	.135					••					.548	.760
3	-.031	.133					••					.604	.895
4	.027	.132					••					.647	.958
5	-.091	.130					•••					1.130	.951
6	-.024	.129					•					1.165	.979
7	-.051	.128					••					1.327	.988
8	-.039	.126					••					1.420	.994
9	-.076	.125					•••					1.791	.994
10	.042	.123					••					1.907	.997
11	.163	.122					••••					3.693	.978
12	.190	.120					•••••					6.186	.906
13	-.032	.119					••					6.258	.936
14	-.029	.117					••					6.318	.958
15	-.121	.115					•••					7.414	.945
16	.137	.114					••••					8.873	.919
17	-.050	.112					••					9.074	.938
18	-.001	.110					•					9.074	.958
19	-.200	.109					•••••					12.444	.866
20	-.034	.107					••					12.546	.896
21	-.036	.108					••					12.663	.920
22	-.019	.104					•					12.698	.941
23	-.032	.102					••					12.796	.956
24	.046	.100					••					13.012	.966

Plot Symbols: Autocorrelations • Two Standard Error Limits .

BOX LJUNG = 12.796 DF = 23

Variables in the Model:

	B	SEB	T-RATIO	APPROX. PROB.
CONSTANT	24.078431	16.196292	1.4866632	.14338270

FIGURE 7.4E RESIDUALS/SERIES 1-72/PRE-INDICT. BKLOG/4 MO.

Autocorrelations: ERR#1

Lag	Auto-Corr.	Stand. Err.	-1	-.75	-.5	-.25	0	.25	.5	.75	1	Box-Ljung	Prob.
1	.088	.116					u**					.578	.447
2	.171	.115					u***					2.787	.248
3	.025	.115					u*					2.835	.418
4	.070	.114					u*					3.211	.523
5	-.036	.113					u					3.314	.652
6	-.095	.112					u					4.041	.671
7	-.034	.111					u					4.133	.764
8	-.104	.110					u					5.029	.754
9	-.059	.109					u					5.319	.806
10	-.017	.108					.					5.343	.867
11	.086	.108					u**					5.989	.874
12	.217	.107					u***					10.138	.604
13	-.022	.106					.					10.180	.679
14	-.027	.105					u					10.244	.744
15	-.135	.104					u					11.932	.684
16	.027	.103					u*					11.998	.744
17	-.120	.102					u					13.369	.711
18	-.127	.101					u					14.946	.666
19	-.207	.100					u					19.201	.444
20	-.031	.099					u					19.298	.503
21	-.127	.098					u					20.959	.461
22	-.051	.097					u					21.238	.506
23	-.063	.096					u					21.665	.541
24	.101	.095					u**					22.796	.532

Plot Symbols: Autocorrelations * Two Standard Error Limits .

Total cases: 72 Computable first lags: 70

BOX LJUNG = 21.238 DF = 22

Variables in the Model:

STEP	B	SEB	T-RATIO	APPROX. PROB.
CONSTANT	55.957143	134.42415	.41627300	.67850196
	8.042857	15.95321	.50415287	.61575991

The coefficient of the step variable equals 55.9 but a t statistic of .41 is not statistically significant. Therefore, there is no significant statistical significance between the pre and post intervention series.

In conclusion, the four previous time series used to describe pre-indictment trends throughout the study period showed no significant difference between their pre and post intervention months. In other words impact of drug court programming was not seen at the pre-indictment backlog stage of defendant processing. There is, however, other important information that can be extracted from this analysis. The experimental group and control group displayed the same general patterns over the study period. This lends support to the hypothesis that an exogenous variable(s) affected these time series other than drug court programming. The primary suspect is the raw number of drug arrests. An analysis of the drug arrest trend (refer to Table 1-1 in Chapter I) shows a dramatic reduction in drug arrests at the fourth quarter of 1989. This is at about the same time that pre-indictment backlogs fell as well. The similarities of these series support the conclusion that pre-indictment backlogs are arrest driven. As presented, the arrest activity varies, so does the pre-indictment backlog.

CHAPTER VIII

THE DRUG COURT: POST - INDICTMENT BACKLOG REDUCTION

The State's response to the increased court backlog problem was clearly addressed in the Pashman-Belsole Report discussed in Chapter I. The report called for judicial teams to be formed and charged with backlog reduction, especially at the "critical" stage; the Post-indictment stage of criminal case processing.

Post-indictment backlogs are monitored in two basic forms; those cases which are twelve months old and older and those cases four months old or older. The cases four months old or older are the total number of post-indictment backlogs. The twelve month old and older cases are the seriously delayed cases.

The post-indictment backlog problem is the area that the drug court judicial teams are expected to address and impact on, although the program goals and objectives (in Chapter II) do not follow the Pashman-Belsole recommendations closely.

An analysis is conducted on the twelve month backlog first. The twelve month backlog experimental group series is presented in Figure 8.1A. This series trends upward from the beginning of 1985 where the backlog was reported at 2327. The backlog rose steadily until nearly the end of the study period with a high number of 5291 at month number 69. The analysis of this case plot indicated non-stationarity and

that differencing was in order. A differenced series of cases 1 through 52 is presented in Figure 8.1B. The ACF and PACF (Figure 8.1C) indicate that this series is white noise. See Figure 8.1D for a presentation of the residuals. Notice that the residuals do not have statistical significance. Therefore, the model remains an ARIMA (0,1,0).

This model can be written as:

$$(1-B)\hat{z}_t = a_t$$

The residuals are presented in Figure 8.1E. The errors indicate that the intervention model can be accepted. The coefficient of the step variable of this series equals -291.1 but a t statistic of -1.99 is not statistically significant. Therefore, there is no significant statistical difference between the pre and post intervention series.

FIGURE 8.1A POST-INDICTMENT BACKLOG/12 MO./EXPERIMENTAL GROUP

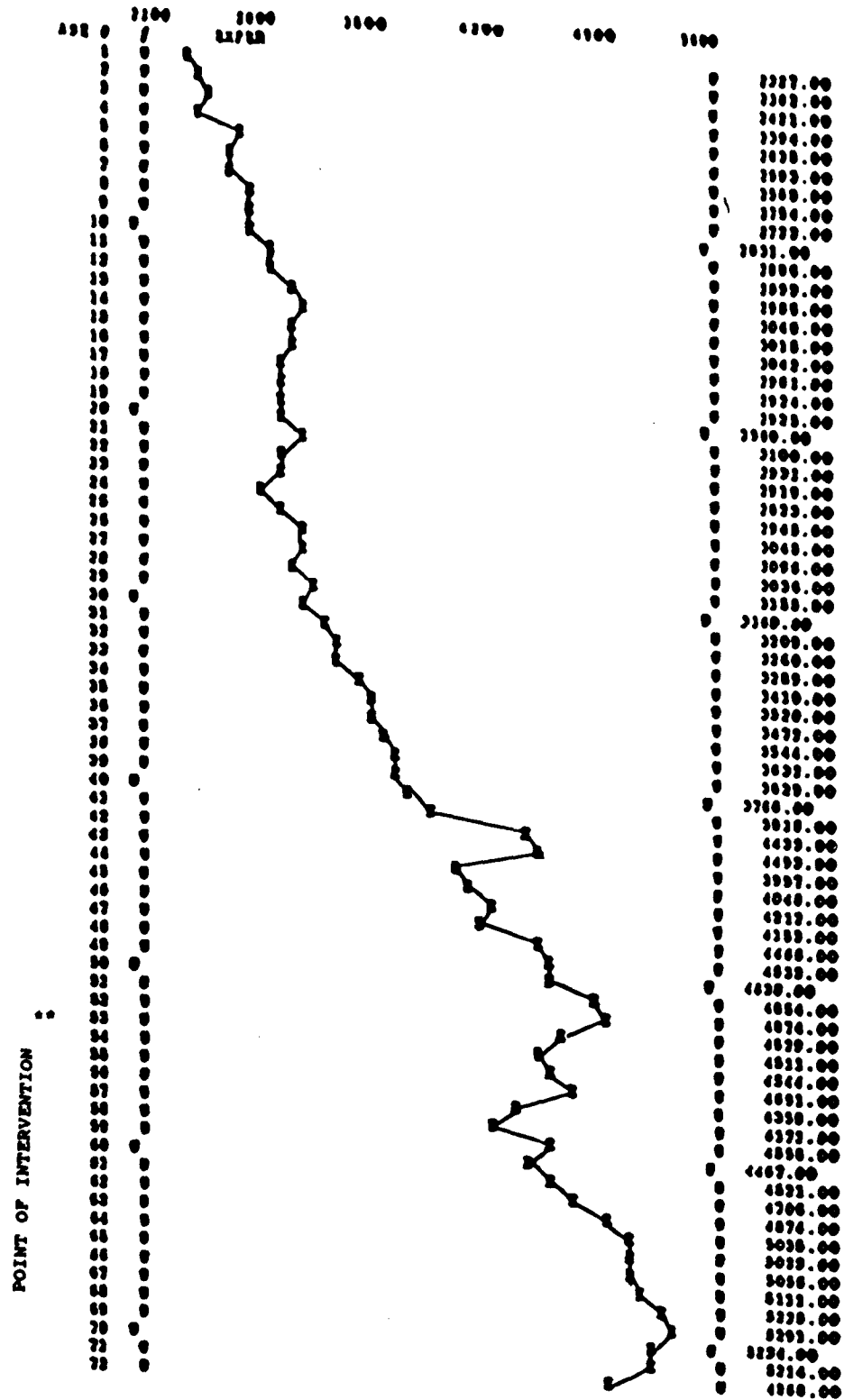


FIGURE 8.1B POST-INDICTMENT BACKLOG/DIFFERENCED SERIES

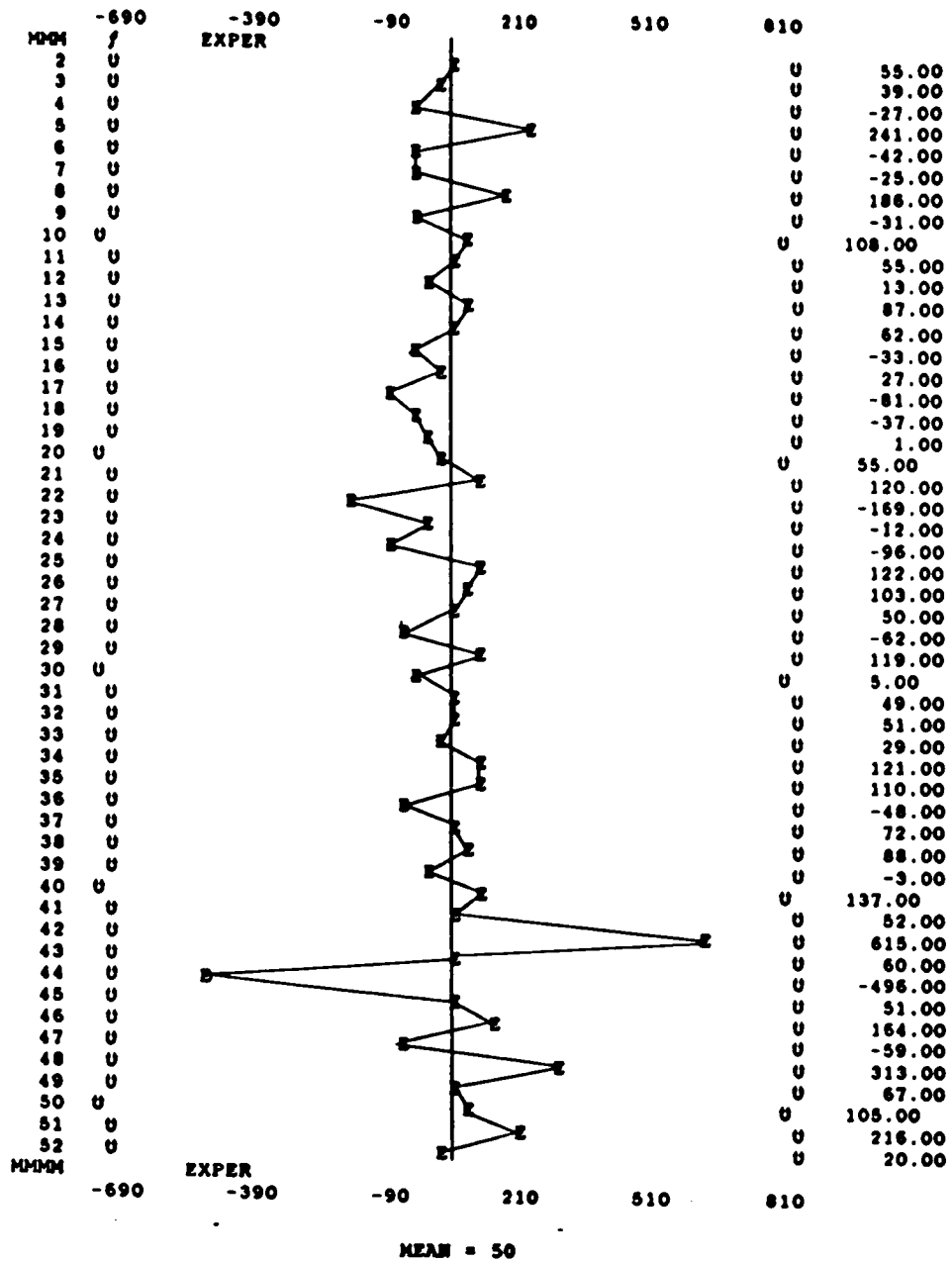


FIGURE 8.1C ACF/PACF POST-INDICTMENT/12 MO./EXPERIMENTAL

Autocorrelations: EXPER

Transformations: difference (1)

Lag	Auto- Corr.	Stand. Err.	-1	-.75	-.5	-.25	0	.25	.5	.75	1	(PERCENT)
1	-.083	.136										
2	-.271	.135										
3	.106	.133										
4	-.156	.132										
5	.056	.130										
6	.107	.129										
7	-.109	.128										
8	.215	.126										
9	.040	.125										
10	-.086	.123										
11	.064	.122										
12	-.094	.120										
13	.080	.119										
14	-.046	.117										
15	-.035	.115										
16	.101	.114										
17	.032	.112										
18	-.156	.110										
19	-.056	.109										
20	-.079	.107										
21	.102	.105										
22	.107	.104										
23	-.103	.102										
24	-.062	.100										

Plot Symbols: Autocorrelations * Two Standard Error Limits .

Partial Autocorrelations: EXPER

Transformations: difference (1)

Lag	Pr-Aut- Corr.	Stand. Err.	-1	-.75	-.5	-.25	0	.25	.5	.75	1	(PERCENT)
1	-.083	.140										
2	-.280	.140										
3	.059	.140										
4	-.237	.140										
5	.082	.140										
6	-.007	.140										
7	-.032	.140										
8	.226	.140										
9	.042	.140										
10	.106	.140										
11	.032	.140										
12	-.023	.140										
13	.120	.140										
14	-.168	.140										
15	.078	.140										
16	-.070	.140										
17	.083	.140										
18	-.198	.140										
19	-.104	.140										
20	-.162	.140										
21	.012	.140										
22	.051	.140										
23	-.062	.140										
24	-.044	.140										

Plot Symbols: Autocorrelations * Two Standard Error Limits .

FIGURE 8.1D RESIDUALS/ POST-INDICTMENT BACKLOG/12 MO.

Autocorrelations: ERR#1

Lag	Auto- Corr.	Stand. Err.	-1	-.75	-.5	-.25	0	.25	.5	.75	1	Box-Ljung	Prob.
1	-.083	.136					•••					.374	.541
2	-.271	.135					•••••					4.440	.109
3	.106	.133					•••					5.074	.166
4	-.156	.132					••••					6.475	.166
5	.056	.130					•••					6.659	.247
6	.107	.129					•••					7.348	.290
7	-.109	.128					•••					8.081	.326
8	.215	.126					•••••					10.980	.203
9	.040	.125					•••					11.082	.270
10	-.086	.123					•••					11.572	.315
11	.064	.122					•••					11.852	.375
12	-.094	.120					•••					12.463	.409
13	.080	.119					•••					12.913	.455
14	-.046	.117					•••					13.065	.521
15	-.035	.116					•••					13.158	.590
16	.101	.114					•••					13.949	.603
17	.032	.112					•••					14.028	.665
18	-.156	.110					•••••					16.023	.591
19	-.056	.109					•••					16.292	.638
20	-.079	.107					•••					16.833	.664
21	.102	.106					•••					17.773	.663
22	.107	.104					•••					18.846	.655
23	-.103	.102					•••					19.862	.650
24	-.062	.100					•••					20.243	.683

Plot Symbols: Autocorrelations • Two Standard Error Limits .

BOX LJUNG = 19.862 DF = 23

Variables in the Model:

	B	SEB	T-RATIO	APPROX. PROB.
CONSTANT	49.941176	19.824196	2.5192031	.01500466

FIGURE 8.1E RESIDUALS/SERIES 1-72/POST-INDICT. BKG/12

Autocorrelations: ERR#1

Lag	Auto- Corr.	Stand. Err.	-1	-.75	-.5	-.25	0	.25	.5	.75	1	Box-Ljung	Prob.
1	-.088	.116					..u					.569	.451
2	-.293	.118				u						7.014	.030
3	.168	.118				u						9.160	.027
4	-.104	.114				u						9.999	.040
5	.008	.113				u						10.001	.075
6	-.026	.112				u						10.055	.122
7	-.181	.111				u						11.897	.104
8	.173	.110				u						14.373	.073
9	-.057	.109				u						14.649	.101
10	-.017	.108				u						14.673	.144
11	.076	.108				u						15.169	.175
12	-.221	.107				u						19.479	.078
13	.301	.106				u						27.553	.010
14	.090	.105				u						28.291	.013
15	-.309	.104				u						37.140	.001
16	.070	.103				u						37.601	.002
17	.127	.102				u						39.160	.002
18	-.191	.101				u						42.732	.001
19	-.077	.100				u						43.328	.001
20	-.094	.099				u						44.228	.001
21	.180	.098				u						47.597	.001
22	.129	.097				u						49.358	.001
23	-.148	.096				u						51.718	.001
24	-.044	.095				u						51.929	.001

Plot Symbols: Autocorrelations * Two Standard Error Limits .

BOX LJUNG = 49.358 DF = 22

Variables in the Model:

	B	SEB	T-RATIO	APPROX. PROB.
STEP	-291.17143	145.73847	-1.9979037	.04967080
CONSTANT	46.17143	17.29597	2.6694900	.00946348

Similar to the experimental group, the control group of the twelve month post-indictment backlog (presented in Figure 8.2A) trends upward throughout the study period from 690 cases in 1985 to a high of 1385 cases in 1990. The control group case plot indicates the need for differencing and the differenced series is presented in Figure 8.2B. The differenced series from month number 1 through 52 is an ARIMA model (0,1,0) or white noise. Note the ACF and PACF presented in Figure 8.2C. The residuals of this series are not significantly different than zero.

This model can be written as:

$$(1-B)\hat{\epsilon}_t = a_t$$

The residuals of the intervention component are presented in Figure 8.2E. The errors indicate that the intervention model can be accepted. The coefficient of the step variable is 55.9 but a t statistic of .416 is not statistically significant. There is, therefore, no significant statistical difference between the pre and post intervention series.

FIGURE 8.2A POST-INDICTMENT BACKLOG/12 NO./CONTROL GROUP

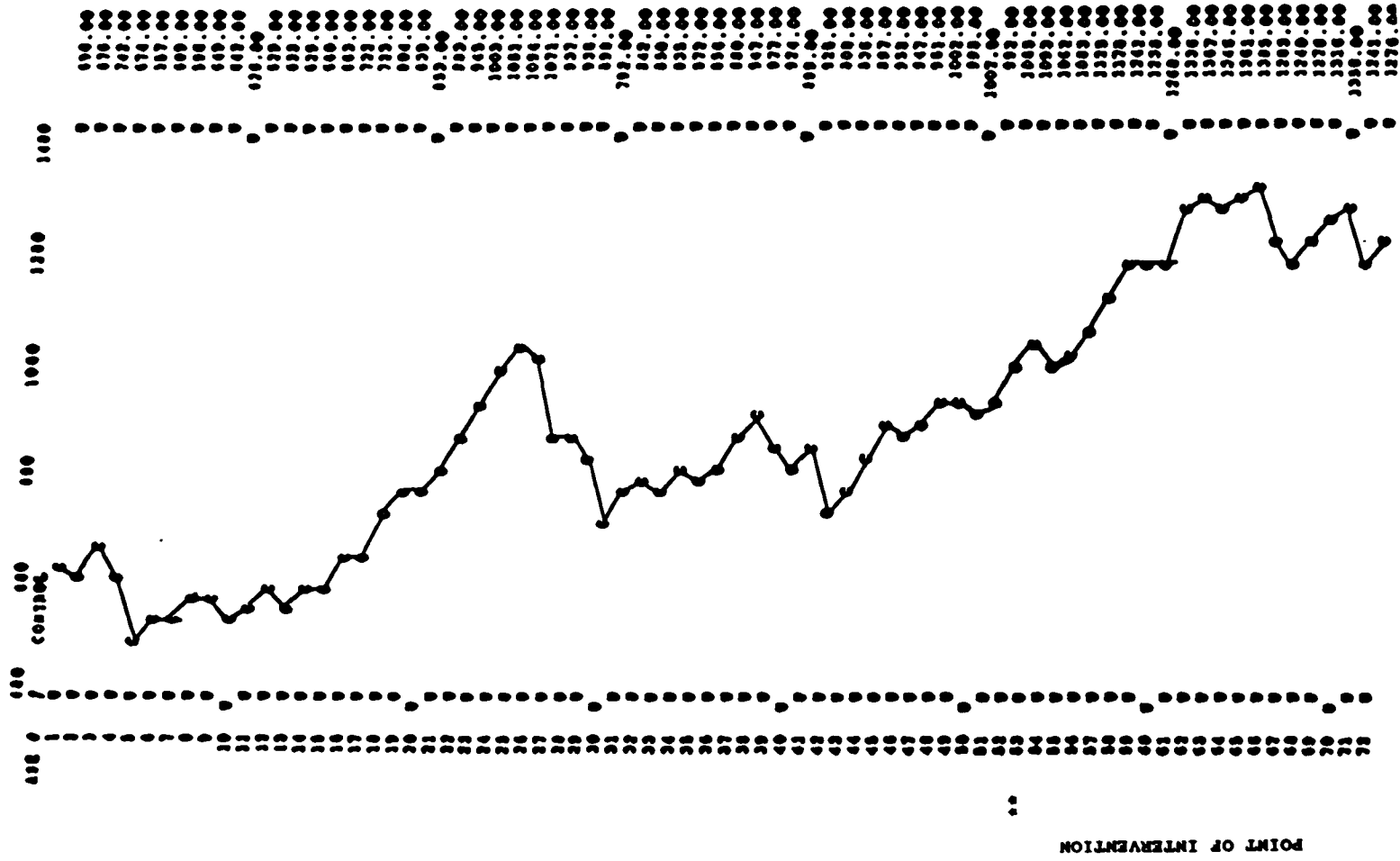


FIGURE 8.2B POST-INDICTMENT BACKLOG/12 MO./DIFFERENCED SERIES

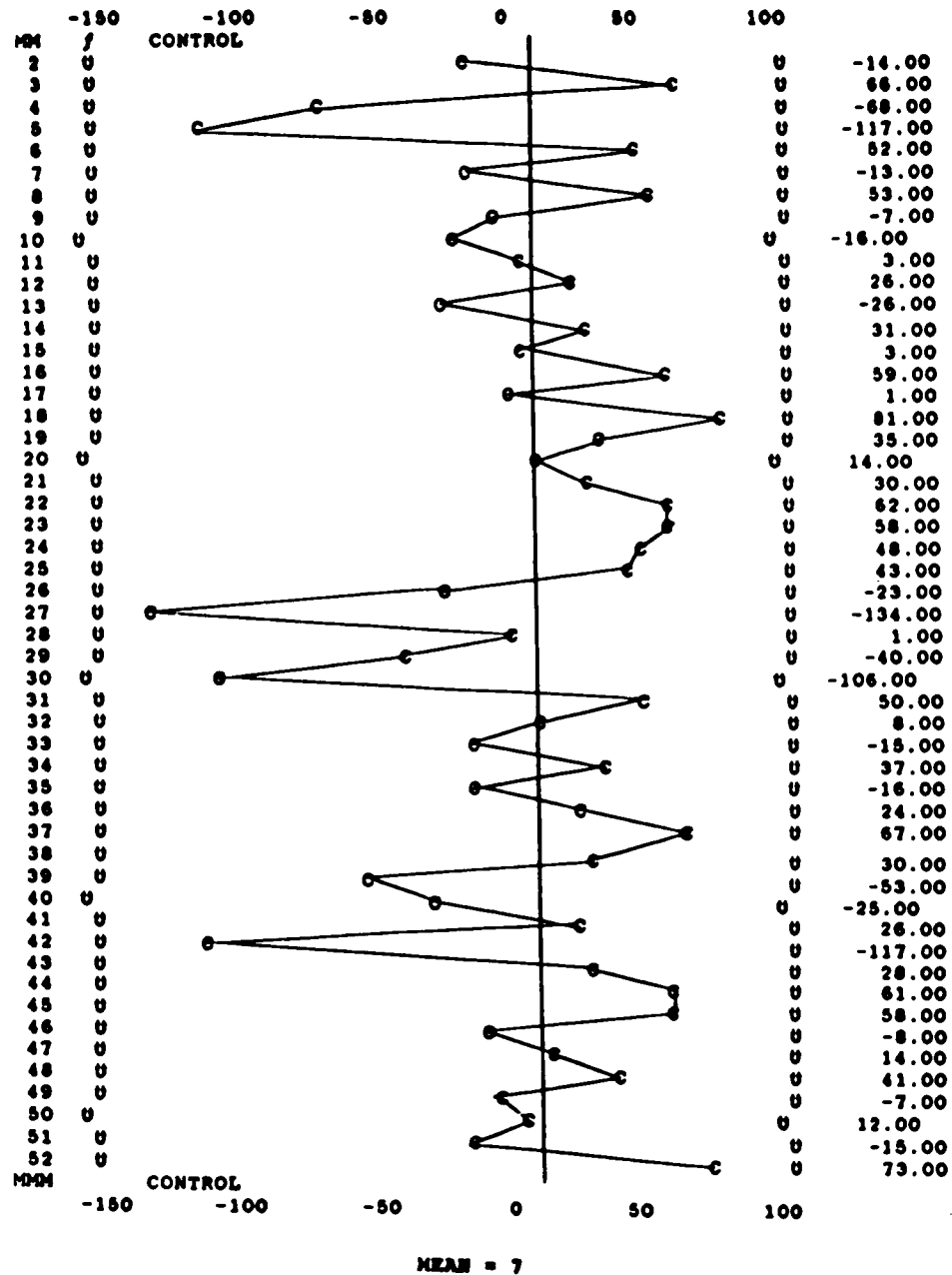


FIGURE 8.2C ACF/PACF POST-INDICTMENT/12 MO./CONTROL GROUP

Autocorrelations: CONTROL

Transformations: difference (1)

Lag	Auto- Corr.	Stand. Err.	-1	-.75	-.5	-.25	0	.25	.5	.75	1	(PERCENT)
1	.040	.136					U*					
2	-.016	.135					.					
3	.160	.133					U***					
4	-.075	.132					U					
5	-.147	.130					***U					
6	-.032	.129					U					
7	-.038	.128					U					
8	-.086	.126					***U					
9	-.036	.125					U					
10	-.080	.123					***U					
11	-.195	.122					U***					
12	.093	.120					U**					
13	.040	.119					U*					
14	-.114	.117					***U					
15	.095	.115					U**					
16	.018	.114					.					
17	-.139	.112					***U					
18	-.184	.110					***U					
19	-.072	.109					U					
20	-.018	.107					.					
21	-.054	.105					U					
22	.130	.104					U***					
23	.066	.102					U*					
24	-.112	.100					***U					

Plot Symbols: Autocorrelations * Two Standard Error Limits .

Partial Autocorrelations: CONTROL

Transformations: difference (1)

Lag	Pr-Aut- Corr.	Stand. Err.	-1	-.75	-.5	-.25	0	.25	.5	.75	1	(PERCENT)
1	.040	.140					U*					
2	-.018	.140					.					
3	.161	.140					U***					
4	-.091	.140					***U					
5	-.137	.140					***U					
6	-.050	.140					U					
7	-.013	.140					.					
8	-.048	.140					U					
9	-.043	.140					U					
10	-.102	.140					***U					
11	-.198	.140					U***					
12	.103	.140					U**					
13	.033	.140					U*					
14	-.097	.140					***U					
15	.008	.140					.					
16	-.058	.140					U					
17	-.116	.140					***U					
18	-.240	.140					***U					
19	-.131	.140					***U					
20	-.013	.140					.					
21	-.068	.140					U					
22	.057	.140					U*					
23	-.002	.140					.					
24	-.220	.140					***U					

Plot Symbols: Autocorrelations * Two Standard Error Limits .

FIGURE 8.2D RESIDUALS/POST-INDICTMENT/12 MO.

Autocorrelations: ERR#1

Lag	Auto- Corr.	Stand. Err.	-1	-.75	-.5	-.25	0	.25	.5	.75	1	Box-Ljung	Prob.
1	.040	.136					U*					.085	.770
2	-.016	.135					.	.				.100	.951
3	.160	.133					U***					1.533	.675
4	-.075	.132					U					1.856	.762
5	-.147	.130					***U					3.123	.681
6	-.032	.129					U					3.183	.786
7	-.038	.128					U					3.272	.859
8	-.086	.126					***U					3.741	.880
9	-.036	.125					U					3.824	.923
10	-.080	.123					***U					4.242	.936
11	-.195	.122					***U					6.821	.813
12	.093	.120					U**					7.420	.829
13	.040	.119					U*					7.531	.873
14	-.114	.117					***U					8.473	.863
15	.095	.115					U**					9.144	.870
16	.018	.114					.					9.170	.906
17	-.139	.112					***U					10.711	.871
18	-.184	.110					***U					13.471	.763
19	-.072	.109					U					13.913	.789
20	-.018	.107					.					13.941	.833
21	-.054	.105					U					14.202	.861
22	.130	.104					U***					15.782	.827
23	.066	.102					U*					16.202	.846
24	-.112	.100					***U					17.457	.829

Plot Symbols: Autocorrelations * Two Standard Error Limits .

BOX LJUNG = 16.202 DF = 23

Variables in the Model:

	B	SEB	T-RATIO	APPROX. PROB.
CONSTANT	7.3529412	7.0629563	1.0410572	.30285701

FIGURE 8.2E RESIDUALS/SERIES 1-72/ POST-IND. /12 MO.

Autocorrelations: ERR#1

Lag	Auto- Corr.	Stand. Err.	-1	-.75	-.5	-.25	0	.25	.5	.75	1	Box-Ljung	Prob.
1	.041	.116					U*					.123	.726
2	-.076	.115					..U					.552	.759
3	.120	.115					U**					1.646	.649
4	-.002	.114					.					1.646	.800
5	-.042	.113					..U					1.788	.878
6	-.077	.112					..U					2.259	.894
7	-.044	.111					..U					2.420	.933
8	-.025	.110					..U					2.471	.963
9	-.045	.109					..U					2.641	.977
10	-.120	.108					..U					3.869	.953
11	-.179	.108					..U					6.623	.829
12	.180	.107					..U					9.464	.663
13	.036	.106					..U					9.564	.729
14	-.190	.105					..U					11.607	.638
15	.029	.104					..U					11.687	.703
16	-.004	.103					..U					11.689	.765
17	-.036	.102					..U					11.810	.812
18	-.193	.101					..U					15.457	.630
19	-.150	.100					..U					17.709	.542
20	.032	.099					..U					17.815	.600
21	-.035	.098					..U					17.940	.653
22	.040	.097					..U					18.114	.699
23	-.028	.096					..U					18.182	.748
24	.072	.095					..U					18.746	.765

Plot Symbols: Autocorrelations * Two Standard Error Limits .

BOX LJUNG = 18.114 DF = 22

Variables in the Model:

	B	SEB	T-RATIO	APPROX. PROB.
STEP	55.957143	134.42415	.41627300	.67850196
CONSTANT	8.042857	15.95321	.50415287	.61575991

The next series, total post-indictment backlog experimental group is presented in Figure 8.3A. This series drifts upward from the beginning of the study period and rises throughout. Thus, this series will require differencing in order to obtain stationarity. The differenced series appears in Figure 8.3B. The ACF and PACF of the series indicates that this series is an ARIMA model $(0,1,0) (1,0,0)_{12}$. This series is would be white noise except that seasonality is indicated at spike number 12 in the ACF and PACF of the series. The coefficient of the seasonal AR equals .412 with a t statistic of 2.60 thus we can initially accept this model.

This model can be written as:

$$(1-\phi_{12}B^{12})(1-B)\hat{z}_t = a_t$$

Further diagnosis is conducted by examining the errors of the residuals of this series. The errors indicate that the model is acceptable as they are not significantly different than zero (see Figure 8.3C).

The statistical results of the intervention model are presented as follows:

$$\phi_{12} = .260 \quad \text{with a t statistic } 1.98$$

$$\psi_t = -348.8 \quad \text{with a t statistic } 1.40$$

The coefficient of the step variable equals .260 but a t statistic of -1.98 is not statistically significant. Therefore, there is not significant difference between the pre and post intervention periods.

FIGURE 8.3A POST-INDICTMENT BACKLOG/TOTAL/EXPERIMENTAL

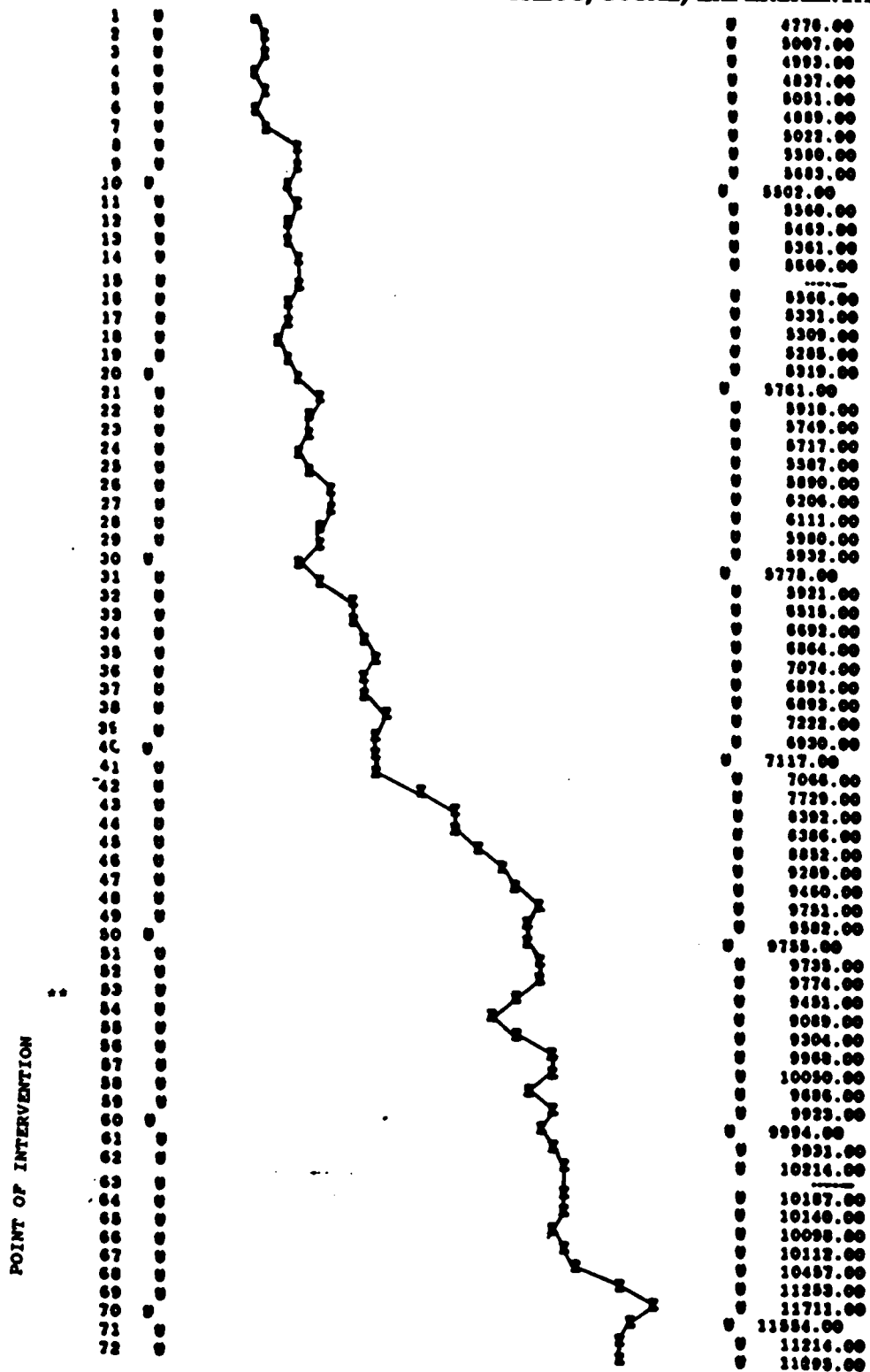


FIGURE 8.3B POST-INDICTMENT BACKLOG/TOTAL/DIFFERENCED SERIES

Cassplot Display

Degree of non-seasonal differencing - 1

The following plot symbols are used:

E - Variable EXPER

M - Missing Data (placed left of the vertical axis)

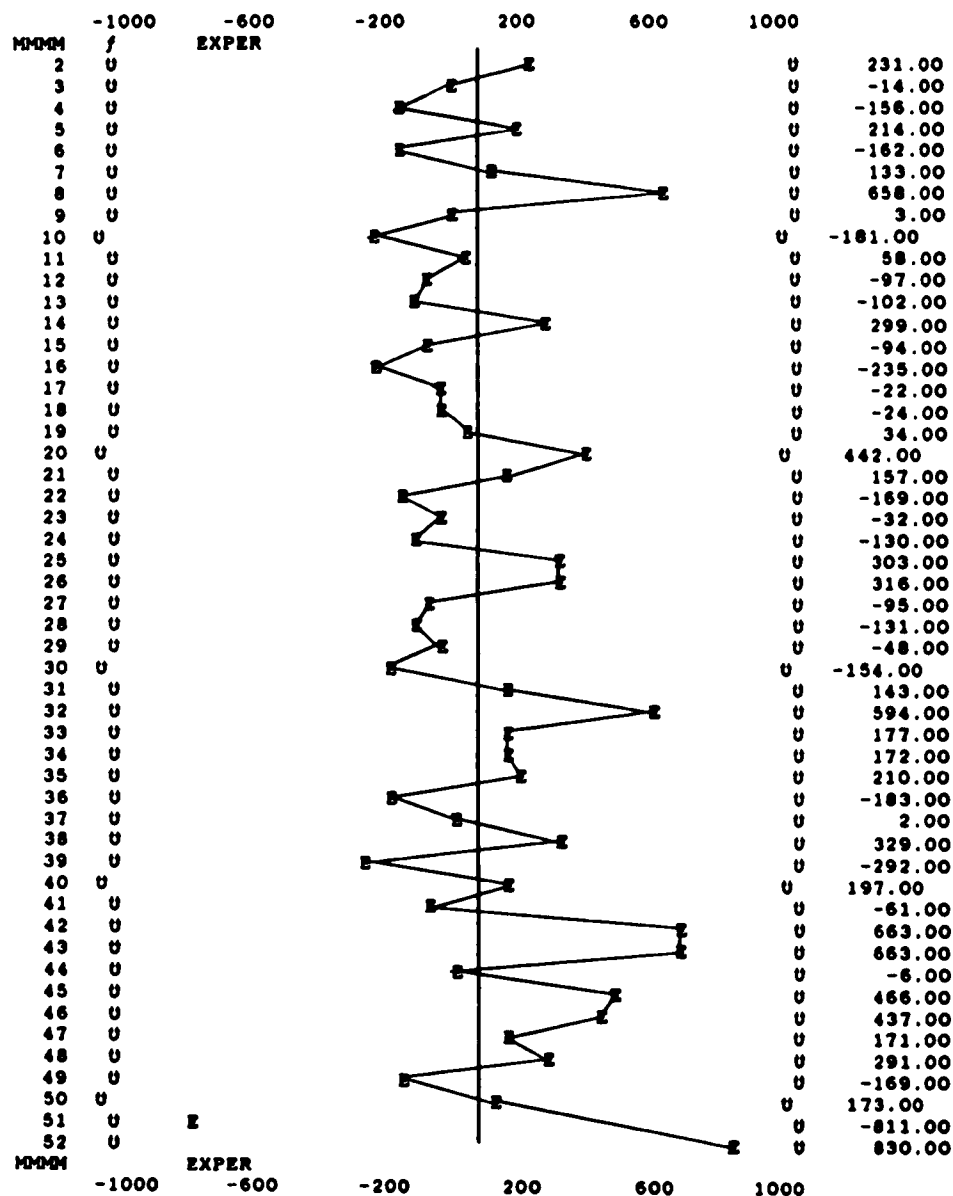


FIGURE 8.3C ACF/PACF POST-INDICTMENT BACKLOG/TOTAL

Autocorrelations: EXPER

Transformations: difference (1)

Lag	Auto- Corr.	Stand. Err.	-1	-.75	-.5	-.25	0	.25	.5	.75	1	(PERCENT)
1	.107	.136					•	•••				
2	-.068	.135					•	••				
3	.105	.133					•	•••				
4	-.248	.132					•••••	••				
5	.053	.130					•	••				
6	.174	.129					•	••••				
7	-.092	.128					•	•••				
8	-.054	.126					•	••				
9	-.076	.125					•	•••				
10	-.021	.123					•	•				
11	.123	.122					•	•••				
12	.283	.120					•	•••••				
13	.069	.119					•	••				
14	-.058	.117					•	••				
15	-.073	.115					•	••				
16	-.183	.114					•••••	••				
17	.046	.112					•	••				
18	.094	.110					•	•••				
19	-.167	.109					•••••	••				
20	-.058	.107					•	••				
21	-.034	.105					•	••				
22	-.064	.104					•	••				
23	.053	.102					•	••				
24	.096	.100					•	•••				

Plot Symbols: Autocorrelations • Two Standard Error Limits .

Partial Autocorrelations: EXPER

Transformations: difference (1)

Lag	Pr-Auto- Corr.	Stand. Err.	-1	-.75	-.5	-.25	0	.25	.5	.75	1	(PERCENT)
1	.107	.140					•	•••				
2	-.078	.140					•	•••				
3	.123	.140					•	•••				
4	-.289	.140					•••••	••				
5	.165	.140					•	••••				
6	.081	.140					•	•••				
7	-.053	.140					•	••				
8	-.118	.140					•	•••				
9	-.053	.140					•	••				
10	.090	.140					•	•••				
11	.065	.140					•	••				
12	.272	.140					•	•••••				
13	-.031	.140					•	••				
14	-.008	.140					•	•				
15	-.108	.140					•	•••				
16	-.092	.140					•	•••				
17	.051	.140					•	••				
18	-.009	.140					•	•				
19	-.138	.140					•••••	••				
20	-.039	.140					•	••				
21	.087	.140					•	••				
22	-.009	.140					•	•				
23	-.116	.140					•	•••				
24	.009	.140					•	•				

Plot Symbols: Autocorrelations • Two Standard Error Limits .

FIGURE 8.3D RESIDUALS/POST-INDICTMENT BACKLOG

Autocorrelations: ERR#1

Lag	Auto- Corr.	Stand. Err.	-1	-.75	-.5	-.25	0	.25	.5	.75	1	Box-Ljung	Prob.
1	.039	.136					U*					.080	.777
2	-.071	.135					U					.358	.836
3	.178	.133					U****					2.149	.542
4	-.218	.132					****U					4.877	.300
5	.045	.130					U*					4.999	.416
6	.117	.129					U**					5.817	.444
7	-.031	.128					U					5.877	.554
8	.071	.126					U*					6.193	.626
9	-.052	.125					U					6.368	.703
10	.032	.123					U*					6.434	.778
11	.111	.122					U**					7.273	.777
12	.038	.120					U*					7.371	.832
13	.073	.119					U*					7.754	.859
14	.009	.117					.					7.760	.901
15	-.084	.115					***U					8.292	.912
16	-.078	.114					***U					8.757	.923
17	.118	.112					U**					9.858	.909
18	.009	.110					.					9.864	.936
19	-.160	.109					***U					12.028	.884
20	.023	.107					.					12.074	.914
21	-.042	.105					U*					12.231	.933
22	-.051	.104					U*					12.473	.947
23	.021	.102					.					12.518	.962
24	.028	.100					U*					12.595	.972

Plot Symbols: Autocorrelations * Two Standard Error Limits .

BOX LJUNG = 12.473 DF = 22

Variables in the Model:

	B	SEB	T-RATIO	APPROX. PROB.
SAR1	.41228	.158402	2.6027668	.01220013
CONSTANT	107.20358	46.344490	2.3131893	.02495157

FIGURE 8.4E RESIDUALS/ SERIES 1-72/ POST-IND. BKG.

Autocorrelations: ERR#1

Lag	Auto- Corr.	Stand. Err.	-1	-.75	-.5	-.25	0	.25	.5	.75	1	Box-Ljung	Prob.
1	.104	.116					***					.794	.373
2	-.217	.115					***					4.322	.115
3	.055	.115					***					4.555	.207
4	-.147	.114					***					6.237	.182
5	.029	.113					***					6.304	.278
6	.125	.112					***					7.547	.273
7	-.043	.111					***					7.698	.360
8	-.037	.110					***					7.809	.452
9	-.092	.109					***					8.511	.484
10	.006	.108					***					8.514	.579
11	.027	.108					***					8.574	.661
12	-.027	.107					***					8.637	.734
13	.159	.106					***					10.901	.619
14	.006	.105					***					10.904	.694
15	-.238	.104					***					16.155	.372
16	-.114	.103					***					17.383	.361
17	.104	.102					***					18.420	.363
18	.012	.101					***					18.435	.427
19	-.103	.100					***					19.494	.426
20	-.053	.099					***					19.784	.471
21	.039	.098					***					19.942	.525
22	.007	.097					***					19.947	.586
23	-.006	.096					***					19.951	.645
24	.133	.095					***					21.910	.585

Plot Symbols: Autocorrelations * Two Standard Error Limits .

BOX LJUNG = 19.942 DF = 21

Variables in the Model:

	B	SEB	T-RATIO	APPROX. PROB.
SAR1	.26055	.13132	1.9841147	.05128133
STEP	-348.84879	248.21952	-1.4054044	.16445325
CONSTANT	94.79889	38.91569	2.4360066	.01747564

In Figure 8.4A the realization for the time series for the total post-indictment backlog, control group is presented. This series trends upwardly throughout the series from a reported backlog of 2172 in the beginning to a high of 4073 near the end of 1990. The upward trend of this series indicates the need for differencing, and the differenced series appears in Figure 8.4B. Again, the differenced series includes those cases identified as pre intervention cases (cases 1-52). The ACF and PACF of the differenced series (Figure 8.4C) indicate that this series an ARIMA model $(0,1,0)(1,0,0)_{12}$. Or, $(1-\phi_{12}B^{12})(1-B)z_t = a_t$

Seasonality is indicated as a spike at lag 12 appears in the ACF and PACF of the series. The coefficient of the seasonal AR equals .381 with a t statistic of 2.63 thus we can initially accept the model. The residuals of the series indicate that the model is acceptable as they are not significantly different than zero (see Figure 8.4C).

The statistical results of the intervention model are as follows:

$$\phi_{12} = .49 \text{ with a t statistic} = 4.40$$

$$w_t = -18.41 \text{ with a t statistic} = -.19$$

The coefficient of the step variable equals -18.41 but a t statistic of -.19 is not statistically significant. Therefore, there is not a statistically significant difference between the pre and post intervention series.

FIGURE 8.4A POST-INDICTMENT BACKLOG/TOTAL/CONTROL GROUP

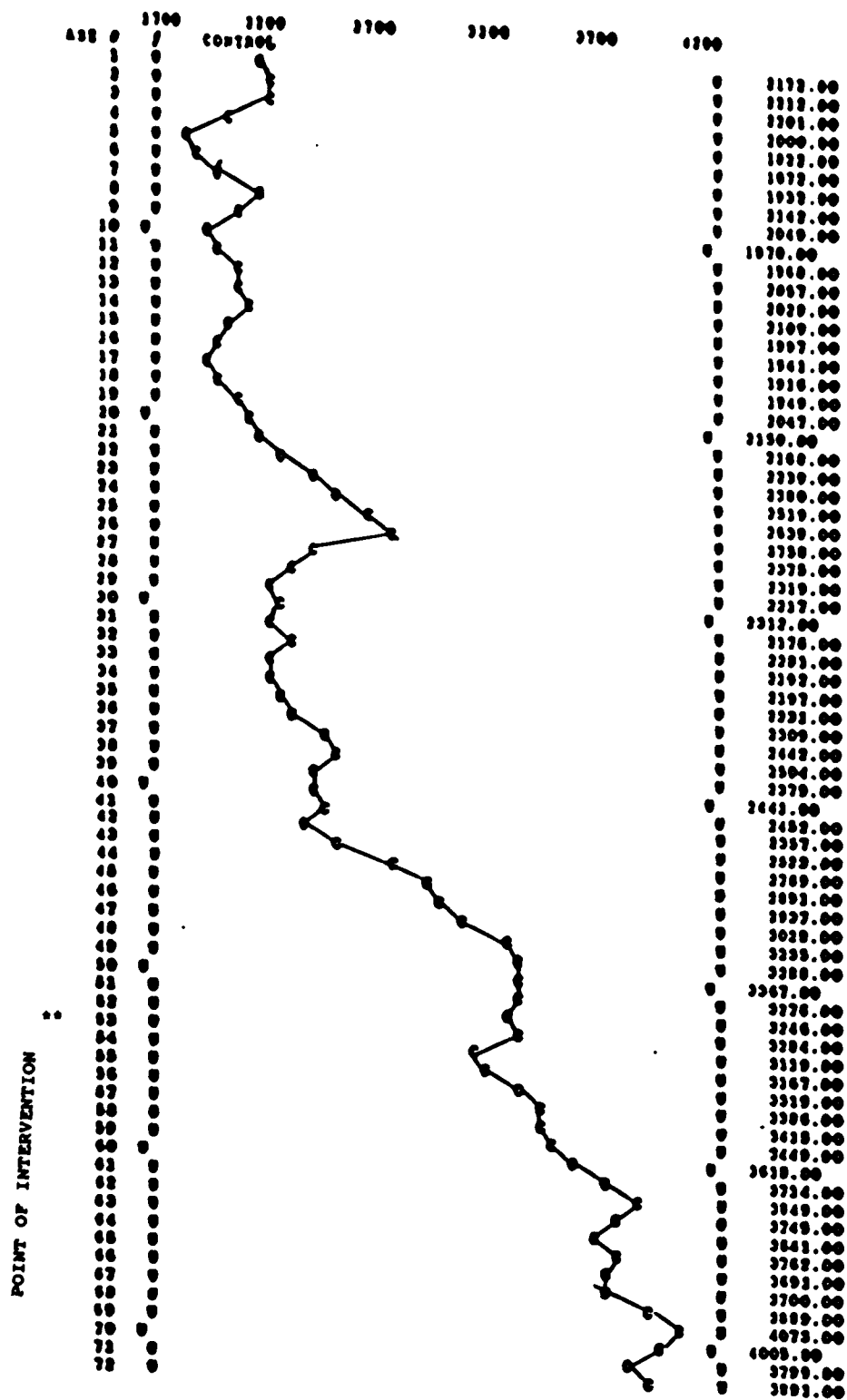


FIGURE 8.4B POST-INDICTMENT BACKLOG/TOTAL/DIFFERENCED SERIES

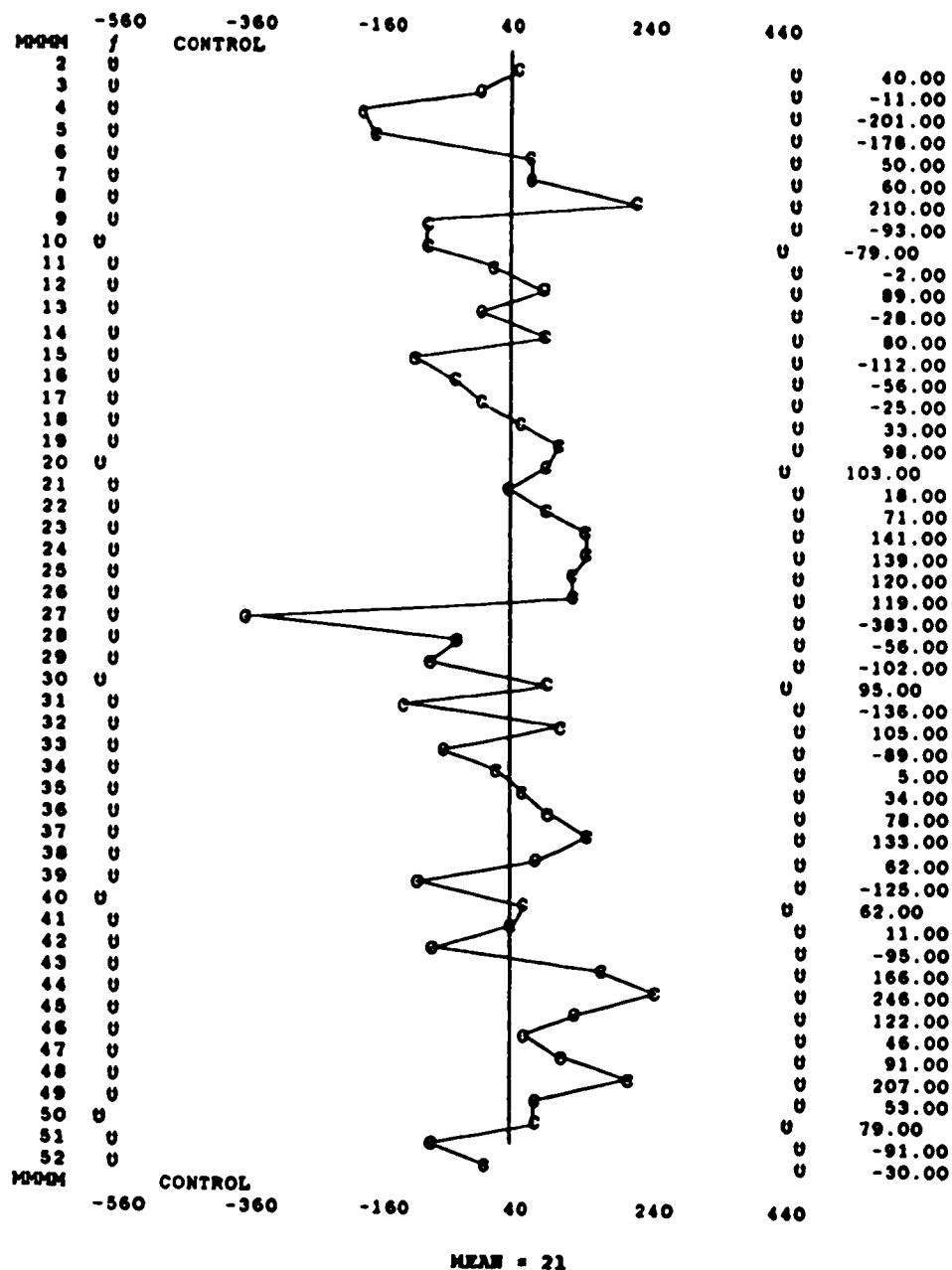


FIGURE 8.4C ACF/PACF POST-INDICTMENT BACKLOG/TOTAL

Autocorrelations: CONTROL

Transformations: difference (1)

Lag	Auto- Corr.	Stand. Err.	-1	-.75	-.5	-.25	0	.25	.5	.75	1	(PERCENT)
1	.168	.136					U***					
2	.060	.135					U*					
3	-.203	.133					****U					
4	.017	.132					.					
5	-.058	.130					U					
6	.148	.129					U***					
7	-.132	.128					***U					
8	-.144	.126					***U					
9	-.200	.125					****U					
10	-.059	.123					U					
11	.123	.122					U**					
12	.295	.120					U****					
13	-.022	.119					.					
14	-.023	.117					.					
15	-.130	.115					***U					
16	-.128	.114					***U					
17	-.134	.112					***U					
18	.138	.110					U***					
19	-.215	.109					****U					
20	-.078	.107					U					
21	-.188	.105					****U					
22	.148	.104					U***					
23	.169	.102					U***					
24	.319	.100					U***..					

Plot Symbols: Autocorrelations * Two Standard Error Limits .

Partial Autocorrelations: CONTROL

Transformations: difference (1)

Lag	Pr-Aut- Corr.	Stand. Err.	-1	-.75	-.5	-.25	0	.25	.5	.75	1	(PERCENT)
1	.168	.140					U***					
2	.033	.140					U*					
3	-.225	.140					****U					
4	.093	.140					U**					
5	-.055	.140					U					
6	.124	.140					U**					
7	-.170	.140					***U					
8	-.145	.140					***U					
9	-.076	.140					U					
10	-.077	.140					U					
11	.163	.140					U***					
12	.205	.140					U****					
13	-.140	.140					***U					
14	.032	.140					U*					
15	-.078	.140					U					
16	-.205	.140					****U					
17	-.138	.140					***U					
18	.130	.140					U***					
19	-.243	.140					****U					
20	.023	.140					.					
21	-.038	.140					U					
22	.142	.140					U***					
23	.108	.140					U**					
24	.073	.140					U*					

Plot Symbols: Autocorrelations * Two Standard Error Limits .

FIGURE 8.4D RESIDUALS/POST-INDICTMENT BACKLOG

Autocorrelations: ERR#1

Lag	Auto- Corr.	Stand. Err.	-1	-.75	-.5	-.25	0	.25	.5	.75	1	Box-Ljung	Prob.
1	.157	.136					u***					1.339	.247
2	.114	.135					u**					2.056	.358
3	-.127	.133				***u						2.965	.397
4	.109	.132				u**						3.645	.456
5	.021	.130				.						3.671	.598
6	.057	.129				u*						3.867	.695
7	-.040	.128				u						3.964	.784
8	-.137	.126				***u						5.148	.742
9	-.088	.125				***u						5.643	.775
10	-.158	.123				***u						7.282	.699
11	.050	.122				u*						7.452	.761
12	-.091	.120				***u						8.031	.783
13	-.097	.119				***u						8.707	.795
14	-.068	.117				u						9.046	.828
15	-.042	.115				u						9.179	.868
16	-.115	.114				***u						10.206	.856
17	-.147	.112				***u						11.923	.805
18	.096	.110				u**						12.684	.810
19	-.177	.109				***u						15.327	.702
20	-.017	.107				.						15.353	.756
21	-.102	.105				***u						16.291	.753
22	.232	.104				u***.						21.301	.502
23	.163	.102				u***.						23.875	.411
24	.226	.100				u***.						28.995	.220

Plot Symbols: Autocorrelations * Two Standard Error Limits .

Total cases: 82 Computable first lags: 50

BOX LJUNG = 21.301 DF = 22

Variables in the Model:

	B	SEB	T-RATIO	APPROX. PROB.
SAR1	.381473	.144950	2.6317636	.01132622
CONSTANT	22.526486	21.698723	1.0381480	.30429721

FIGURE 8.4E RESIDUALS/SERIES 1-72/POST IND. BKG/TOTAL

Autocorrelations: ERR#1

Lag	Auto- Corr.	Stand. Err.	-1	-.75	-.5	-.25	0	.25	.5	.75	1	Box-Ljung	Prob.
1	.148	.116					U***					1.618	.203
2	.026	.115					U*					1.668	.434
3	-.095	.115					**U					2.350	.503
4	.118	.114					U**					3.435	.488
5	.011	.113					*					3.445	.632
6	-.024	.112					.					3.490	.745
7	.015	.111					.					3.508	.834
8	-.098	.110					**U					4.290	.830
9	-.084	.109					**U					4.876	.845
10	-.211	.108					***U					8.653	.565
11	-.062	.108					*U					8.989	.623
12	-.098	.107					**U					9.836	.630
13	-.078	.106					**U					10.383	.662
14	-.100	.105					**U					11.284	.664
15	-.037	.104					*U					11.414	.723
16	-.064	.103					*U					11.803	.757
17	-.047	.102					*U					12.013	.799
18	.077	.101					U**					12.601	.815
19	-.122	.100					**U					14.082	.779
20	-.010	.099					.					14.092	.826
21	.004	.098					.					14.094	.866
22	.246	.097					U***					20.475	.553
23	.098	.096					U**					21.820	.549
24	.170	.095					U***					24.706	.422

Plot Symbols: Autocorrelations * Two Standard Error Limits .

BOX LJUNG = 14.094 DF = 21

Variables in the Model:

	B	SEB	T-RATIO	APPROX. PROB.
SAR1	.492456	.111812	4.4043339	.00003864
STEP	-18.414392	92.608169	-.1988420	.84297973
CONSTANT	19.764749	20.946006	.9436047	.34871253

Although each series in this chapter realized no significant difference between the pre and post intervention series some conclusions can be drawn. First, the post-indictment backlog data behaved differently than the pre-indictment backlog series. Where the pre-indictment data tended to follow the arrest number patterns, the post-indictment series continued to rise despite the arrest data. The data in this series was not dropping when the drug courts/judicial teams were conceptualized. Secondly, a close examination of the four series in this chapter show that backlog activity tends to drop near the end of the series in the experimental groups of both the twelve month backlog and total backlog. At month number 69 both experimental groups realized a reduction in the backlog numbers. Cautiously, then, a conclusion might be made that the judicial teams were beginning to impact at the post-indictment stage. But more time would be needed to assess this impact properly as the drop in arrest activity could equally impact on backlog numbers at the post-indictment stage.

CHAPTER IX

CASE PROCESSING TIME

A central theme of the drug court program was to impact upon case processing time. This objective was second to reducing case backlogs in the counties participating in the program. The counties listed, as a primary-measurable objective reduction of case processing time. These objectives are listed in Chapter II. Case processing time is collected monthly and calculated as an average time using a formula which factors all cases into the equation. The average case processing time is calculated in terms of pre-indictment as well as post-indictment cases. The data is submitted by each county to the state Administrative Office of the Courts. This chapter considers the time series of pre-indictment case disposal time in terms of the experimental and control groups. Also, a time series analysis is applied to experimental and control groups in terms of post-indictment disposal time.

The average pre-indictment disposal times in the experimental group are presented as a case plot in Figure 9.1A. The case processing times vary in this series between 17 and 44.9 months. In general, the average case processing time appears to increase after month number 30, which is nearly two years prior to the program's inception. To achieve stationarity this series was differenced once.

FIGURE 9.1A AVG CASE PROC TIME/PRE-INDICTMENT(MOS.) EXP GROUP

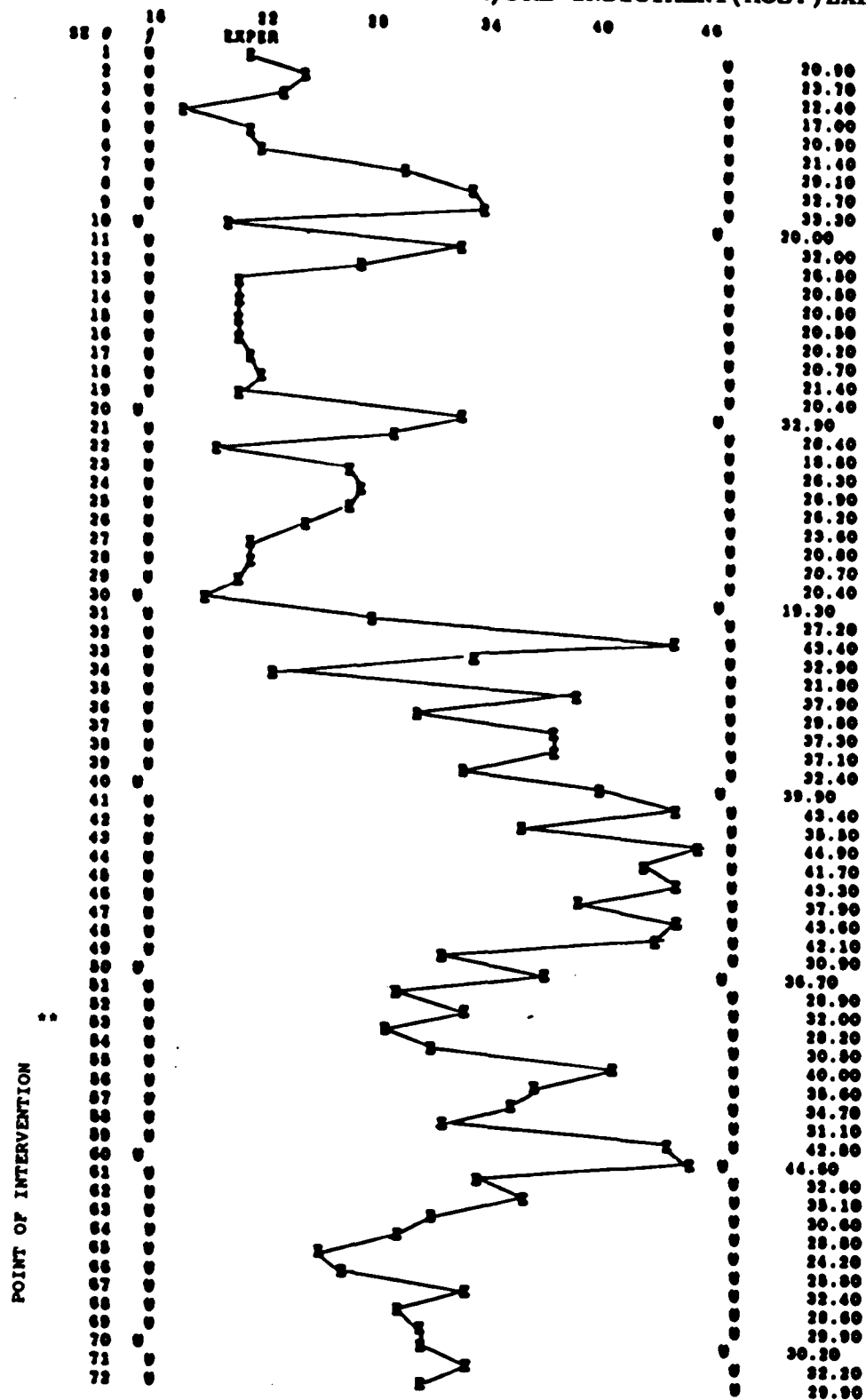


FIGURE 9.1B AVG CASE PROC TIME/DIFFERENCED SERIES

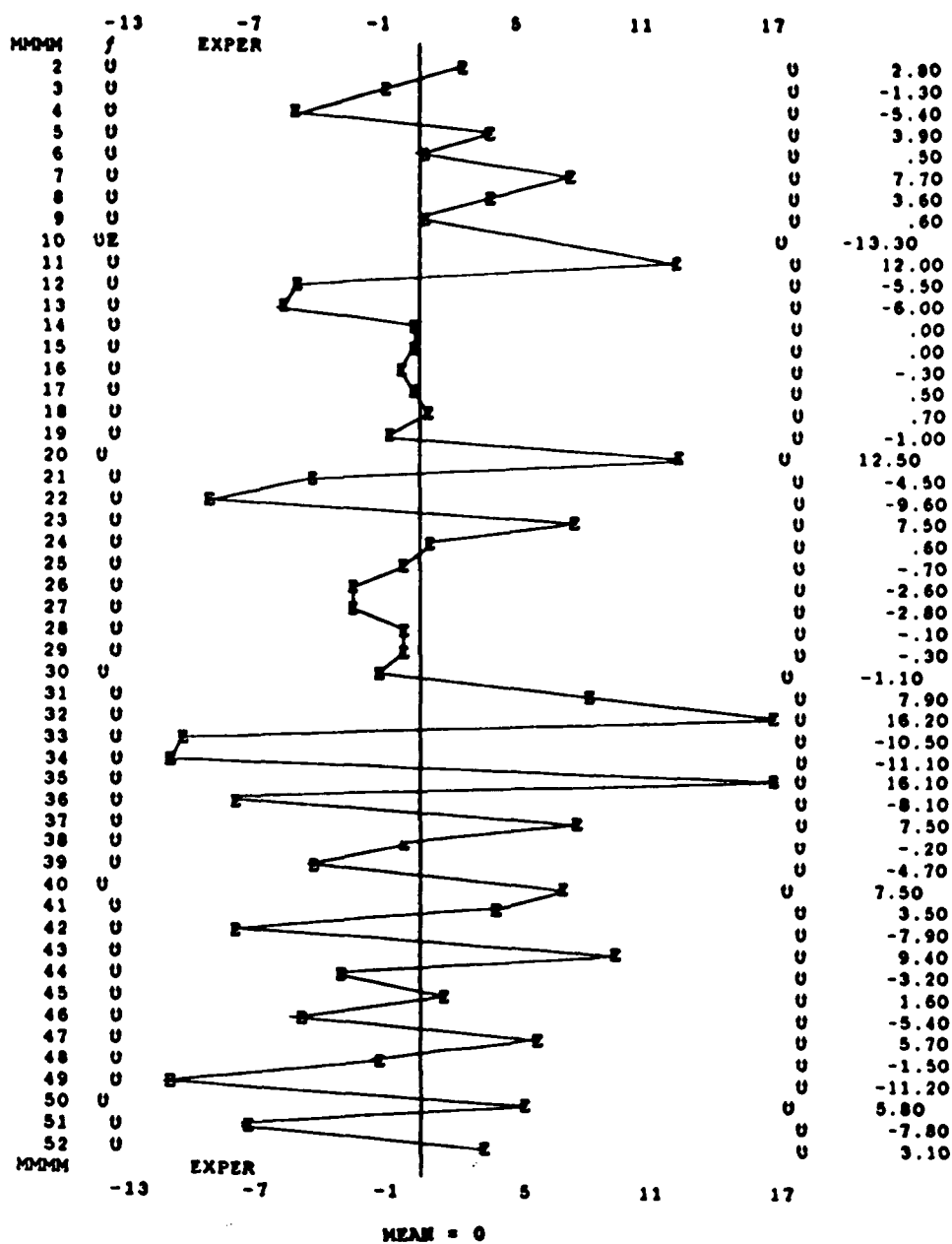
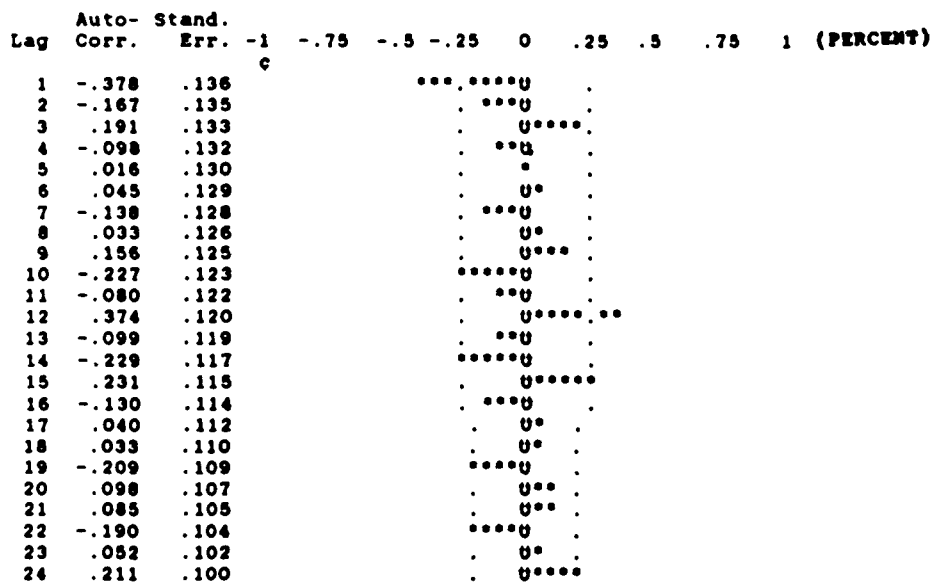


FIGURE 9.1C ACF/PACF AVG CASE PROC TIME

Autocorrelations: EXPER

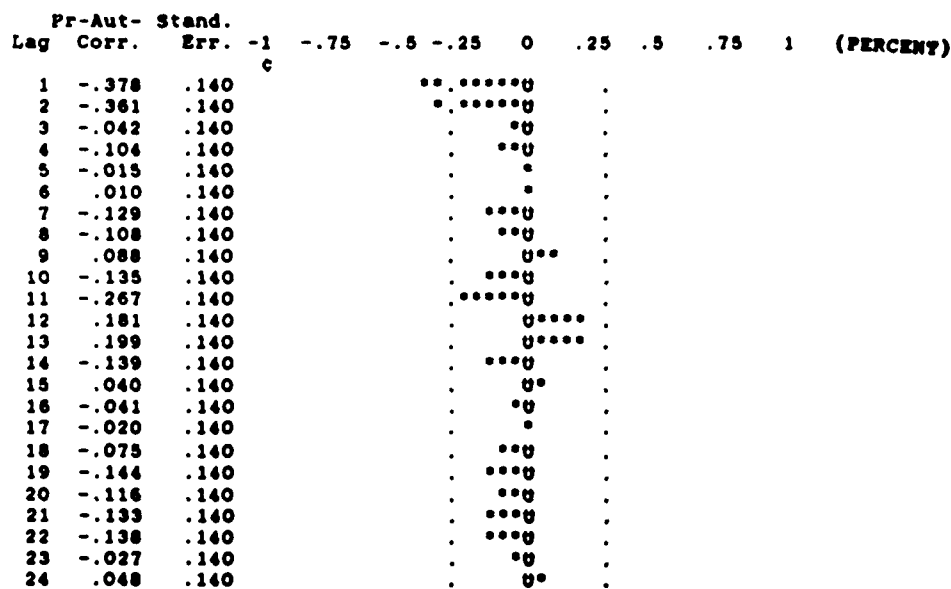
Transformations: difference (1)



Plot Symbols: Autocorrelations * Two Standard Error Limits .

Partial Autocorrelations: EXPER

Transformations: difference (1)



Plot Symbols: Autocorrelations * Two Standard Error Limits .

FIGURE 9.1D RESIDUALS/AVG. CASE PROC. TIME

Autocorrelations: ERR#1

Lag	Auto- Corr.	Stand. Err.	-1	-.75	-.5	-.25	0	.25	.5	.75	1	Box-Ljung	Prob.
1	-.001	.136					.	.				.000	.993
2	-.040	.135					..	.				.068	.957
3	.061	.133					..	.				.296	.961
4	-.090	.132					..	.				.757	.944
5	.044	.130					..	.				.869	.972
6	.004	.129					..	.				.870	.990
7	-.087	.128					..	.				1.335	.987
8	.037	.126					..	.				1.420	.994
9	.048	.125					..	.				1.570	.997
10	-.123	.123					..	.				2.572	.990
11	-.061	.122					..	.				2.827	.993
12	.060	.120					..	.				3.073	.995
13	-.017	.119					..	.				3.094	.998
14	-.171	.117					..	.				5.225	.982
15	.133	.115					..	.				6.559	.969
16	-.051	.114					..	.				6.761	.978
17	-.047	.112					..	.				6.934	.984
18	-.113	.110					..	.				7.972	.979
19	-.209	.109					..	.				11.670	.899
20	-.034	.107					..	.				11.772	.924
21	.010	.105					..	.				11.781	.943
22	-.103	.104					..	.				12.773	.939
23	.093	.102					..	.				13.617	.937
24	.172	.100					..	.				16.567	.867

Plot Symbols: Autocorrelations * Two Standard Error Limits .

BOX LJUNG = 11.781 DF = 21

Variables in the Model:

	B	SEB	T-RATIO	APPROX. PROB.
MA1	.54183431	.12592640	4.3027858	.00008264
SMA1	-.37934389	.18436829	-2.0575330	.04508914
CONSTANT	.12826858	.47584466	.2695598	.78865427

FIGURE 9.1E RESIDUALS/ SERIES 1-72/AVG. CASE PROC. TIME

Lag	Auto- Corr.	Stand. Err.	-1	-.75	-.5	-.25	0	.25	.5	.75	1	Box-Ljung	Prob.
1	.035	.116					u					.089	.766
2	-.082	.116					u					.591	.744
3	.019	.116					u					.619	.892
4	-.030	.114					u					.691	.952
5	.021	.113					u					.724	.982
6	-.102	.112					u					1.558	.956
7	-.101	.111					u					2.390	.935
8	-.000	.110					u					2.390	.967
9	.033	.109					u					2.481	.981
10	-.167	.108					u					4.864	.900
11	-.063	.108					u					5.211	.921
12	.077	.107					u					5.730	.929
13	-.022	.106					u					5.773	.954
14	-.034	.105					u					5.879	.969
15	.163	.104					u					8.337	.910
16	-.033	.103					u					8.441	.935
17	-.021	.102					u					8.482	.955
18	-.109	.101					u					9.649	.943
19	-.044	.100					u					9.844	.957
20	.001	.099					u					9.844	.971
21	-.069	.098					u					10.336	.974
22	-.065	.097					u					10.787	.978
23	.132	.096					u					12.680	.959
24	.231	.095					u					18.566	.775

Plot Symbols: Autocorrelations * Two Standard Error Limits .

BOX LJUNG = 9.844 DF = 20

Variables in the Model:

	B	SEB	T-RATIO	APPROX. PROB.
MA1	.5216552	.1039832	5.0167255	.00000414
SMA1	-.3789028	.1234760	-3.0686350	.00310247
STEP	-1.1453106	4.2373636	-.2702885	.78776902
CONSTANT	.0815491	.4033444	.2021823	.84038693

The ARIMA model for this series is $(0,1,1)(0,0,1)12$. The model is based on the ACF and PACF presented in Figure 9.1C. The errors of the residuals from this model are presented in Figure 9.1D. The errors indicate the acceptance of this model as the residuals are not statistically different than zero. The statistical results of this model are presented as follows:

$$\theta_1 = .541 \text{ with a t statistic } 4.30$$

$$\theta_{12} = -.379 \text{ with a t statistic } -2.05$$

Where each coefficient is significant and thus the model accepted. The intervention component of this variable was not statistically significant. The coefficient of the step variable equals -1.14 but a t statistic of -.270 is not statistically significant. Therefore, there is no significant difference between the pre and post intervention periods.

The model for this series is written as:

$$(1-B) \frac{z_t}{2_t} = (1-\theta_1 B)(1-\theta_{12} B^{12}) a_t$$

A case plot for the control group of the case processing time at the pre-indictment level is presented in Figure 9.2A. An examination of this case plot shows that case processing time did not vary much over the study period.

The caseplot of this series months 1-52 appears in Figure 9.2B. Mostly, in this group of counties the case processing time ranged between 20 and 40 months with a few uncharacteristic spikes (at month 47 and month 60, for example).

The ACF/PACF of this series indicate an ARIMA model $(1,0,0)(0,0,1)_{12}$. The statistical results of this model are presented as follows:

$$\phi_1 = .380 \text{ with a t statistic } 3.44$$

$$\theta_{1,1} = -.360 \text{ with a t statistic } -2.22$$

Where each coefficient is significant and thus the model accepted. The coefficient of the intervention variable equals 2.78 but a t statistic of .794 is not statistically significant. Therefore, there is no significant difference between the pre and post intervention periods.

The model for this series is written as:

$$(1 - \phi_1 B)(1 - \theta_{1,1} B^{12}) \hat{z}_t = a_t$$

FIGURE 9.2A AVG CASE PROC TIME/PRE-INDICTMENT/MOS./CONTROL

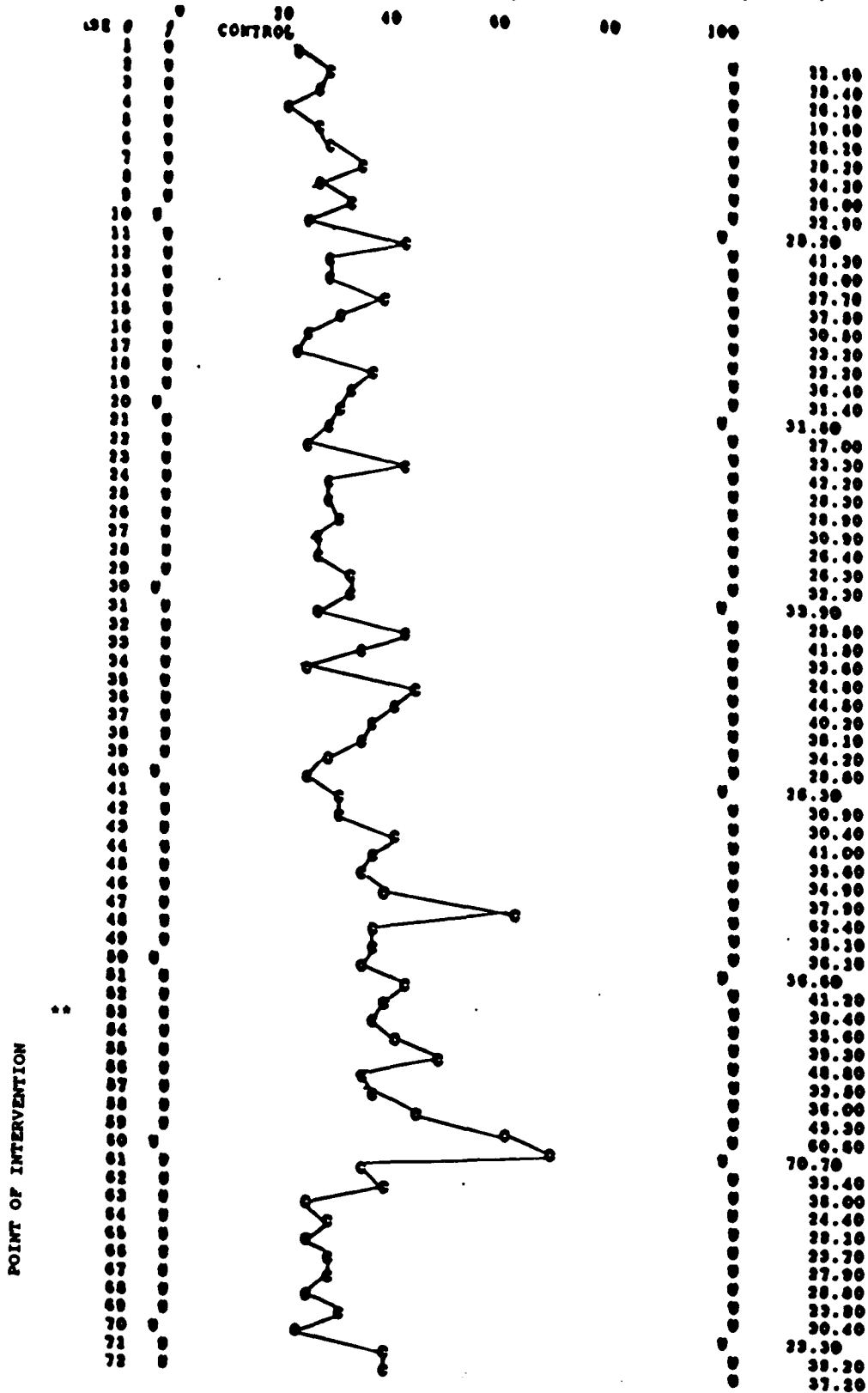
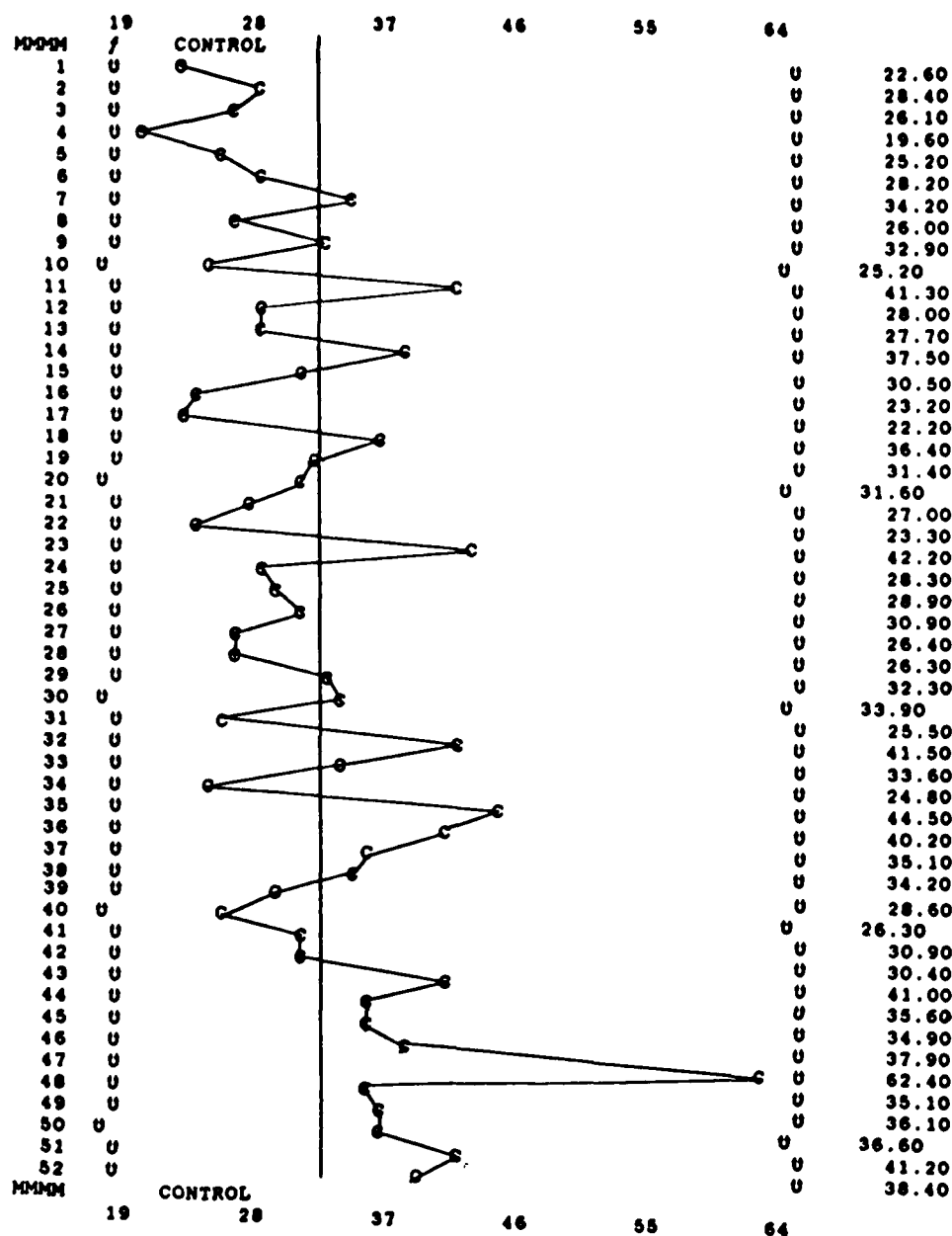


FIGURE 9.2B AVG CASE PROC TIME/PRE-INDCT./SERIES 1-52/CONT.



MEAN = 32

FIGURE 9.2C ACF/PACF AVG CASE PROC TIME/CONTROL GROUP

Autocorrelations: CONTROL

Lag	Auto- Corr.	Stand. Err.	-1	-.75	-.5	-.25	0	.25	.5	.75	1	(PERCENT)
1	.385	.115					U	U	U	U	U	
2	.249	.115					U	U	U	U	U	
3	.190	.114					U	U	U	U	U	
4	.179	.113					U	U	U	U	U	
5	.131	.112					U	U	U	U	U	
6	.019	.111					U	U	U	U	U	
7	.045	.110					U	U	U	U	U	
8	.028	.110					U	U	U	U	U	
9	.081	.109					U	U	U	U	U	
10	-.071	.108					U	U	U	U	U	
11	.107	.107					U	U	U	U	U	
12	.334	.106					U	U	U	U	U	
13	.162	.105					U	U	U	U	U	
14	.061	.104					U	U	U	U	U	
15	.059	.103					U	U	U	U	U	
16	-.032	.103					U	U	U	U	U	
17	.020	.102					U	U	U	U	U	
18	-.056	.101					U	U	U	U	U	
19	-.117	.100					U	U	U	U	U	
20	-.119	.099					U	U	U	U	U	
21	-.064	.098					U	U	U	U	U	
22	-.033	.097					U	U	U	U	U	
23	.029	.096					U	U	U	U	U	
24	.161	.095					U	U	U	U	U	

Plot Symbols: Autocorrelations * Two Standard Error Limits .

Partial Autocorrelations: CONTROL

Lag	Pr-Aut- Corr.	Stand. Err.	-1	-.75	-.5	-.25	0	.25	.5	.75	1	(PERCENT)
1	.385	.118					U	U	U	U	U	
2	.119	.118					U	U	U	U	U	
3	.071	.118					U	U	U	U	U	
4	.078	.118					U	U	U	U	U	
5	.018	.118					U	U	U	U	U	
6	-.087	.118					U	U	U	U	U	
7	.031	.118					U	U	U	U	U	
8	-.005	.118					U	U	U	U	U	
9	.075	.118					U	U	U	U	U	
10	-.144	.118					U	U	U	U	U	
11	.191	.118					U	U	U	U	U	
12	.327	.118					U	U	U	U	U	
13	-.095	.118					U	U	U	U	U	
14	-.109	.118					U	U	U	U	U	
15	.018	.118					U	U	U	U	U	
16	-.196	.118					U	U	U	U	U	
17	.048	.118					U	U	U	U	U	
18	-.020	.118					U	U	U	U	U	
19	-.088	.118					U	U	U	U	U	
20	-.072	.118					U	U	U	U	U	
21	.049	.118					U	U	U	U	U	
22	.158	.118					U	U	U	U	U	
23	.029	.118					U	U	U	U	U	
24	.025	.118					U	U	U	U	U	

Plot Symbols: Autocorrelations * Two Standard Error Limits .

FIGURE 9.2D RESIDUALS/AVG CASE PROC TIME

Autocorrelations: ERR#1

Lag	Auto-Corr.	Stand. Err.	-1	-.75	-.5	-.25	0	.25	.5	.75	1	Box-Ljung	Prob.
1	-.071	.118					•	•				.378	.539
2	.144	.118					•	•				1.951	.377
3	.022	.114					•	•				1.988	.575
4	.133	.113					•	•				3.371	.498
5	.074	.112					•	•				3.811	.577
6	-.036	.111					•	•				3.914	.688
7	.052	.110					•	•				4.134	.764
8	-.024	.110					•	•				4.180	.841
9	.150	.109					•	•				6.078	.732
10	-.211	.108					•	•				9.917	.448
11	.050	.107					•	•				10.132	.519
12	.060	.106					•	•				10.456	.576
13	.048	.105					•	•				10.667	.639
14	-.011	.104					•	•				10.678	.711
15	.044	.103					•	•				10.857	.763
16	-.122	.103					•	•				12.269	.725
17	.053	.102					•	•				12.538	.767
18	-.035	.101					•	•				12.661	.811
19	-.067	.100					•	•				13.115	.833
20	-.102	.099					•	•				14.181	.821
21	-.044	.098					•	•				14.387	.852
22	.011	.097					•	•				14.400	.887
23	-.013	.096					•	•				14.418	.914
24	.134	.095					•	•				16.398	.873

Plot Symbols: Autocorrelations • Two Standard Error Limits .

BOX LJUNG = 14.387 DF = 21

Variables in the Model:

	B	SEB	T-RATIO	APPROX. PROB.
AR1	.380894	.1106888	3.441131	.00098783
SMA1	-.304336	.1370040	-2.221368	.02960990
CONSTANT	32.635757	1.9065746	17.117483	.00000000

FIGURE 9.2E RESIDUALS/SERIES 1-72/AVG CASE PROC TIME

Autocorrelations: ERR#1

Lag	Auto- Corr.	Stand. Err.	-1	-.75	-.5	-.25	0	.25	.5	.75	1	Box-Ljung	Prob.
1	-.071	.115					0					.378	.539
2	.144	.115					0					1.951	.377
3	.022	.114					0					1.988	.575
4	.133	.113					0					3.371	.498
5	.074	.112					0					3.811	.577
6	-.036	.111					0					3.914	.688
7	.052	.110					0					4.134	.764
8	-.024	.110					0					4.180	.841
9	.150	.109					0					6.078	.732
10	-.211	.108					0					9.917	.448
11	.050	.107					0					10.132	.519
12	.060	.106					0					10.456	.576
13	.048	.105					0					10.667	.639
14	-.011	.104					0					10.678	.711
15	.044	.103					0					10.857	.763
16	-.122	.103					0					12.269	.725
17	.053	.102					0					12.538	.767
18	-.035	.101					0					12.661	.811
19	-.067	.100					0					13.115	.833
20	-.102	.099					0					14.181	.821
21	-.044	.098					0					14.387	.852
22	.011	.097					0					14.400	.887
23	-.013	.096					0					14.418	.914
24	.134	.095					0					16.398	.873

Plot Symbols: Autocorrelations * Two Standard Error Limits .

BOX LJUNG = 14.181 DF = 20

Variables in the Model:

	B	SEB	T-RATIO	APPROX. PROB.
AR1	.363882	.1137454	3.199092	.00209483
SMA1	-.302881	.1435070	-2.110566	.03849051
STEP	2.785762	3.5085020	.794003	.42995590
CONSTANT	31.821216	2.1334570	14.915331	.00000000

The post-indictment case processing time is calculated in the same manner as the pre-indictment case processing time. Figure 9.3A is a realization of the time series for the experimental group and represents case processing time by months. The data is generally reported to be at around an average of 45 months with a few outlying data points throughout the series. These outlying data points indicate seasonal patterns each August. The case processing times tend to nearly double in August. The differenced series appears in Figure 9.3B. The ACF and PACF of the series is presented in Figure 9.3C and they indicate an ARIMA model $(2,1,0)(1,0,0)12$. Or, $(1-\phi_1 B - \phi_2 B^2)(1-\phi_{12} B^{12})\hat{z}_t = a_t$

The errors of the series are presented in Figure 9.3D. Thus, this model is initially accepted. An analysis of the coefficients of the model allow for its acceptance. The data is listed below:

$$\begin{aligned}\phi_1 &= -.420 \text{ with a } t \text{ statistic } -4.06 \\ \phi_2 &= -.539 \text{ with a } t \text{ statistic } -5.01 \\ \phi_{12} &= .858 \text{ with a } t \text{ statistic } 12.79\end{aligned}$$

Thus this model is complete for the pre-intervention analysis. The intervention component has a coefficient of -9.59 and a t statistic of -1.60 but is not statistically significant so the intervention variable does not impact on this series. The residuals of the modeled series appear in Figure 9.3E and they indicate that there is no statistical significance.

FIGURE 9.3B AVG CASE PROC TIME/DIFFERENCED SERIES

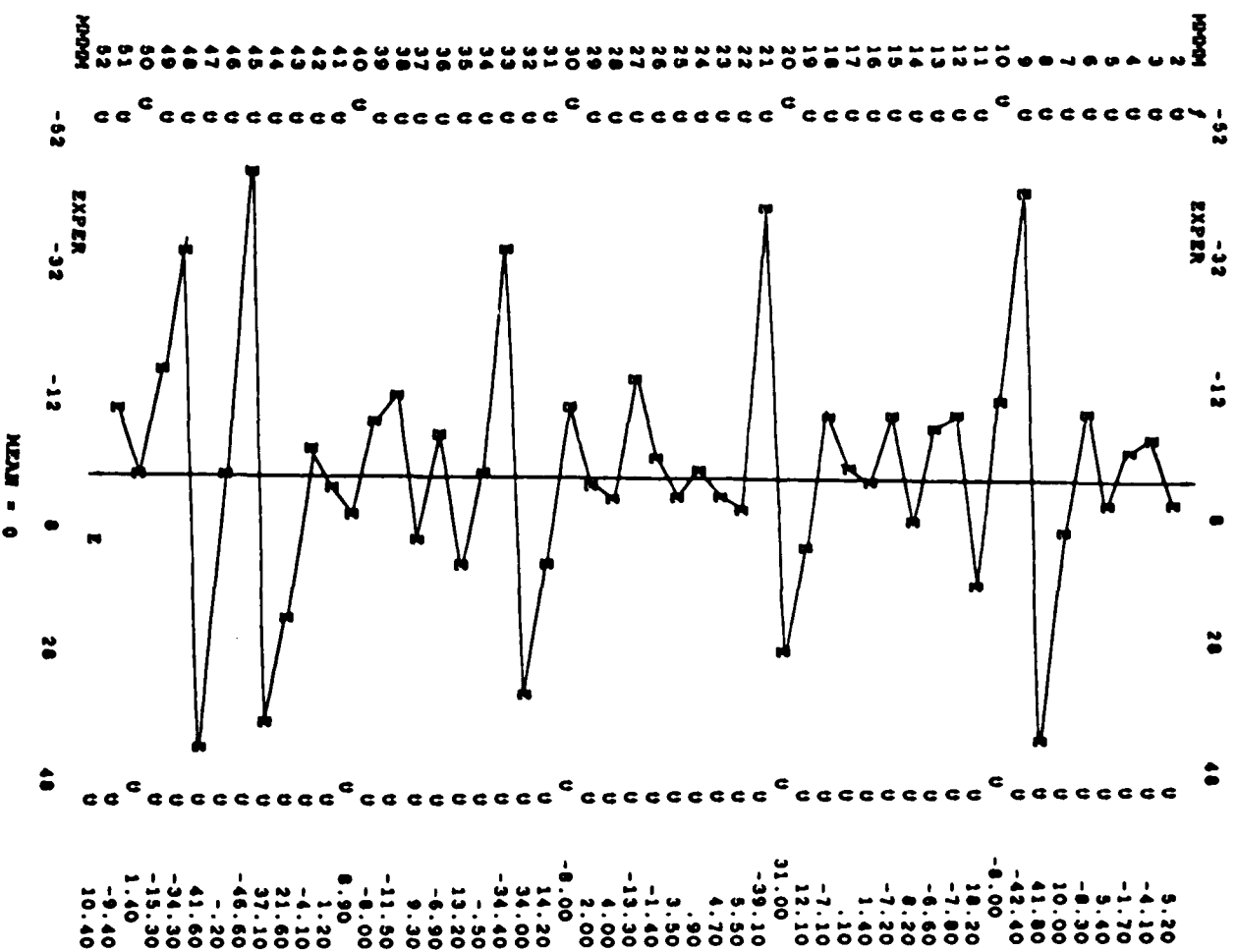
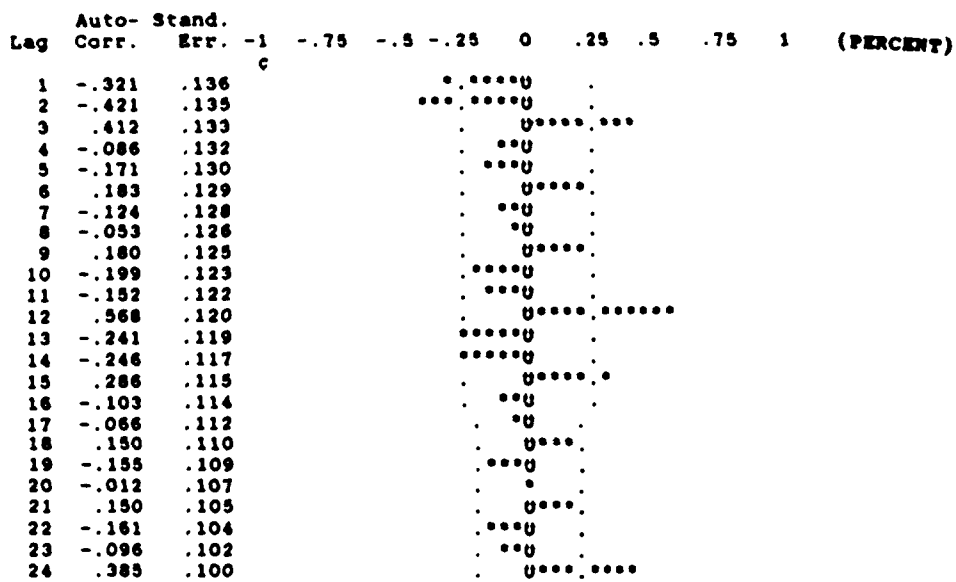


FIGURE 9.3C ACF/PACF AVG CASE PROC TIME

Autocorrelations: EXPER

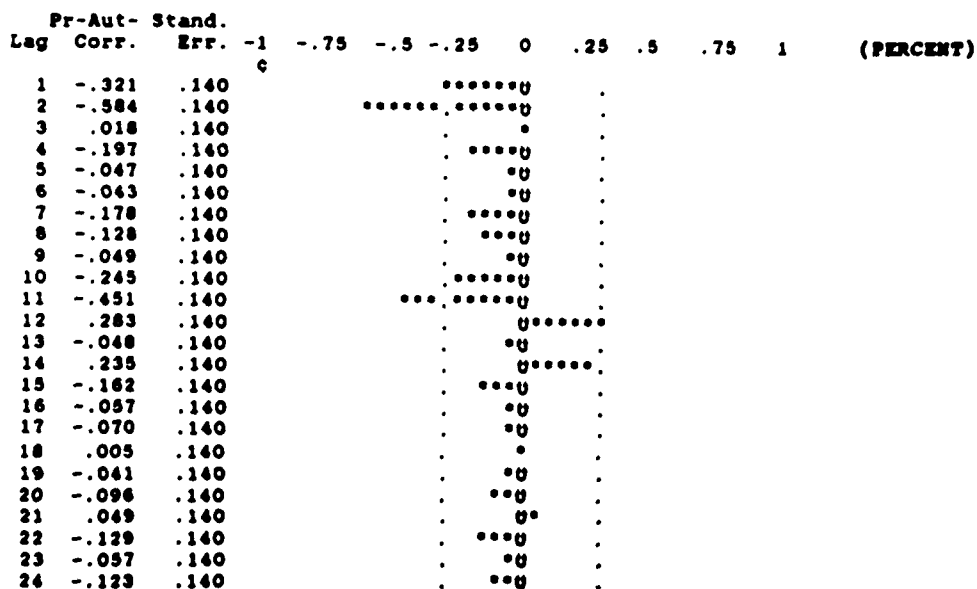
Transformations: difference (1)



Plot Symbols: Autocorrelations * Two Standard Error Limits .

Partial Autocorrelations: EXPER

Transformations: difference (1)



Plot Symbols: Autocorrelations * Two Standard Error Limits .

FIGURE 9.3D RESIDUALS/AVG CASE PROCESSING TIME/EXP GP.

Autocorrelations: ERR#1

Lag	Auto- Corr.	Stand. Err.	-1	-.75	-.5	-.25	0	.25	.5	.75	1	Box-Ljung	Prob.
1	-.038	.136					.00					.183	.669
2	-.103	.136					.00					.771	.680
3	.004	.133					.00					.772	.856
4	-.112	.132					.00					1.493	.828
5	-.078	.130					.00					1.849	.870
6	-.003	.129					.00					1.850	.933
7	-.121	.128					.00					2.745	.908
8	.034	.126					.00					2.818	.945
9	-.072	.125					.00					3.149	.958
10	.063	.123					.00					3.408	.970
11	.059	.122					.00					3.644	.979
12	.026	.120					.00					3.691	.988
13	-.068	.119					.00					4.018	.991
14	.001	.117					.00					4.018	.995
15	-.042	.115					.00					4.152	.997
16	-.045	.114					.00					4.311	.998
17	.071	.112					.00					4.706	.998
18	-.010	.110					.00					4.714	.999
19	-.041	.109					.00					4.858	1.000
20	-.062	.107					.00					5.194	1.000
21	-.002	.105					.00					5.194	1.000
22	.050	.104					.00					5.427	1.000
23	.041	.102					.00					5.590	1.000
24	-.043	.100					.00					5.775	1.000

Plot Symbols: Autocorrelations * Two Standard Error Limits .

BOX LJUNG = 5.194 DF = 20

Variables in the Model:

	B	SEB	T-RATIO	APPROX. PROB.
AR1	-.42073983	.1034456	-4.067255	.00018038
AR2	-.53956566	.1074931	-5.019536	.00000792
SAR1	.85864518	.0671091	12.794775	.00000000
CONSTANT	.25287108	2.1386289	.118240	.90638179

FIGURE 9.3E THE RESIDUALS/ SERIES 1-72/ POST IND. PROS.

Autocorrelations: ERR#1

Lag	Auto- Corr.	Stand. Err.	-1	-.75	-.5	-.25	0	.25	.5	.75	1	Box-Ljung	Prob.
1	-.034	.116	c				.00					.086	.769
2	-.083	.119					.00					.598	.741
3	-.014	.118					.00					.613	.893
4	-.062	.114					.00					.910	.923
5	-.015	.113					.00					.928	.968
6	-.050	.112					.00					1.126	.980
7	-.120	.111					.00					2.287	.942
8	-.066	.110					.00					2.643	.955
9	-.004	.109					.00					2.644	.977
10	.056	.108					.00					2.910	.983
11	-.071	.108					.00					3.345	.985
12	-.042	.107					.00					3.503	.991
13	-.038	.106					.00					3.634	.994
14	-.026	.105					.00					3.696	.997
15	.019	.104					.00					3.729	.998
16	-.032	.103					.00					3.825	.999
17	.102	.102					.00					4.814	.998
18	.050	.101					.00					5.056	.999
19	.015	.100					.00					5.078	.999
20	.059	.099					.00					5.431	.999
21	-.031	.098					.00					5.531	1.000
22	.035	.097					.00					5.661	1.000
23	.049	.096					.00					5.924	1.000
24	-.081	.095					.00					6.643	1.000

Plot Symbols: Autocorrelations * Two Standard Error Limits .

BOX LJUNG = 5.078 DF = 19

Variables in the Model:

	B	SEB	T-RATIO	APPROX. PROB.
AR1	-.4434358	.0983309	-4.509629	.00002741
AR2	-.5143495	.1012173	-5.081636	.00000332
SAR1	.7413954	.0689769	10.748456	.00000000
STEP	-9.5949325	5.9798913	-1.604533	.11337149
CONSTANT	.0239481	1.5112995	.015846	.98740512

The realization for the post-indictment case processing time series for the control group appears in Figure 9.4A. Notice that very little variation exists in this series. The pre-intervention series (months 1-52) appears in Figure 9.4B. Except for a few outlying data points, the data remain rather consistent over time. The ACF and PACF for this series appear in Figure 9.4C. The patterns of the ACF and PACF indicate that this series is an ARIMA model $(1,0,0)(1,0,0)_{12}$.

The model can be written as:

$$(1-\phi_1 B)(1-\phi_{12} B^{12}) \hat{z}_t = a_t$$

Diagnosis of the pre-intervention series indicate that this model can be accepted. The coefficients are as follows:

$$\phi_1 = .270 \text{ with } t \text{ statistic } 2.12$$

$$\phi_{12} = .699 \text{ with } t \text{ statistic } 7.61$$

The coefficients are significant and the model can be accepted as the residuals in Figure 9.4D indicate that they are white noise.

The intervention variable has a coefficient of 3.97 and a t statistic of .775 and is not statistically significant. Thus, the intervention did not have a significant impact on the series.

FIGURE 9.4A AVG CASE PROC TIME/POST-INDICTMENT/MOS./CONTROL

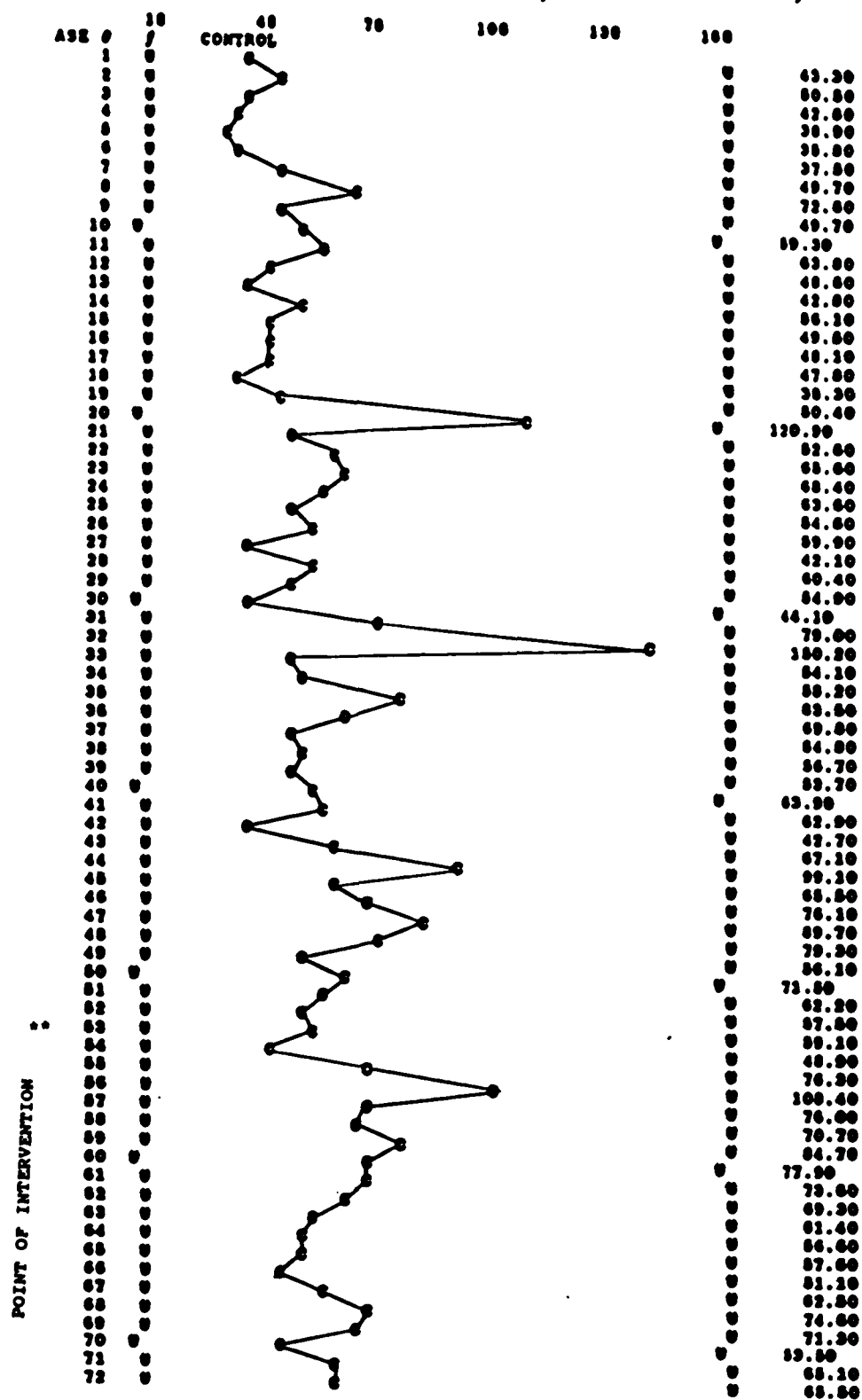


FIGURE 9.4B AVG CASE PROC TIME/ SERIES 1-52/CONTROL

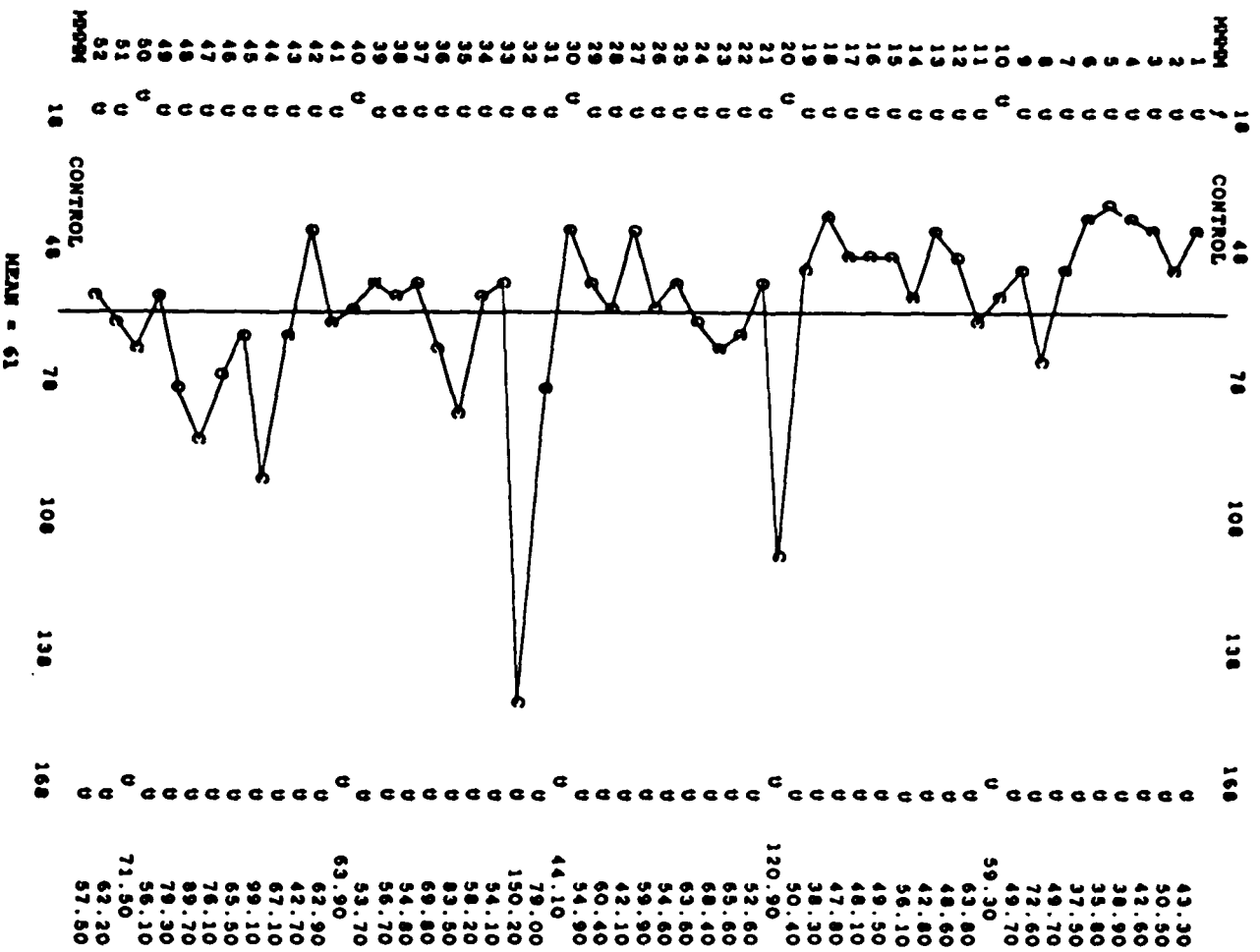
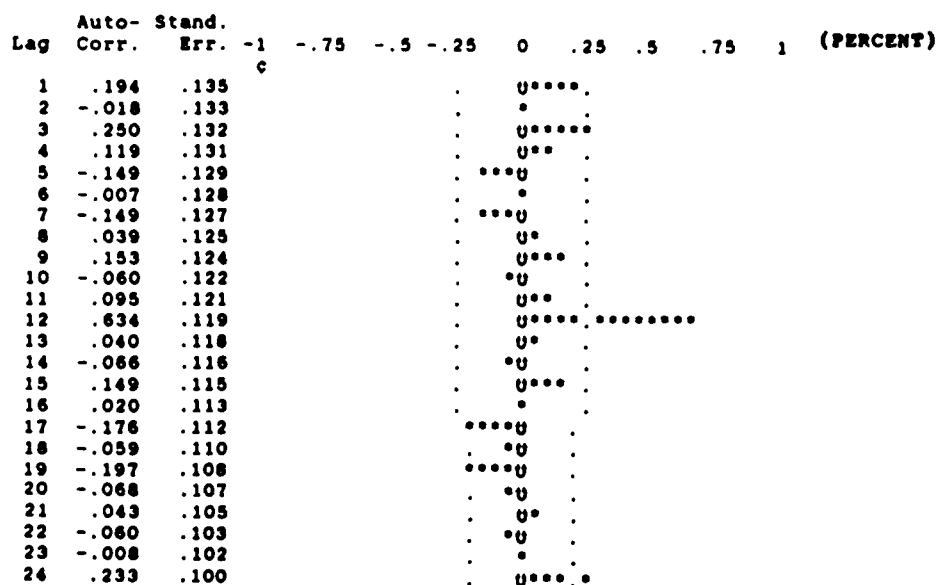


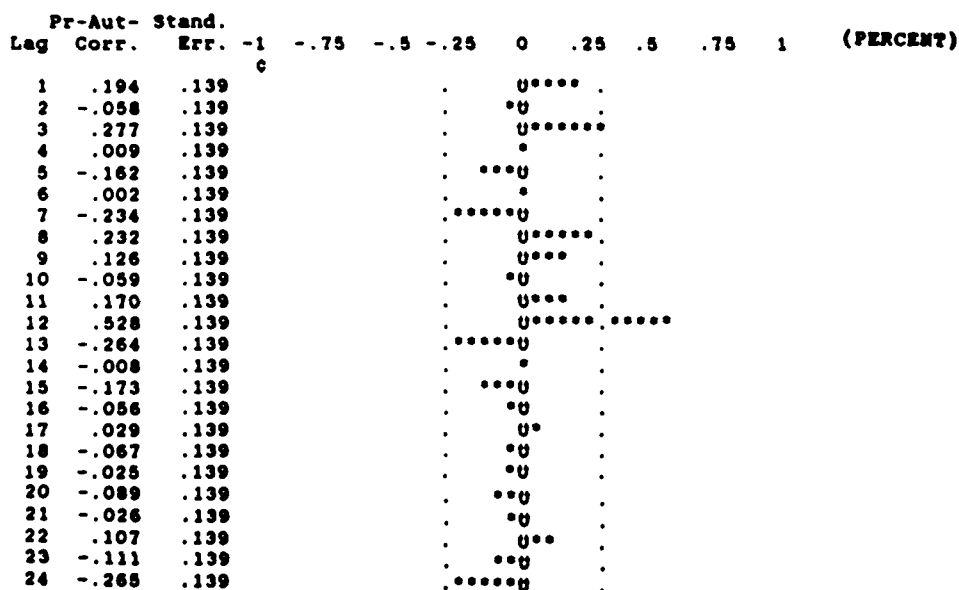
FIGURE 9.4C ACF/PACF AVG CASE PROC TIME

Autocorrelations: CONTROL



Plot Symbols: Autocorrelations * Two Standard Error Limits .

Partial Autocorrelations: CONTROL



Plot Symbols: Autocorrelations * Two Standard Error Limits .

FIGURE 9.4D RESIDUALS/AVG CASE PROCESSING TIME/CONTROL

Autocorrelations: ERR#1

Lag	Auto- Corr.	Stand. Err.	-1	-.75	-.5	-.25	0	.25	.5	.75	1	Box-Ljung	Prob.
1	.030	.135					U*					.050	.822
2	-.055	.133					U					.222	.895
3	.165	.132					U***					1.786	.618
4	.144	.131					U***					2.991	.559
5	-.042	.129					U					3.096	.685
6	.049	.128					U*					3.245	.778
7	-.064	.127					U					3.503	.835
8	.073	.125					U*					3.843	.871
9	.078	.124					U**					4.239	.895
10	-.037	.122					U					4.331	.931
11	.021	.121					U					4.362	.958
12	.202	.119					U****					7.236	.842
13	-.163	.118					***U					9.158	.761
14	-.080	.116					**U					9.634	.788
15	.138	.115					U***					11.079	.747
16	-.030	.113					U					11.149	.800
17	-.070	.112					U					11.538	.827
18	-.013	.110					U					11.551	.870
19	-.139	.108					***U					13.190	.829
20	-.066	.107					U					13.568	.852
21	.034	.105					U*					13.673	.883
22	-.062	.103					U					14.039	.900
23	-.051	.102					U					14.288	.918
24	-.058	.100					U					14.627	.931

Plot Symbols: Autocorrelations * Two Standard Error Limits .

BOX LJUNG = 13.673 DF = 21

Variables in the Model:

	B	SEB	T-RATIO	APPROX. PROB.
ARI	.270429	.1272464	2.125235	.03863408
SAR1	.699314	.0918502	7.613639	.00000000
CONSTANT	59.925697	5.9315234	10.102918	.00000000

FIGURE 9.4E RESIDUALS/SERIES 1-72/AVG CASE PROCESSING TIME

Autocorrelations: ERR#1

Lag	Auto- Corr.	Stand. Err.	-1	-.75	-.5	-.25	0	.25	.5	.75	1	Box-Ljung	Prob.
1	.021	.115					.					.032	.859
2	-.047	.115					°U					.198	.906
3	.146	.114					U***					1.836	.607
4	.143	.113					U***					3.442	.487
5	-.005	.112					.					3.443	.632
6	.069	.111					U*					3.826	.700
7	-.091	.110					°U					4.501	.721
8	.072	.110					U*					4.930	.765
9	.078	.109					U**					5.447	.794
10	-.008	.108					.					5.452	.859
11	.004	.107					.					5.454	.907
12	.116	.106					U**					6.641	.880
13	-.174	.105					°U					9.369	.745
14	-.077	.104					°U					9.919	.768
15	.128	.103					U***					11.461	.719
16	-.009	.103					.					11.469	.780
17	-.114	.102					°U					12.724	.754
18	-.019	.101					.					12.758	.806
19	-.122	.100					°U					14.243	.769
20	-.049	.099					U*					14.491	.805
21	.036	.098					U*					14.625	.841
22	-.103	.097					°U					15.747	.828
23	-.056	.096					U*					16.093	.851
24	.051	.095					U*					16.383	.874

Plot Symbols: Autocorrelations * Two Standard Error Limits .

BOX LJUNG = 14.491 DF = 20

Variables in the Model:

	B	SEB	T-RATIO	APPROX. PROB.
AR1	.306179	.1093861	2.799067	.00666317
SAR1	.694999	.0744931	9.329711	.00000000
STEP	3.970987	5.1203796	.775526	.44071797
CONSTANT	58.497942	5.5072758	10.621938	.00000000

In conclusion, the drug court program did not have significant impact on case processing time. No difference was realized between the pre and post intervention periods at the pre-indictment level of processing or at the post-indictment level. However, in addition to these findings, it should be noted that case processing times nearly double in some instances in the month of August.

CHAPTER X

PROGRAM INTEGRITY

The analysis of the drug court's integrity was conducted to insure that cases were not terminated, transferred or downgraded for the sake of backlog reduction. The central question in this chapter is whether or not court management sacrificed justice for case processing.

Figure 10.1A displays the case plot of the number of cases dismissed at the pre-indictment level by the experimental group. The number of dismissed cases within the group begins at 243 in January of 1985 and slowly trends upward to a high of 506. The pre-intervention series is displayed in Figure 10.2B. The ACF and PACF of this series are presented in Figure 10.1C and the Errors of Residuals in Figure 10.1D. Based on the patterns of the ACF and PACF an ARIMA model for this series is indicated as (1,0,0). Or, written as: $(1-\phi, B) \hat{z}_t = a_t$

The AR 1 coefficient is .337 with a t statistic of 2.98 which is significant and we can initially accept the model. The residuals displayed in Figure 10.1D indicate that the errors are not significantly different than zero, so the model can be accepted.

The intervention coefficient is 41.24 with a t statistic of 1.75 is not statistically significant. Therefore the drug court program had no impact on pre-indictment dismissals.

FIGURE 10.1A PRE-INDICTMENT DISMISSALS/EXPERIMENTAL GROUP

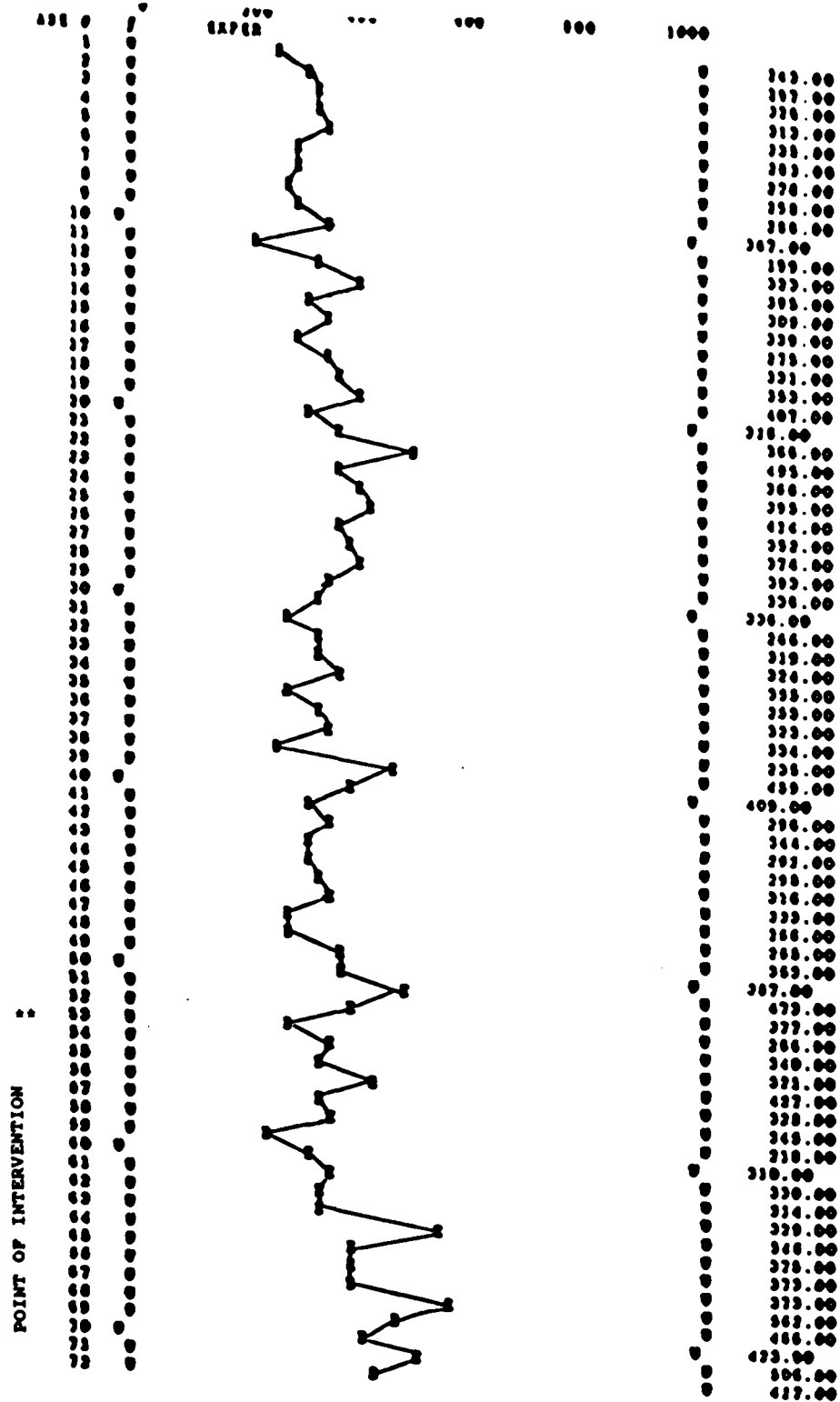


FIGURE 10.1B PRE-INDICTMENT DISMISSALS/SERIES 1-52.

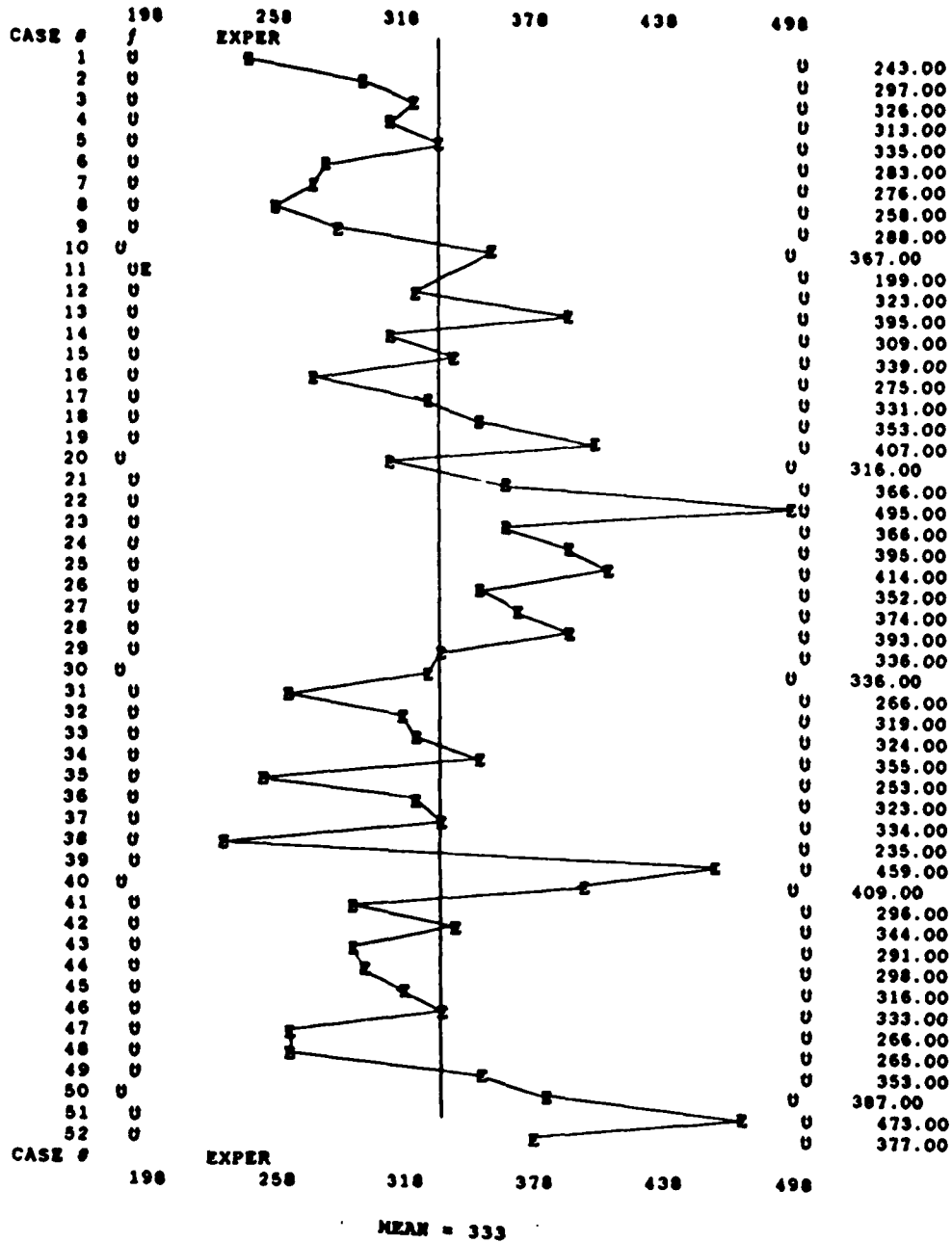


FIGURE 10.1C ACF/PACF PRE-INDICTMENT DISMISSALS

Autocorrelations: EXPER

Lag	Auto- Corr.	Stand. Err.	-1	-.75	-.5	-.25	0	.25	.5	.75	1	(PERCENT)
			c									
1	.232	.135					0	0	0	0	0	
2	.091	.133					0	0	0	0	0	
3	.238	.132					0	0	0	0	0	
4	-.023	.131					0	0	0	0	0	
5	.123	.129					0	0	0	0	0	
6	.084	.128					0	0	0	0	0	
7	-.030	.127					0	0	0	0	0	
8	-.198	.125					0	0	0	0	0	
9	.000	.124					0	0	0	0	0	
10	.009	.122					0	0	0	0	0	
11	-.090	.121					0	0	0	0	0	
12	.115	.119					0	0	0	0	0	
13	-.214	.118					0	0	0	0	0	
14	-.156	.116					0	0	0	0	0	
15	.008	.115					0	0	0	0	0	
16	-.263	.113					0	0	0	0	0	
17	-.031	.112					0	0	0	0	0	
18	-.077	.110					0	0	0	0	0	
19	-.199	.108					0	0	0	0	0	
20	-.136	.107					0	0	0	0	0	
21	-.141	.105					0	0	0	0	0	
22	-.090	.103					0	0	0	0	0	
23	-.093	.102					0	0	0	0	0	
24	.042	.100					0	0	0	0	0	

Plot Symbols: Autocorrelations * Two Standard Error Limits .

Partial Autocorrelations: EXPER

Lag	Pr-Aut- Corr.	Stand. Err.	-1	-.75	-.5	-.25	0	.25	.5	.75	1	(PERCENT)
			c									
1	.232	.139					0	0	0	0	0	
2	.040	.139					0	0	0	0	0	
3	.221	.139					0	0	0	0	0	
4	-.138	.139					0	0	0	0	0	
5	.159	.139					0	0	0	0	0	
6	-.036	.139					0	0	0	0	0	
7	-.006	.139					0	0	0	0	0	
8	-.299	.139					0	0	0	0	0	
9	.171	.139					0	0	0	0	0	
10	-.053	.139					0	0	0	0	0	
11	.043	.139					0	0	0	0	0	
12	.050	.139					0	0	0	0	0	
13	-.224	.139					0	0	0	0	0	
14	-.014	.139					0	0	0	0	0	
15	-.040	.139					0	0	0	0	0	
16	-.217	.139					0	0	0	0	0	
17	.121	.139					0	0	0	0	0	
18	-.093	.139					0	0	0	0	0	
19	-.042	.139					0	0	0	0	0	
20	-.107	.139					0	0	0	0	0	
21	-.126	.139					0	0	0	0	0	
22	-.026	.139					0	0	0	0	0	
23	.007	.139					0	0	0	0	0	
24	-.020	.139					0	0	0	0	0	

Plot Symbols: Autocorrelations * Two Standard Error Limits .

FIGURE 10.1D RESIDUALS/PRE-INDICTMENT DISMISSALS

Autocorrelations: ERR#1

Lag	Auto- Corr.	Stand. Err.	-1	-.75	-.5	-.25	0	.25	.5	.75	1	Box-Ljung	Prob.
1	-.018	.135					.	.				.017	.896
2	-.010	.133					.	.				.022	.989
3	.252	.132					U.....					3.653	.301
4	-.115	.131					..U					4.425	.352
5	.119	.129					..U..					5.268	.384
6	.066	.128					..U					5.533	.477
7	-.008	.127					..U					5.535	.595
8	-.215	.125					U					8.474	.389
9	.046	.124					..U					8.615	.474
10	.030	.122					..U					8.674	.563
11	-.131	.121					U					9.853	.544
12	.202	.119					..U.....					12.713	.390
13	-.226	.118					U					16.404	.228
14	-.113	.116					..U					17.348	.238
15	.109	.115					..U..					18.254	.250
16	-.289	.113					U					24.772	.074
17	.052	.112					..U					24.991	.095
18	-.034	.110					..U					25.085	.123
19	-.167	.108					U					27.452	.095
20	-.067	.107					..U					27.842	.113
21	-.101	.105					..U..					28.762	.120
22	-.046	.103					..U					28.958	.146
23	-.091	.102					..U					29.768	.156
24	.089	.100					..U..					30.568	.167

Plot Symbols: Autocorrelations * Two Standard Error Limits .

BOX LJUNG = 28.958 DF = 22

Variables in the Model:

	B	SEB	T-RATIO	APPROX. PROB.
AR1	.33794	.113061	2.989055	.00385811
CONSTANT	345.68044	12.009144	28.784770	.00000000

FIGURE 10.1E RESIDUALS/SERIES 1-72/PRE-IND. DISMISSALS

Autocorrelations: KKK#1

Lag	Auto- Corr.	Stand. Err.	-1	-.75	-.5	-.25	0	.25	.5	.75	1	Box-Ljung	Prob.
1	-.018	.118					.	.				.024	.877
2	.018	.118					.	.				.040	.980
3	.131	.114					0***	.				1.367	.713
4	.060	.113					0*	.				1.651	.800
5	.040	.112					0*	.				1.779	.879
6	.075	.111					0**	.				2.239	.896
7	.016	.110					.	.				2.260	.944
8	-.152	.110					***0	.				4.185	.840
9	-.132	.109					***0	.				5.650	.774
10	-.009	.108					.	.				5.656	.843
11	-.210	.107					***0	.				9.517	.574
12	.150	.106					0***	.				11.507	.486
13	-.111	.105					***0	.				12.622	.477
14	-.100	.104					***0	.				13.546	.484
15	.070	.103					0*	.				14.010	.525
16	-.199	.103					***0	.				17.765	.338
17	.098	.102					0**	.				18.701	.346
18	.010	.101					.	.				18.711	.410
19	-.063	.100					0*	.				19.115	.449
20	-.069	.099					0*	.				19.597	.483
21	-.087	.098					0**	.				20.380	.497
22	.041	.097					0*	.				20.557	.548
23	-.140	.096					***0	.				22.700	.478
24	.100	.095					0**	.				23.813	.472

Plot Symbols: Autocorrelations * Two Standard Error Limits .

BOX LJUNG = 19.597 DF = 21

Variables in the Model:

	B	SEB	T-RATIO	APPROX. PROB.
AR1	.26613	.115844	2.297311	.02463955
STEP	41.24653	23.509507	1.754462	.08379114
CONSTANT	334.19540	12.589964	26.544587	.00000000

The case plot for the control group of the pre-indictment cases dismissed appears in Figure 10.2A. The number of cases dismissed in this group begin at 307 in 1985 and slowly increase to a high of 771 during the 62nd month of the series. Figure 10.2B displays the pre-intervention series(1-52). The ACF and PACF of this series are displayed in Figure 10.2C. The pattern initially indicates that this series is white noise. The ARIMA model will then be (0,0,0).

Or, written as: $\hat{z}_t = a_t$

The RESIDUALS, displayed in Figure 10.2D, indicate further that this series is white noise. The errors are not significantly different than zero.

The intervention variable has a coefficient of 100.43 with a t statistic of 5.74 which is statistically significant. However, this group of counties did not receive the intervention and the program counties did not produce any significant change at month number 53. Moreover, an examination of the entire series shows no pronounced visual activity at the intervention month.

FIGURE 10.2A PRE-INDICTMENT DOWNGRADES/CONTROL GROUP

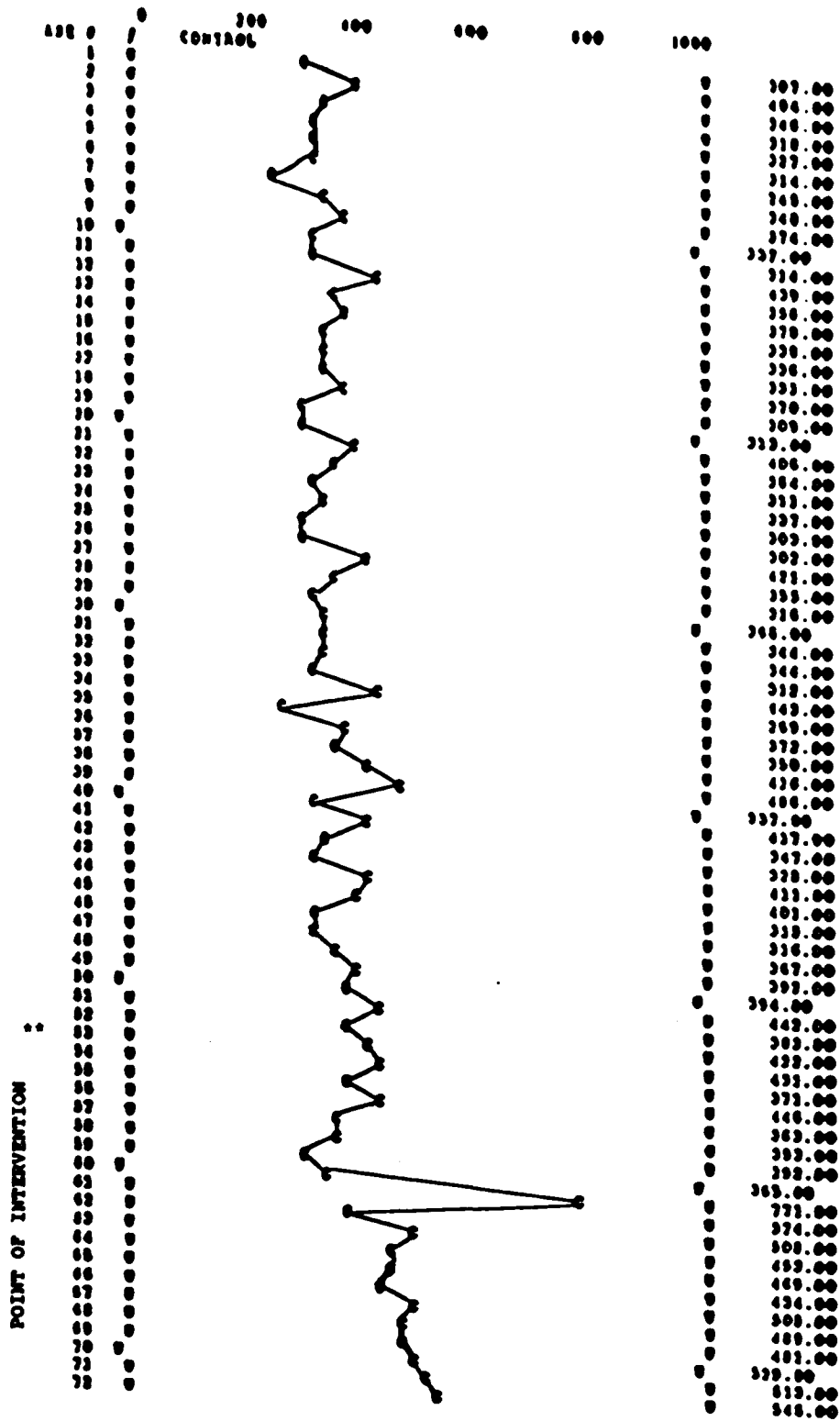


FIGURE 10.2B PRE-INDICTMENT DOWNGRADES/ SERIES 1-52.

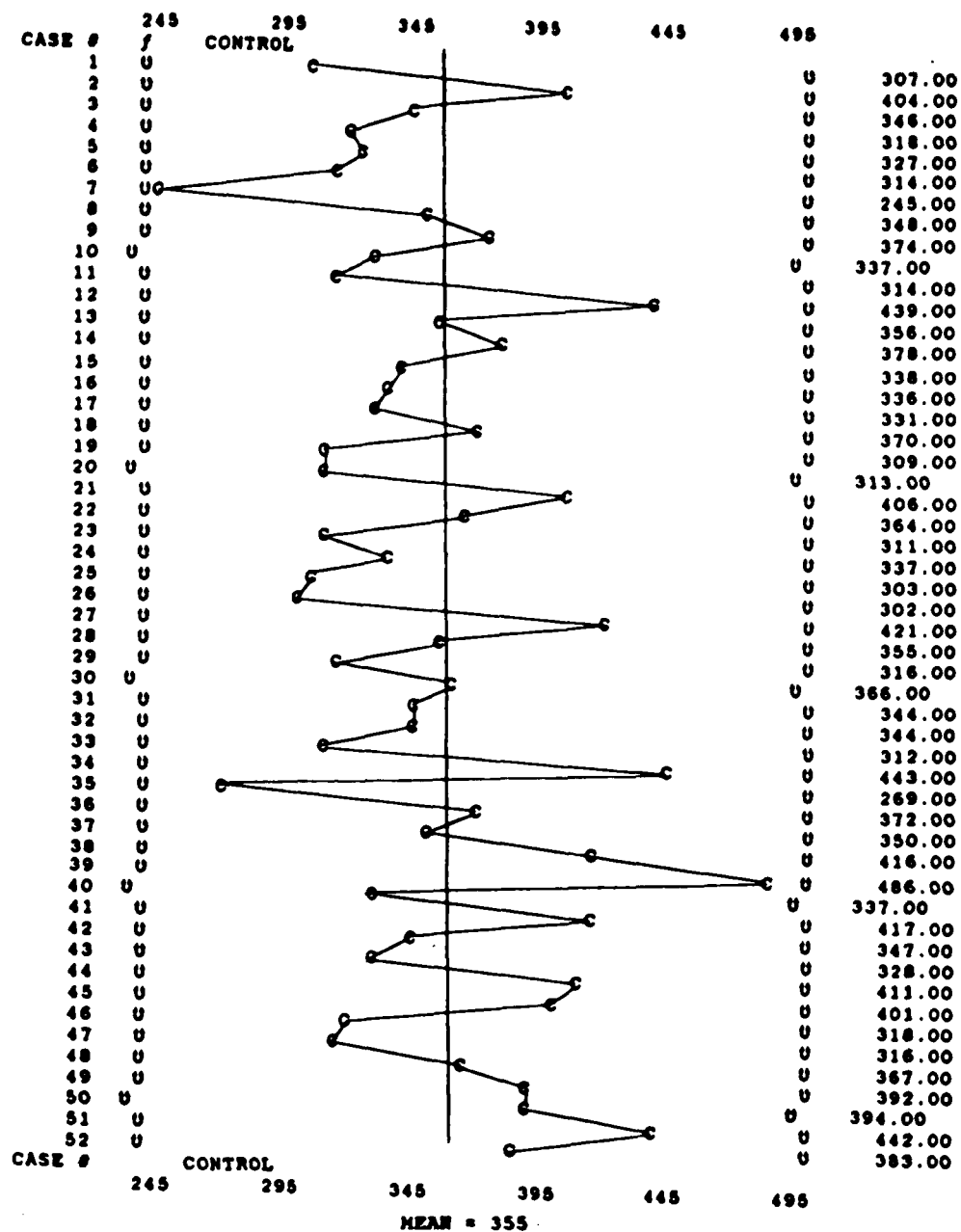


FIGURE 10.2C ACF/PACF PRE-INDICTMENT DOWNGRADES

Autocorrelations: CONTROL

Lag	Auto- Corr.	Stand. Err.	-1	-.75	-.5	-.25	0	.25	.5	.75	1	(PERCENT)
1	.011	.135					.	.				
2	.020	.133					.	.				
3	.106	.132					.	.				
4	-.036	.131					.	.				
5	-.032	.129					.	.				
6	.120	.128					.	.				
7	.090	.127					.	.				
8	-.204	.125					.	.				
9	.058	.124					.	.				
10	.151	.122					.	.				
11	.019	.121					.	.				
12	.212	.119					.	.				
13	.030	.118					.	.				
14	-.094	.116					.	.				
15	-.007	.115					.	.				
16	-.054	.113					.	.				
17	.038	.112					.	.				
18	.130	.110					.	.				
19	-.054	.108					.	.				
20	-.079	.107					.	.				
21	-.066	.105					.	.				
22	.061	.103					.	.				
23	-.084	.102					.	.				
24	.051	.100					.	.				

Plot Symbols: Autocorrelations * Two Standard Error Limits .

Partial Autocorrelations: CONTROL

Lag	Pr-Aut- Corr.	Stand. Err.	-1	-.75	-.5	-.25	0	.25	.5	.75	1	(PERCENT)
1	.011	.139					.	.				
2	.020	.139					.	.				
3	.106	.139					.	.				
4	-.039	.139					.	.				
5	-.036	.139					.	.				
6	.112	.139					.	.				
7	.099	.139					.	.				
8	-.213	.139					.	.				
9	.035	.139					.	.				
10	.170	.139					.	.				
11	.068	.139					.	.				
12	.171	.139					.	.				
13	-.041	.139					.	.				
14	-.075	.139					.	.				
15	.005	.139					.	.				
16	-.127	.139					.	.				
17	.051	.139					.	.				
18	.175	.139					.	.				
19	-.099	.139					.	.				
20	-.046	.139					.	.				
21	-.114	.139					.	.				
22	.016	.139					.	.				
23	-.068	.139					.	.				
24	-.036	.139					.	.				

Plot Symbols: Autocorrelations * Two Standard Error Limits .

FIGURE 10.2D RESIDUALS/PRE-INDICTMENT DOWNGRADES

Autocorrelations: ERR#1

Lag	Auto- Corr.	Stand. Err.	-1	-.75	-.5	-.25	0	.25	.5	.75	1	Box-Ljung	Prob.
1	.011	.135					.	.				.006	.937
2	.020	.133					.	.				.029	.986
3	.106	.132					U	.				.679	.878
4	-.036	.131					U	.				.753	.945
5	-.032	.129					U	.				.815	.976
6	.120	.128					U	.				1.690	.946
7	.090	.127					U	.				2.199	.948
8	-.204	.125					U	.				4.849	.774
9	.058	.124					U	.				5.069	.828
10	.181	.122					U	.				6.599	.763
11	.019	.121					U	.				8.623	.829
12	.212	.119					U	.				9.779	.635
13	.030	.118					U	.				9.844	.707
14	-.094	.116					U	.				10.493	.725
15	-.007	.115					U	.				10.497	.787
16	-.054	.113					U	.				10.726	.826
17	.038	.112					U	.				10.839	.865
18	.130	.110					U	.				12.227	.835
19	-.054	.108					U	.				12.470	.865
20	-.079	.107					U	.				13.015	.877
21	-.066	.105					U	.				13.404	.894
22	.061	.103					U	.				13.750	.910
23	-.084	.102					U	.				14.433	.914
24	.051	.100					U	.				14.691	.929

Plot Symbols: Autocorrelations * Two Standard Error Limits .

BOX LJUNG = 14.433 DF = 23

Variables in the Model:

	B	SEB	T-RATIO	APPROX. PROB.
CONSTANT	355.26923	6.5970602	53.852689	.0000000

FIGURE 10.2E RESIDUALS/ SERIES 1-72/PRE-INDICTMENT DOWNGRADES

Autocorrelations: ERR#1

Lag	Auto- Corr.	Stand. Err.	-1	-.75	-.5	-.25	0	.25	.5	.75	1	Box-Ljung	Prob.
1	-.001	.115					.	.				.000	.991
2	.068	.118					U	.				.320	.852
3	.028	.114					U	.				.379	.945
4	-.031	.113					U	.				.456	.978
5	-.010	.112					.	.				.464	.993
6	-.031	.111					U	.				.544	.997
7	.023	.110					.	.				.588	.999
8	-.208	.110					U	.				4.094	.849
9	.035	.109					U	.				4.197	.898
10	.068	.108					U	.				4.589	.917
11	.043	.107					U	.				4.747	.943
12	.034	.106					U	.				4.849	.963
13	-.080	.105					U	.				5.425	.965
14	-.188	.104					U	.				8.665	.852
15	-.128	.103					U	.				10.207	.806
16	-.039	.103					U	.				10.353	.848
17	.007	.102					.	.				10.358	.888
18	-.034	.101					U	.				10.472	.915
19	-.063	.100					U	.				10.875	.928
20	.005	.099					.	.				10.877	.949
21	-.120	.098					U	.				12.386	.929
22	.204	.097					U	.				16.813	.774
23	.007	.096					.	.				16.819	.818
24	.047	.095					U	.				17.067	.846

Plot Symbols: Autocorrelations * Two Standard Error Limits .

BOX LJUNG = 16.813 DF = 22

Variables in the Model:

	B	SEB	T-RATIO	APPROX. PROB.
STEP	100.43077	17.478332	5.746016	.00000022
CONSTANT	355.26923	9.211890	38.566380	.00000000

Next, the post-indictment dismissals in terms of the experimental and control groups are analyzed. Figure 10.3A displays the post-indictment dismissals for the experimental group. The pre-intervention series appears in Figure 10.3B. This series does not show an upward trend but a examination of the pre-intervention series indicates the presence of seasonality. The ACF and PACF of the series as they appear in Figure 10.3C further indicate seasonality. Note the spikes at lag 12. An ARIMA model $(0,0,0)(1,0,0)_{12}$ is indicated. The seasonal AR coefficient is .643 with a t statistic of 5.29 which is significant. The residuals, displayed in Figure 10.3D are white noise thus the model is accepted.

This model can be written as:

$$(1 - \phi_{12}B^{12})\hat{z}_t = a_t$$

The intervention coefficient is 51.76 with a t statistic of 1.66 and is not statistically significant. The errors of the intervention series appear in Figure 10.3E. They are white noise. We conclude that the program did not have an impact on post-indictment dismissals.

FIGURE 10.3A POST-INDICTMENT DISMISSALS/EXPERIMENTAL GROUP

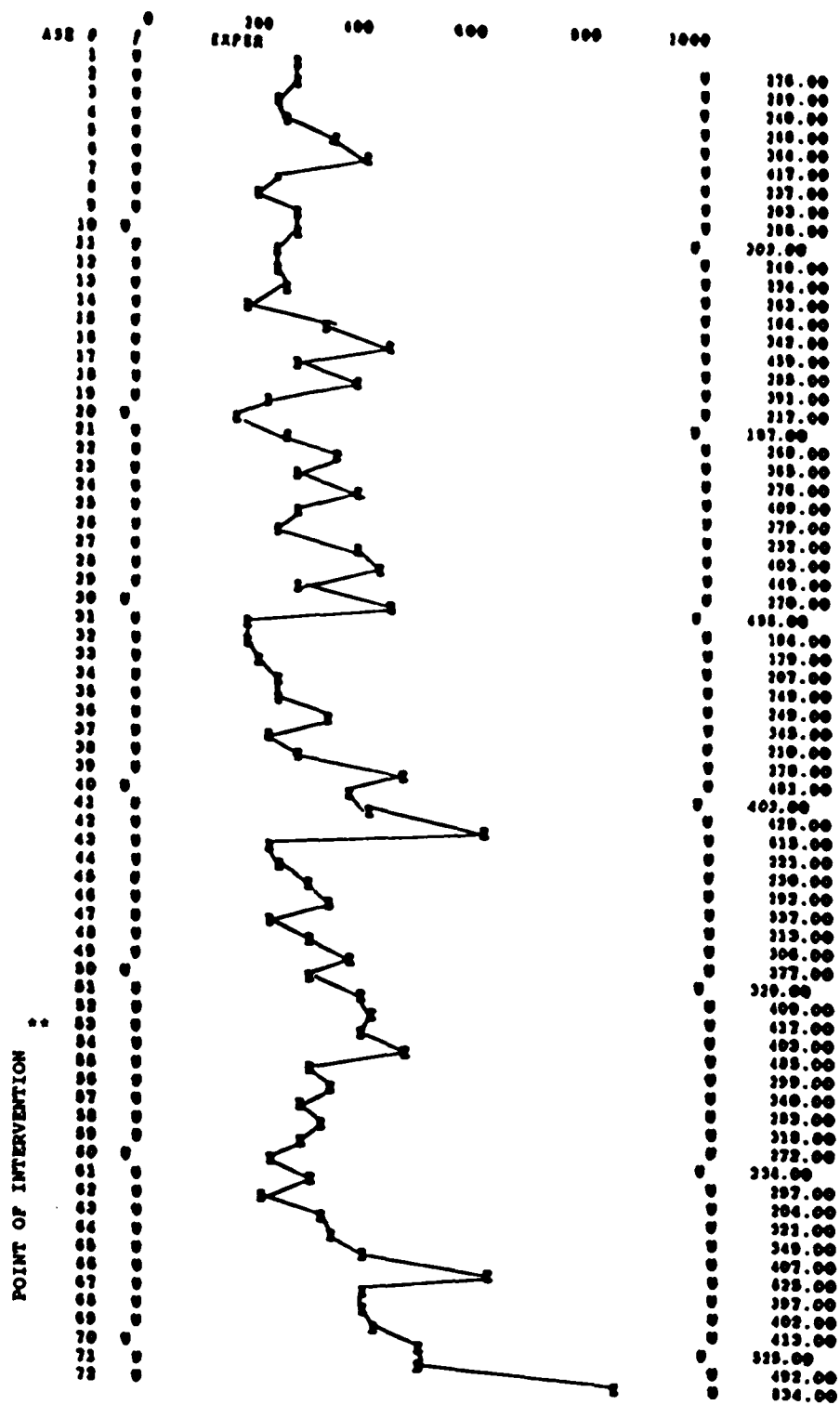


FIGURE 10.3B POST-INDICTMENT DISMISSALS/ SERIES 1-52

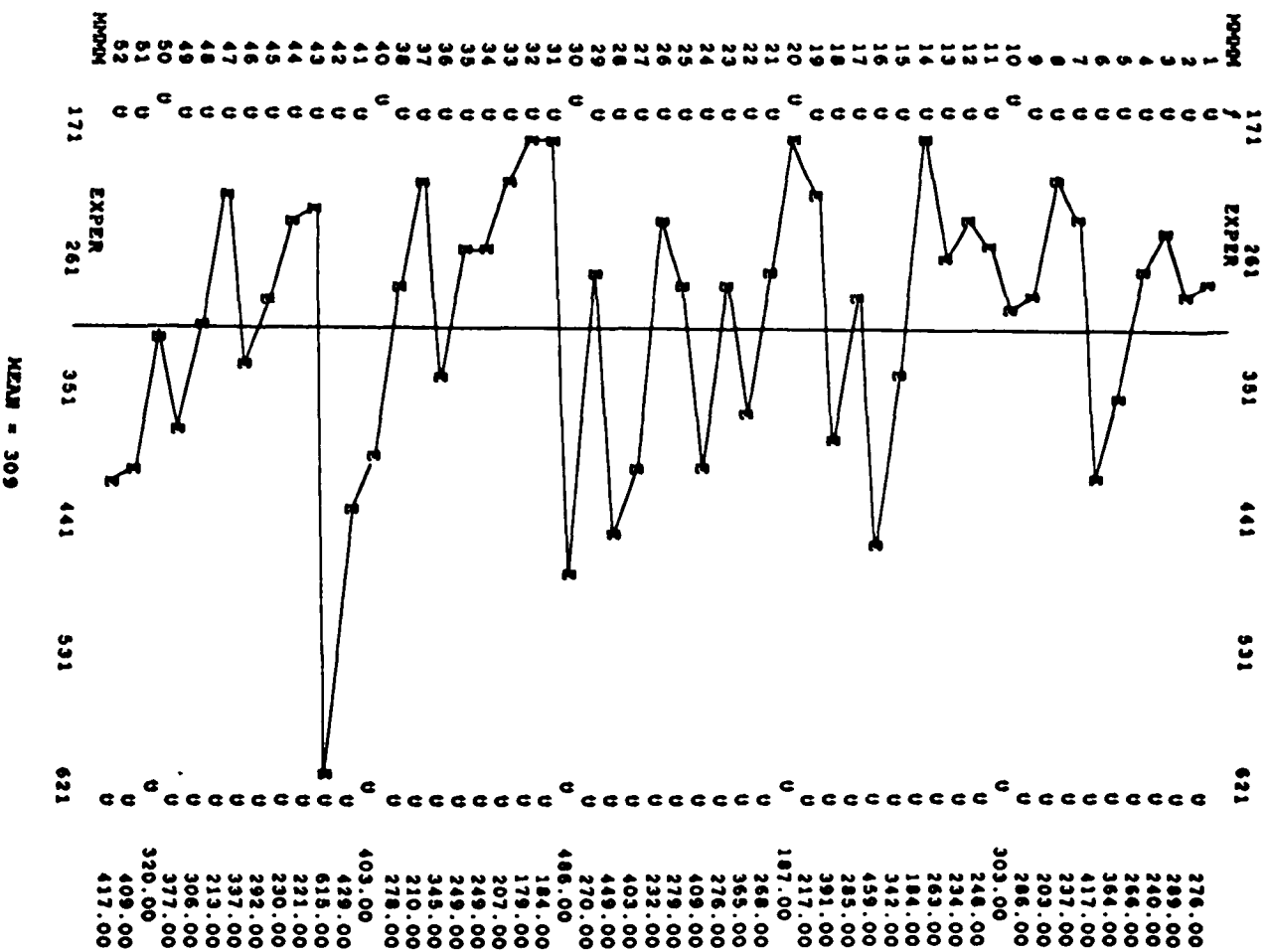
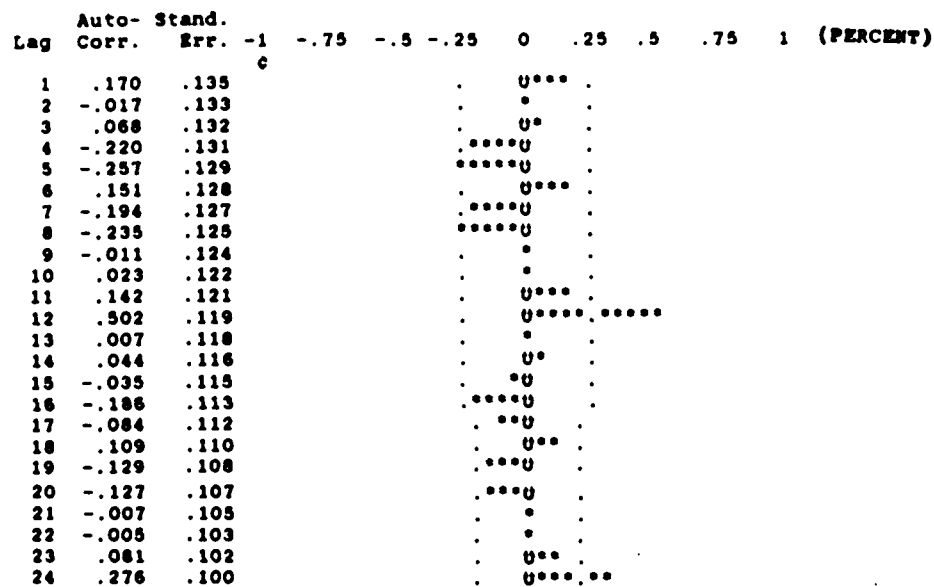


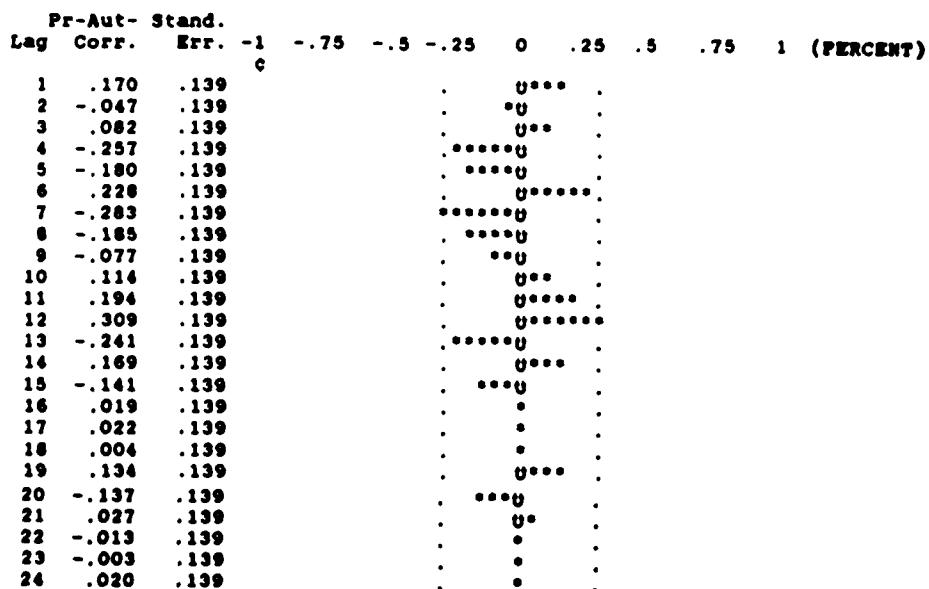
FIGURE 10.3C ACF/PACF POST-INDICTMENT DISMISSALS

Autocorrelations: EXPER



Plot Symbols: Autocorrelations * Two Standard Error Limits .

Partial Autocorrelations: EXPER



Plot Symbols: Autocorrelations * Two Standard Error Limits .

FIGURE 10.3D RESIDUALS/POST-INDICTMENT DISMISSALS

Autocorrelations: ERR#1

Lag	Auto- Corr.	Stand. Err.	-1	-.75	-.5	-.25	0	.25	.5	.75	1	Box-Ljung	Prob.
1	.202	.135					U****					2.242	.134
2	-.035	.133					U					2.312	.315
3	.191	.132					U****					4.405	.221
4	-.026	.131					U					4.444	.349
5	-.167	.129					***U					6.119	.295
6	.036	.128					U					6.199	.401
7	-.108	.127					***U					6.927	.437
8	-.096	.125					***U					7.520	.482
9	-.083	.124					***U					7.972	.537
10	-.042	.122					U					8.088	.620
11	.091	.121					U**					8.657	.653
12	.032	.119					U					8.729	.726
13	-.139	.118					***U					10.121	.684
14	.085	.116					U**					10.653	.713
15	-.001	.115					U					10.653	.777
16	-.102	.113					***U					11.471	.779
17	.028	.112					U					11.523	.828
18	.046	.110					U					11.695	.863
19	.018	.108					U					11.721	.897
20	-.017	.107					U					11.748	.924
21	-.064	.105					U					12.122	.936
22	.035	.103					U					12.237	.952
23	.062	.102					U					12.606	.960
24	.082	.100					U**					13.285	.961

Plot Symbols: Autocorrelations * Two Standard Error Limits .

BOX LJUNG = 12.237 DF = 22

Variables in the Model:

	B	SEB	T-RATIO	APPROX. PROB.
SAR1	.64394	.121671	5.292491	.00000271
CONSTANT	311.25736	21.145364	14.719887	.00000000

FIGURE 10.3E RESIDUALS/ SERIES 1-72/POST-IND. DISSMISSALS

Autocorrelations: ERR#1

Lag	Auto- Corr.	Stand. Err.	-1	-.75	-.5	-.25	0	.25	.5	.75	1	Box-Ljung	Prob.
1	.344	.118					U.....					8.856	.003
2	.212	.115					U.....					12.284	.002
3	.176	.114					U.....					14.668	.002
4	.022	.113					U.....					14.705	.005
5	-.031	.112					U.....					14.780	.011
6	.117	.111					U.....					15.882	.014
7	-.111	.110					U.....					16.885	.018
8	-.212	.110					U.....					20.610	.008
9	-.181	.109					U.....					23.380	.005
10	-.186	.108					U.....					26.344	.003
11	-.097	.107					U.....					27.158	.004
12	-.017	.106					U.....					27.185	.007
13	-.113	.105					U.....					28.337	.008
14	-.012	.104					U.....					28.351	.013
15	-.064	.103					U.....					28.733	.017
16	-.080	.103					U.....					29.345	.022
17	-.025	.102					U.....					29.406	.031
18	-.000	.101					U.....					29.406	.044
19	-.074	.100					U.....					29.960	.052
20	-.027	.099					U.....					30.035	.068
21	-.037	.098					U.....					30.181	.088
22	-.024	.097					U.....					30.244	.113
23	.058	.096					U.....					30.570	.134
24	.148	.095					U.....					32.895	.108

Plot Symbols: Autocorrelations * Two Standard Error Limits .

BOX LJUNG = 30.181 DF = 21

Variables in the Model:

	B	SEB	T-RATIO	APPROX. PROB.
SAR1	.36769	.134038	2.743146	.00774692
STEP	51.76001	30.995183	1.669937	.09946267
CONSTANT	321.09893	20.612240	15.578071	.00000000

Figure 10.4A displays the case plot of the post-indictment dismissals for the control group. An initial examination of this series indicates the need for differencing as the series tends to drift slightly upward. The differenced series (1-52) appears in Figure 10.4B. The ACF and PACF of this differenced series also indicates some seasonality. An ARIMA model (1,1,0) (1,0,0)12 will be the initial model. Or, written as: $(1-\phi_1 B)(1-\phi_{12} B^{12})(1-B)_2^2 = a_t$

The residuals are not significantly different than zero. Additionally, the coefficients of this model are listed below:

$$\phi_1 = -.480 \text{ with a t statistic } -3.94$$

$$\phi_{12} = .617 \text{ with a t statistic } 5.63$$

Both coefficients are significant so the pre-intervention model can be accepted.

The intervention component has a coefficient of -19.0 and a t statistic of -.32 which is not significant. The program, therefore, did not have a significant impact on the control group of this variable.

FIGURE 10.4A POST-INDICTMENT DISMISSALS/CONTROL GROUP

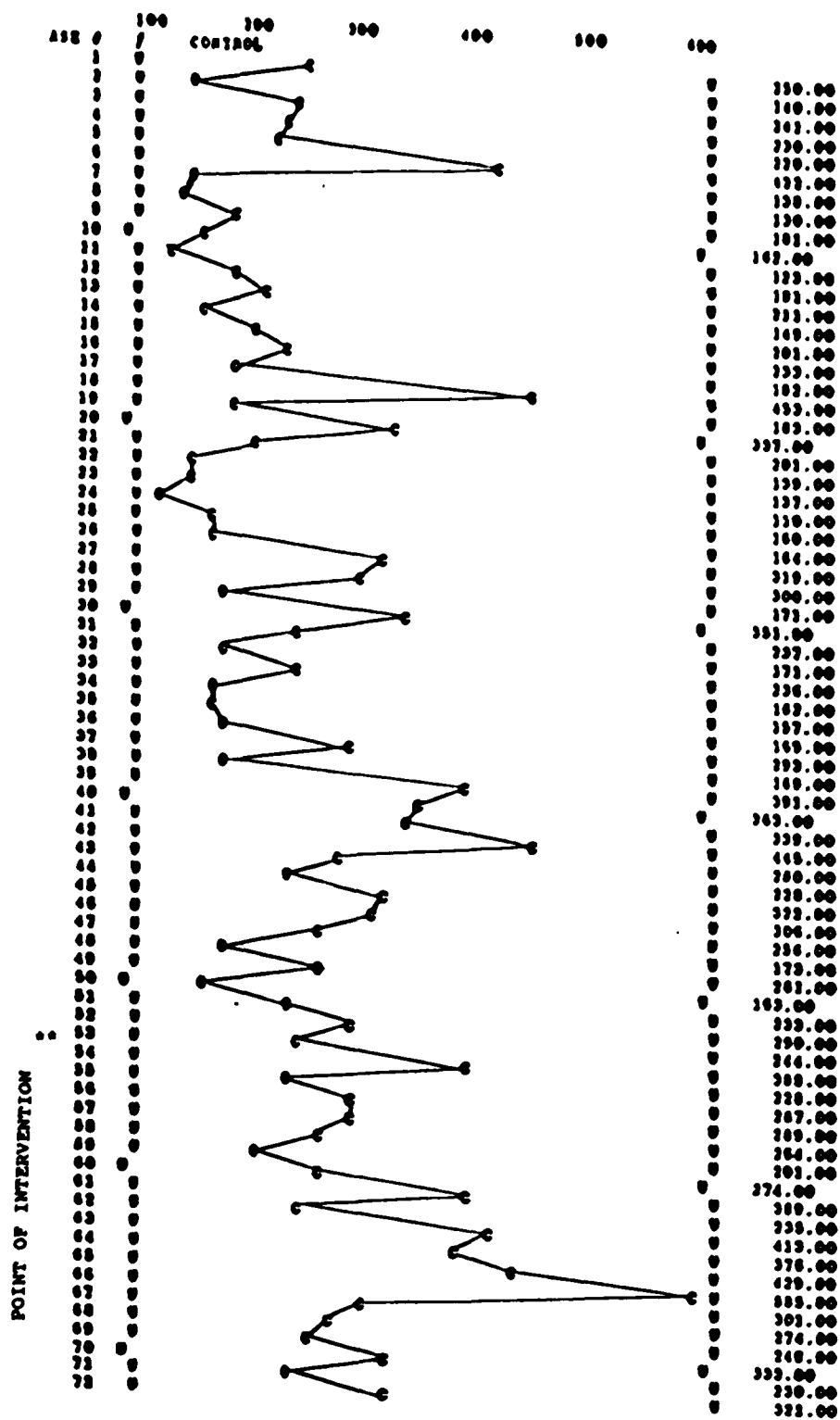


FIGURE 10.4B POST-INDICTMENT DISMISSALS/DIFFERENCED SERIES

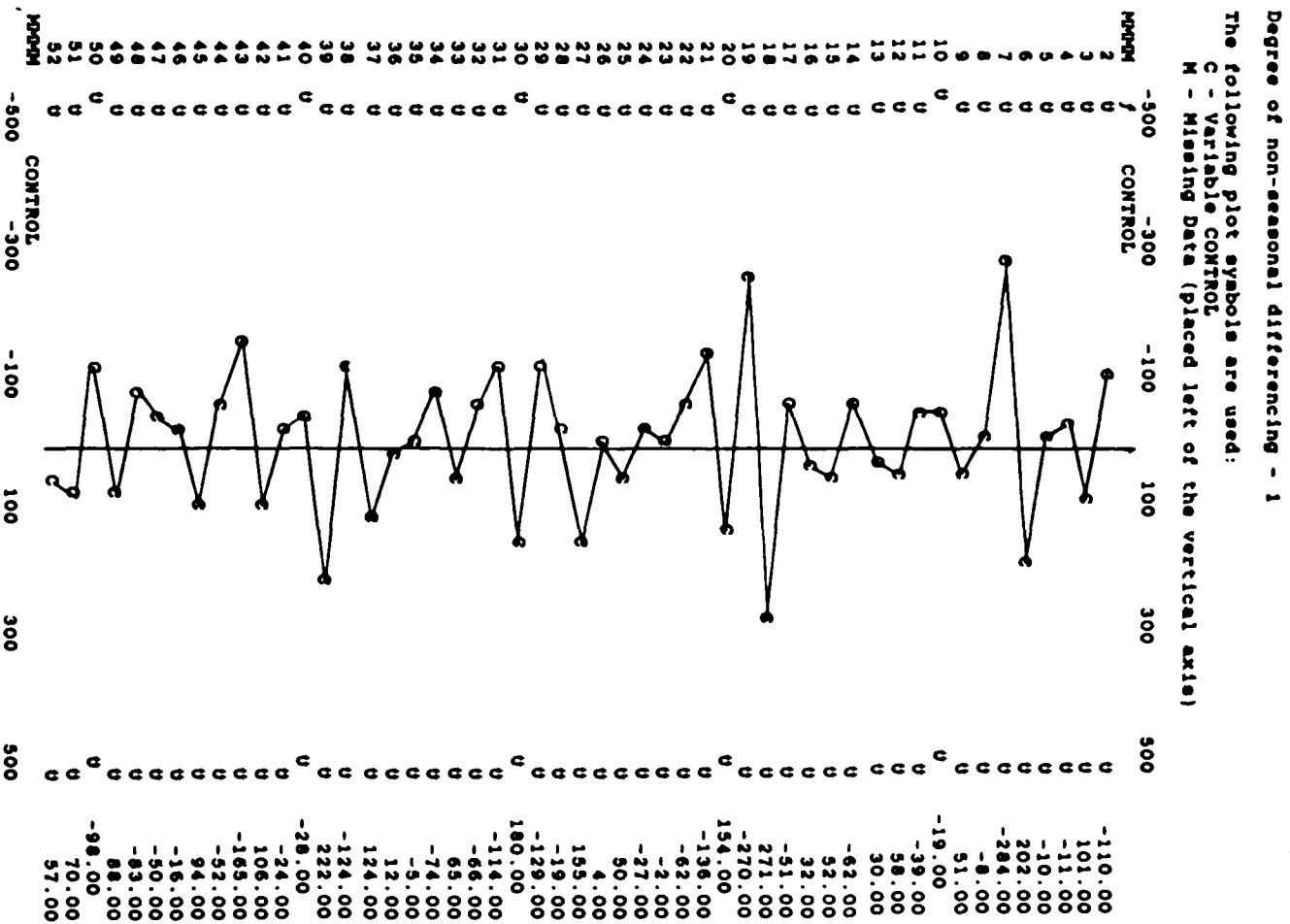
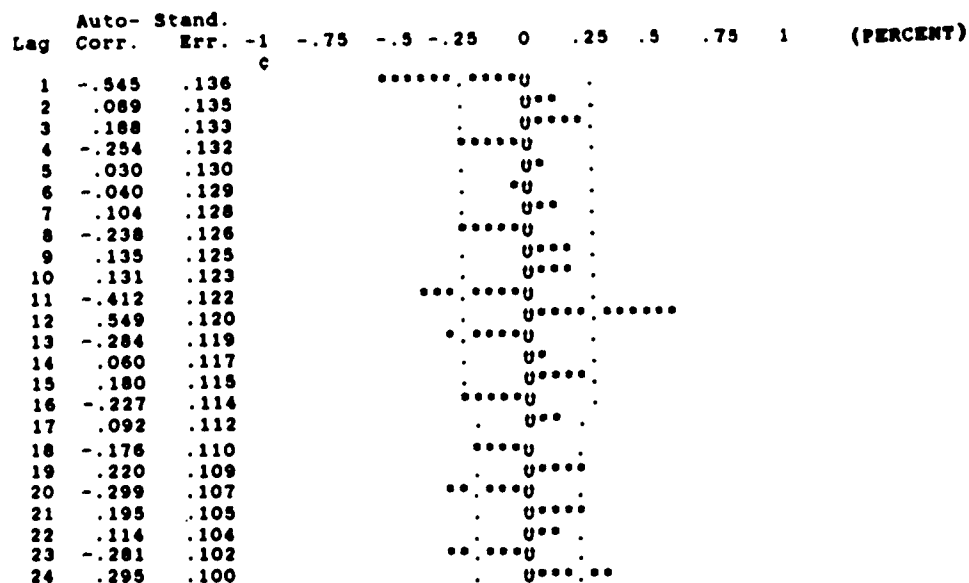


FIGURE 10.4C ACF/PACF/POST-INDICTMENT DISMISSALS

Autocorrelations: CONTROL

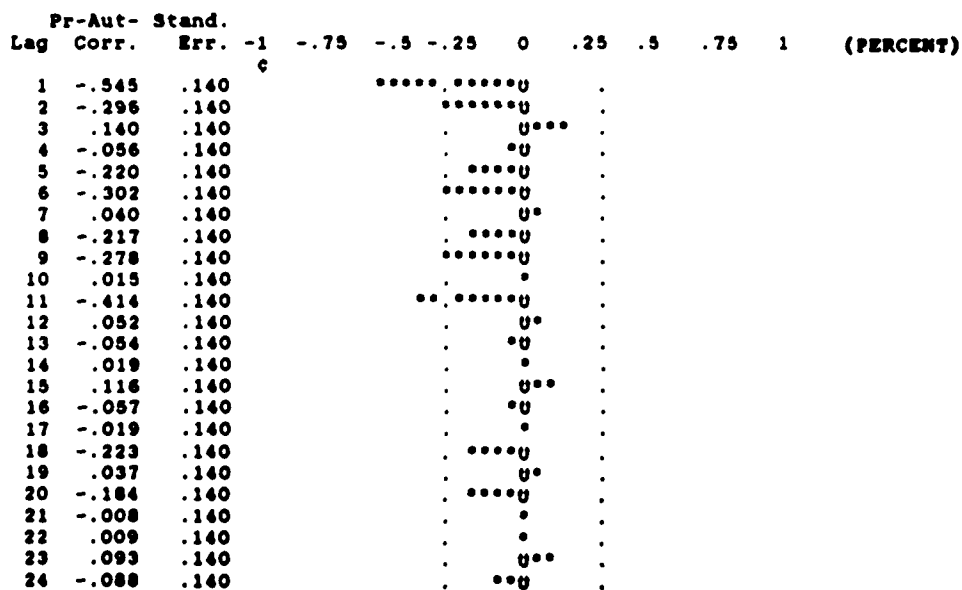
Transformations: difference (1)



Plot Symbols: Autocorrelations * Two Standard Error Limits .

Partial Autocorrelations: CONTROL

Transformations: difference (1)



Plot Symbols: Autocorrelations * Two Standard Error Limits .

FIGURE 10.4D RESIDUALS/POST-INDICTMENT DISMISSALS

Autocorrelations: ERR#1

Lag	Auto- Corr.	Stand. Err.	-1	-.75	-.5	-.25	0	.25	.5	.75	1	Box-Ljung	Prob.
1	-.117	.136					..u					.745	.388
2	-.188	.135					..uu					2.691	.260
3	.059	.133					..u					2.888	.409
4	-.183	.132					..uu					4.816	.307
5	-.139	.130					..uu					5.945	.312
6	.127	.129					..uu					6.913	.329
7	.025	.128					..u					6.951	.434
8	.048	.126					..u					7.093	.527
9	-.020	.125					..u					7.119	.625
10	-.014	.123					..u					7.132	.713
11	-.098	.122					..u					7.781	.733
12	-.081	.120					..u					8.231	.767
13	.029	.119					..u					8.291	.824
14	.165	.117					..uu					10.290	.741
15	.055	.115					..u					10.515	.786
16	-.144	.114					..uu					12.123	.735
17	-.019	.112					..u					12.151	.791
18	-.128	.110					..uu					13.495	.761
19	.083	.109					..u					14.084	.779
20	-.134	.107					..uu					15.655	.738
21	.203	.105					..uu					19.361	.562
22	.148	.104					..uu					21.393	.497
23	-.122	.102					..u					22.837	.470
24	-.013	.100					..u					22.854	.528

Plot Symbols: Autocorrelations * Two Standard Error Limits .

BOX LJUNG = 19.361 DF = 21

Variables in the Model:

	B	SEB	T-RATIO	APPROX. PROB.
AR1	-.4801967	.121581	-3.9496136	.00025581
SAR1	.6170289	.109871	5.6313208	.00000092
CONSTANT	-1.6018544	13.962178	-.1147281	.90913945

FIGURE 10.4E RESIDUALS/SERIES 1-72/POST-IND. DISMISSALS.

Autocorrelations: ERR#1

Lag	Auto- Corr.	Stand. Err.	-1	-.75	-.5	-.25	0	.25	.5	.75	1	Box-Ljung	Prob.
1	-.088	.116					..u					.573	.449
2	-.170	.115					...u					2.736	.255
3	-.007	.115					.					2.740	.434
4	-.127	.114					...u					3.990	.407
5	-.098	.113					..u					4.703	.453
6	.063	.112					u					5.015	.542
7	-.008	.111					.					5.017	.658
8	-.012	.110					.					5.030	.754
9	.021	.109					.					5.068	.828
10	.024	.108					.					5.118	.883
11	-.065	.108					..u					5.486	.905
12	-.146	.107					...u					7.362	.833
13	-.040	.106					..u					7.509	.874
14	.139	.105					u...					9.267	.814
15	.006	.104					.					9.270	.863
16	-.090	.103					..u					10.037	.865
17	.010	.102					.					10.045	.902
18	-.124	.101					..u					11.538	.870
19	.135	.100					u...					13.357	.820
20	-.010	.099					.					13.367	.861
21	.170	.098					u...					16.376	.748
22	.001	.097					.					16.376	.797
23	-.083	.096					..u					17.121	.803
24	.047	.095					u					17.364	.833

Plot Symbols: Autocorrelations * Two Standard Error Limits .

BOX LJUNG = 13.367 DF = 20

Variables in the Model:

	B	SEB	T-RATIO	APPROX. PROB.
AR1	-.437807	.105569	-4.1471077	.00009706
SAR1	.663630	.096187	6.8994038	.00000000
STEP	-19.011185	57.610767	-.3299936	.74243414
CONSTANT	1.100741	14.382774	.0765319	.93922430

The next series analyzed is the experimental group guilty pleas. A review of the chart in Figure 10.5A shows that guilty pleas (in the experimental group) did not vary a great deal but tended to slightly trend upward at month number 52. This trend suggests the need for differencing and the differenced series appears in Figure 10.5B. The ACF and PACF for the differenced series initially indicates an ARIMA model $(2,1,0) (1,0,0)12$.

The coefficients of this model are listed as follows:

$$\theta_1 = -.524 \text{ with a t statistic } -4.056$$

$$\theta_2 = -.366 \text{ with a t statistic } -2.911$$

$$\theta_{12} = .777 \text{ with a t statistic } 8.808$$

These coefficients are statistically significant and can be accepted. The residuals appear in Figure 10.5D and they are not statistically different than zero. Therefore, this model can be accepted.

The intervention variable has as coefficient of 143.3 and a t statistic of 1.16. The intervention coefficient is not statistically significant, therefore the intervention had no impact on the experimental group's processing of guilty pleas.

The residuals for the modeled series appears in Figure 10.5E. The errors are not statistically different than zero. The model for this series is written as:

$$(1-\theta_1 B - \theta_2 B^2)(1-\theta_{12} B^{12})(1-B) \gamma_t = a_t$$

FIGURE 10.5A GUILTY PLEAS/EXPERIMENTAL GROUP

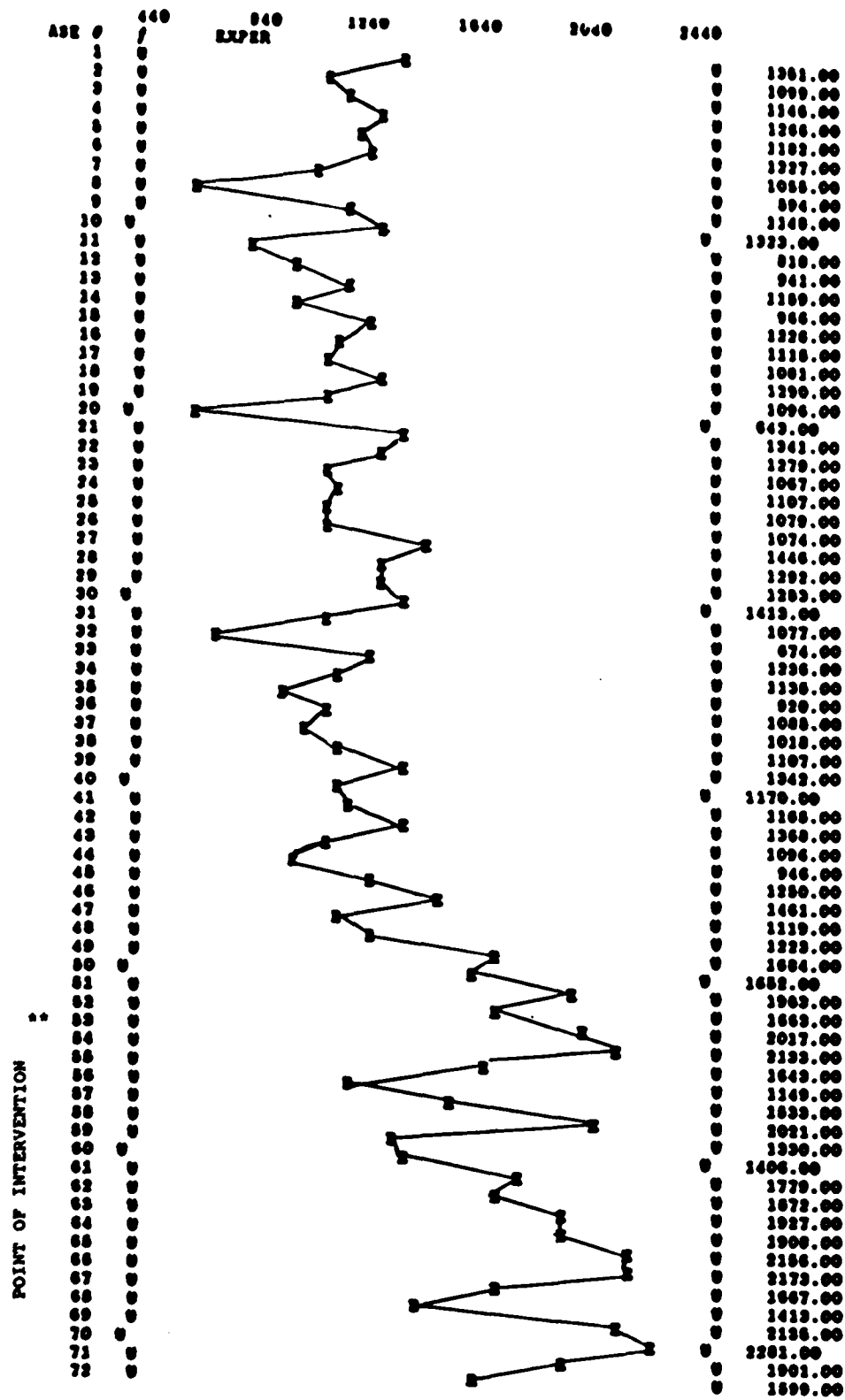


FIGURE 10.5B DIFFERENCED SERIES/GUILTY PLEAS/EXPERIMENTAL

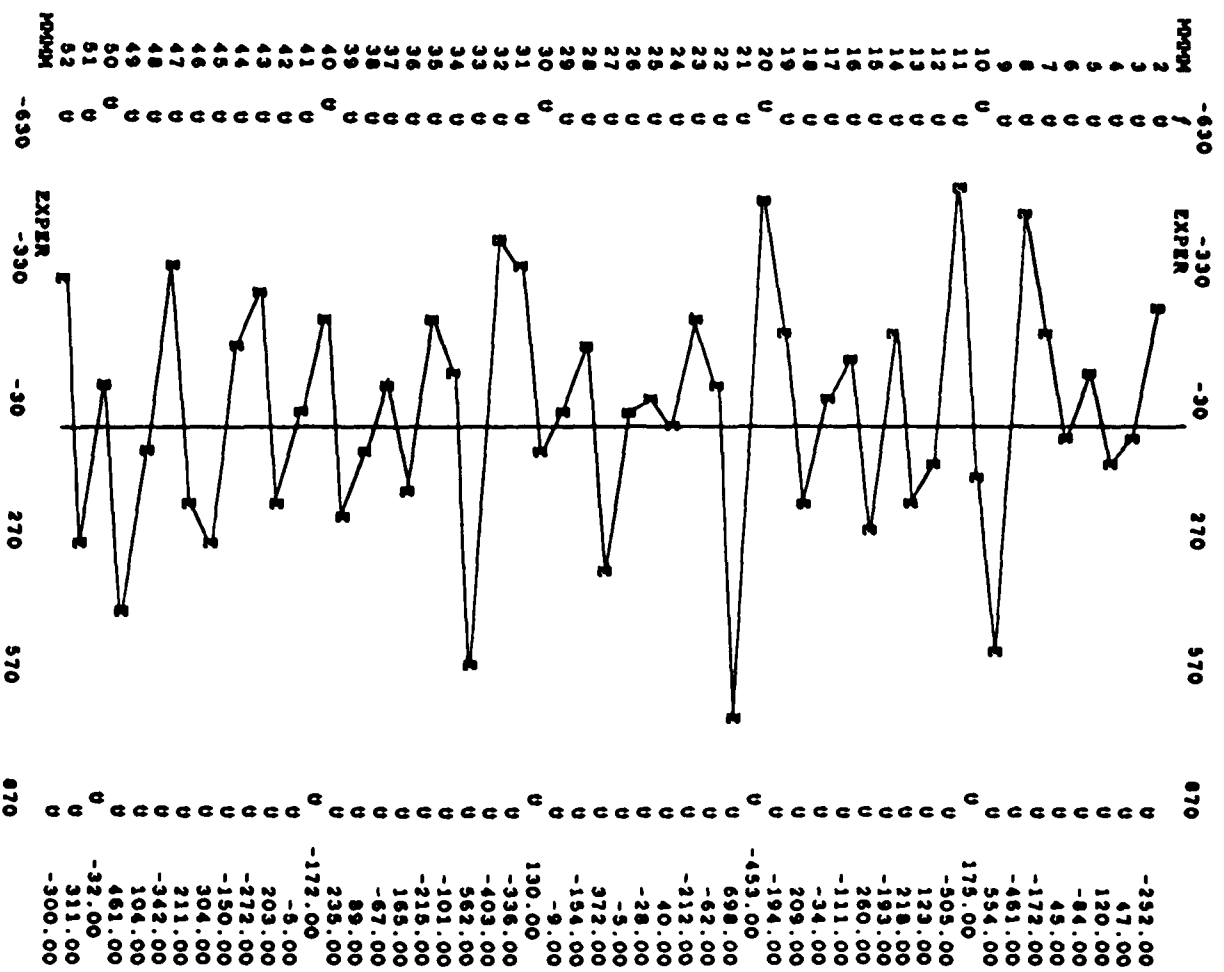
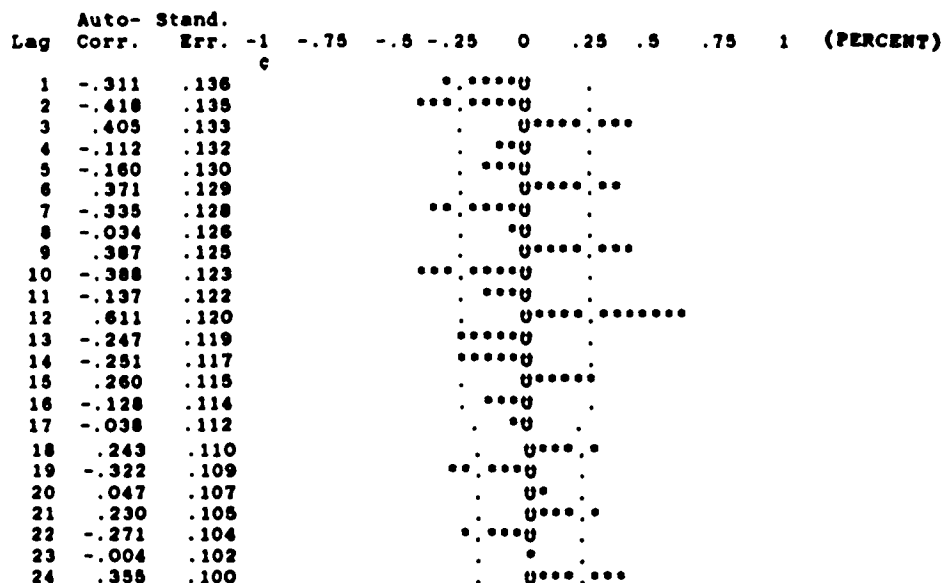


FIGURE 10.5C ACF/PACF GUILTY PLEAS/EXPERIMENTAL GROUP

Autocorrelations: EXPER

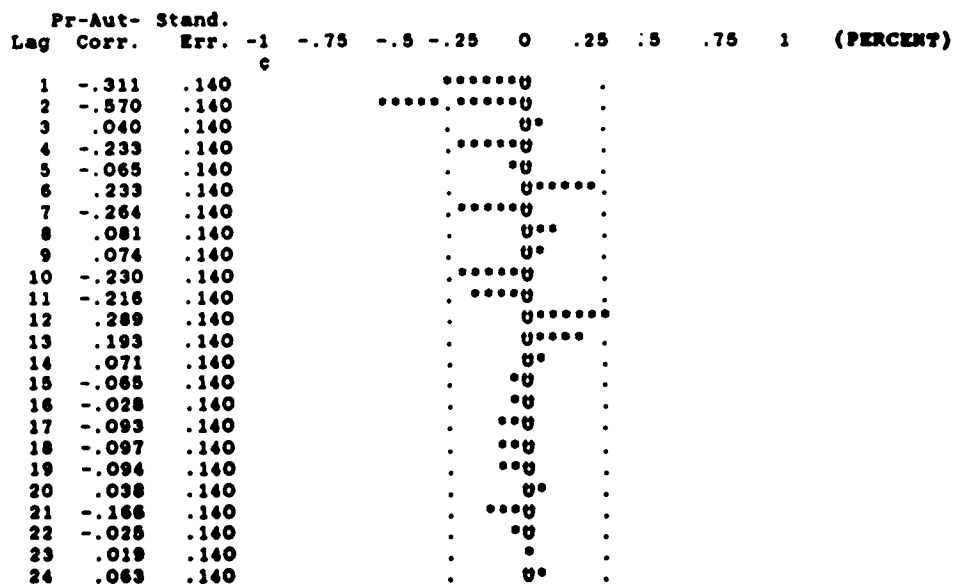
Transformations: difference (1)



Plot Symbols: Autocorrelations * Two Standard Error Limits

Partial Autocorrelations: EXPER

Transformations: difference (1)



Plot Symbols: Autocorrelations * Two Standard Error Limits

FIGURE 10.5D RESIDUALS/GUILTY PLEAS/EXP GROUP

Autocorrelations: ERR#1

Lag	Auto-Corr.	Stand. Err.	-1	-.75	-.5	-.25	0	.25	.5	.75	1	Box-Ljung	Prob.
1	.030	.136					0*					.134	.715
2	-.110	.135					0*					.806	.668
3	.033	.133					0*					.868	.833
4	.026	.132					0*					.907	.924
5	.204	.130					0****					3.361	.645
6	.158	.129					0***					4.866	.561
7	-.171	.128					0***					6.673	.464
8	.024	.126					0					6.710	.568
9	.092	.125					0**					7.258	.610
10	-.114	.123					0*					8.119	.617
11	-.043	.122					0*					8.241	.692
12	-.037	.120					0*					8.337	.758
13	-.077	.119					0*					8.761	.791
14	.002	.117					0					8.761	.846
15	-.100	.116					0*					9.516	.849
16	-.177	.114					0***					11.928	.749
17	.036	.112					0*					12.031	.798
18	-.056	.110					0*					12.285	.832
19	-.116	.109					0*					13.426	.816
20	-.039	.107					0*					13.559	.852
21	-.029	.105					0*					13.636	.885
22	.029	.104					0*					13.714	.911
23	.219	.102					0****					18.333	.739
24	.002	.100					0					18.333	.787

Plot Symbols: Autocorrelations * Two Standard Error Limits .

BOX LJUNG = 13.559 DF = 20

Variables in the Model:

	B	SEB	T-RATIO	APPROX. PROB.
AR1	-.524321	.129261	-4.0563026	.00018674
AR2	-.366586	.125899	-2.9117474	.00548124
SAR1	.777832	.088300	8.8089804	.00000000
CONSTANT	14.644818	29.741904	.4923968	.62473100

FIGURE 10.5E. RESIDUALS/SERIES 1-72/GUILTY PLEAS/EXP GROUP.

Autocorrelations: ERR#1

Lag	Auto- Corr.	Stand. Err.	-1	-.75	-.5	-.25	0	.25	.5	.75	1	Box-Ljung	Prob.
1	-.022	.116					.	.				.036	.850
2	-.095	.115				.	..	.				.710	.701
3	-.024	.115				.	.	.				.754	.860
4	.054	.114				.	..	.				.980	.913
5	.131	.113				.	..	..	.			2.331	.802
6	.020	.112				.	.	.	.			2.364	.883
7	-.163	.111				.	..	..	.			4.518	.719
8	-.093	.110				.	..	..	.			8.223	.733
9	.010	.109				.	.	.	.			5.232	.814
10	-.248	.108				.	..	..	.			10.439	.403
11	.049	.108				.	.	.	.			10.650	.473
12	-.059	.107				.	.	.	.			10.952	.533
13	-.148	.106				.	..	..	.			12.916	.454
14	-.055	.105				.	.	.	.			13.189	.512
15	-.022	.104				.	.	.	.			13.233	.584
16	.021	.103				.	.	.	.			13.275	.653
17	.022	.102				.	.	.	.			13.320	.714
18	-.017	.101				.	.	.	.			13.349	.770
19	-.091	.100				.	..	..	.			14.174	.773
20	.138	.099				.	..	..	.			16.122	.709
21	-.063	.098				.	.	.	.			16.528	.739
22	.040	.097				.	.	.	.			16.701	.780
23	.105	.096				.	..	..	.			17.887	.764
24	.011	.095				.	.	.	.			17.901	.808

Plot Symbols: Autocorrelations * Two Standard Error Limits .

BOX LJUNG = 14.174 DF = 19

Variables in the Model:

	B	SEB	T-RATIO	APPROX. PROB.
AR1	-.39916	.11541	-3.4586270	.00095577
AR2	-.32118	.11577	-2.7743203	.00718638
SAR1	.76453	.08587	8.9030821	.00000000
STEP	143.34012	122.54137	1.1697284	.24631707
CONSTANT	6.34168	35.20338	.1801440	.85759157

The case plot for the control group of the guilty plea series appears in Figure 10.6A. The control group series has the same general pattern as the experimental, including the slight overall upward trend. Again, the series will require differencing. The differenced series appears in Figure 10.6B. The ACF and PACF of the differenced series (Figure 10.6C) initially indicate an ARIMA model $(2,1,0)(1,0,0)12$. The coefficients of this model are listed below:

$$\phi_1 = -.705 \text{ with a } t \text{ statistic } -5.69$$

$$\phi_2 = -.496 \text{ with a } t \text{ statistic } -4.03$$

$$\theta_{12} = .515 \text{ with a } t \text{ statistic } 3.86$$

These coefficients are statistically significant and can be accepted. The errors of the residuals appear in Figure 10.6D and they are not statistically different than zero. Therefore, the pre-intervention model can be accepted.

The intervention variable has a coefficient of 85.05 with a t statistic .955. The intervention coefficient is not statistically significant, therefore the intervention variable had no impact on this series.

The residuals for the modeled series appear in Figure 10.6E. The residuals are not statistically different from zero. The model for this series is written as:

$$(1 - \phi_1 B - \phi_2 B^2)(1 - \theta_{12} B^{12})(1 - B) \hat{y}_t = a_t$$

FIGURE 10.6A GUILTY PLEAS/CONTROL GROUP

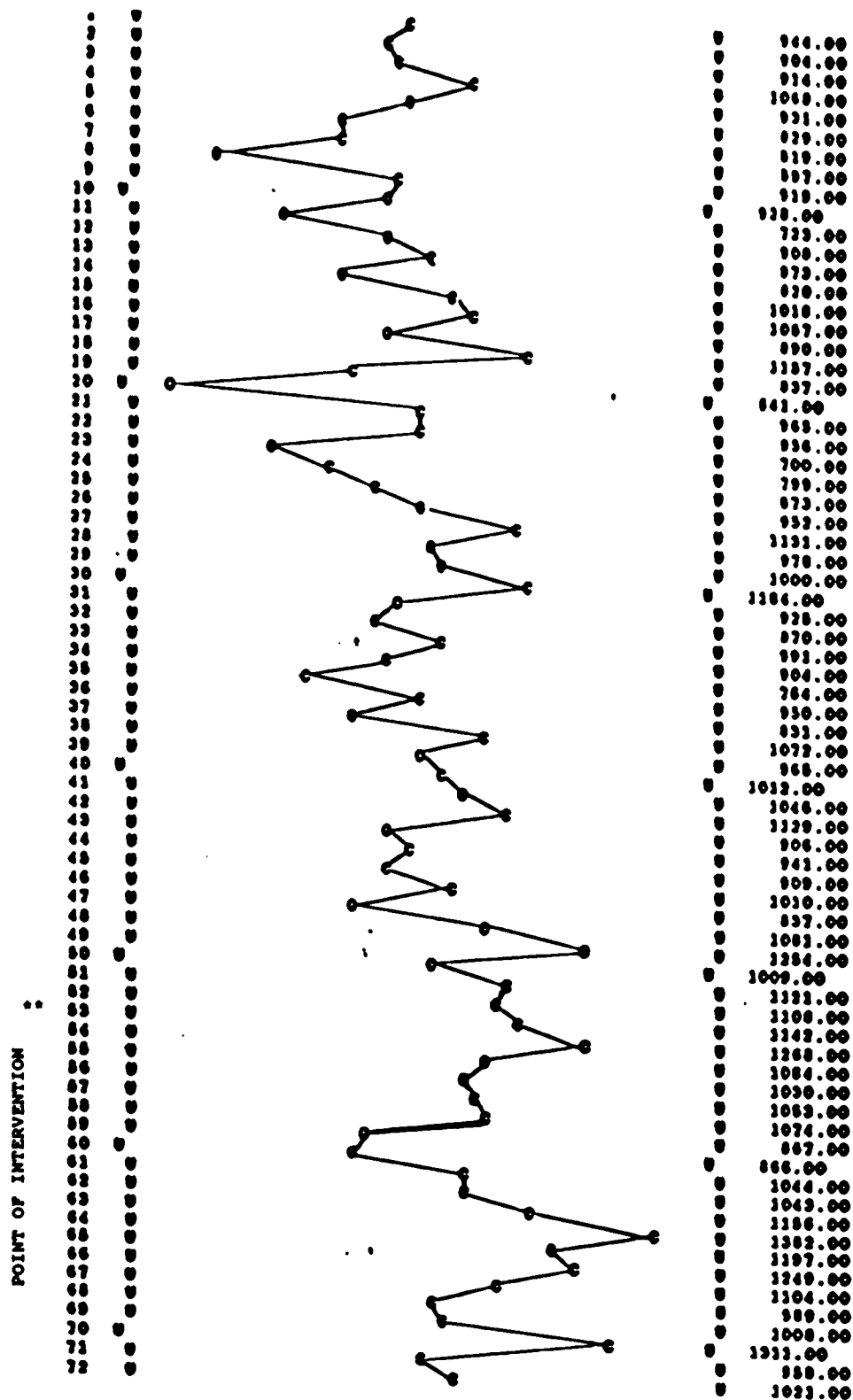


FIGURE 10.6B DIFFERENCED SERIES/GUILTY PLEAS/CONTROL GROUP

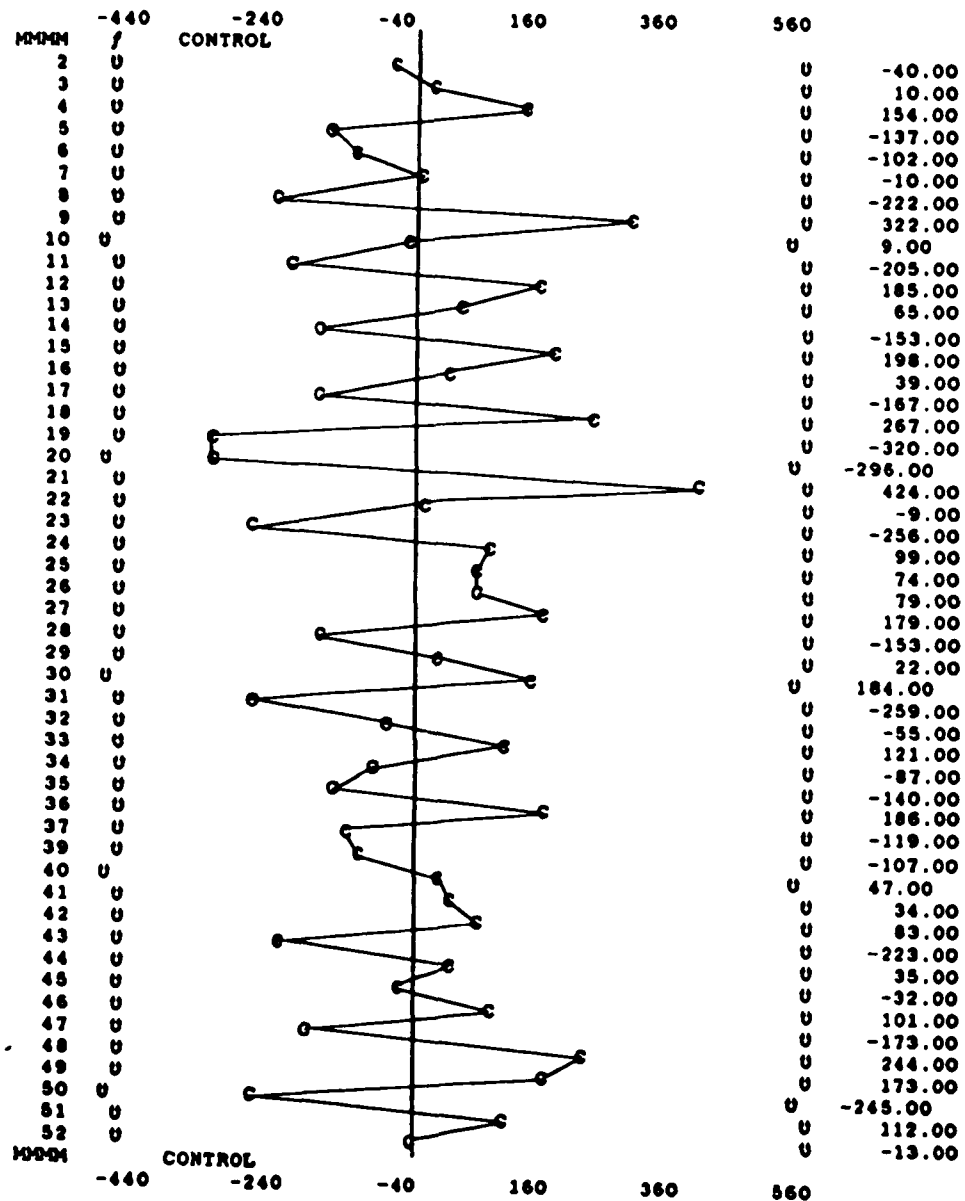
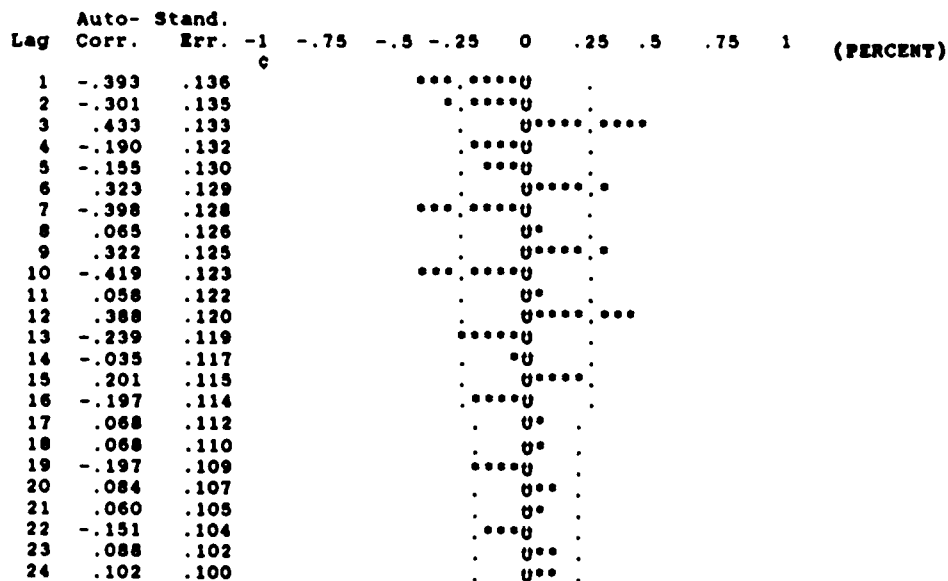


FIGURE 10.6C ACF/PACF GUILTY PLEAS/CONTROL GROUP

Autocorrelations: CONTROL

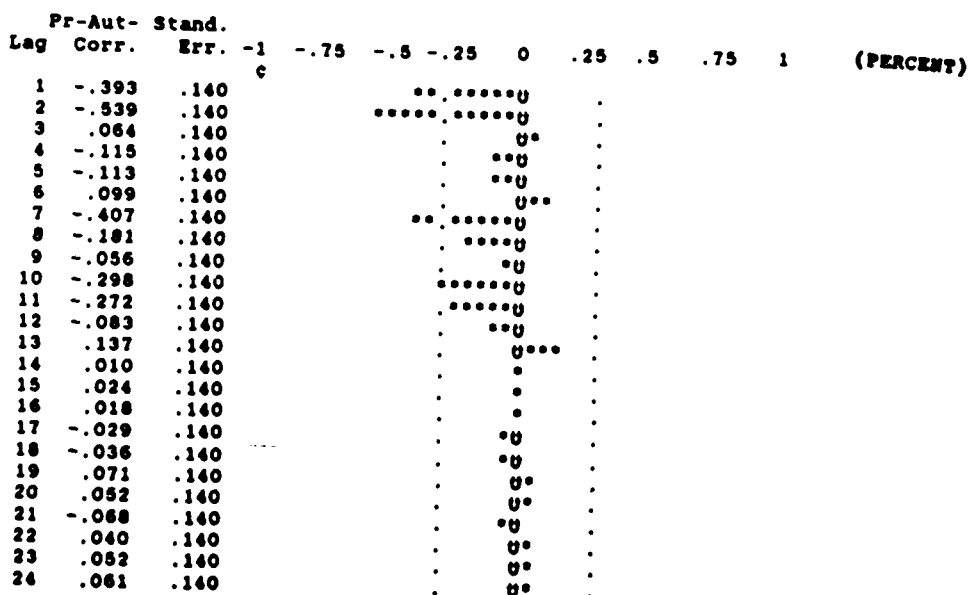
Transformations: difference (1)



Plot Symbols: Autocorrelations * Two Standard Error Limits .

Partial Autocorrelations: CONTROL

Transformations: difference (1)



Plot Symbols: Autocorrelations * Two Standard Error Limits .

FIGURE 10.6D RESIDUALS/GUILTY PLEAS/CONTROL GROUP

Autocorrelations: ERR#1

Lag	Auto- Corr.	Stand. Err.	-1	-.75	-.5	-.25	0	.25	.5	.75	1	Box-Ljung	Prob.
1	-.016	.136					.					.015	.904
2	-.117	.138				.	..	.				.768	.681
3	-.110	.133				.	..	.				1.449	.694
4	-.050	.132				.	.	.				1.591	.810
5	-.004	.130				.	.	.				1.592	.902
6	-.031	.129				.	.	.				1.648	.949
7	-.307	.128				.	....	.				7.435	.385
8	.008	.126				.	.	.				7.439	.490
9	.094	.125				.	.	..	.			8.008	.533
10	-.182	.123				.	....	.				10.193	.424
11	.104	.122				.	.	..	.			10.924	.450
12	.047	.120				.	.	.	.			11.077	.522
13	.115	.119				.	.	..	.			12.012	.527
14	.078	.117				.	.	.	..	.		12.457	.570
15	-.020	.115				.	.	.	.	.		12.486	.642
16	-.057	.114				.	.	.	.	.		12.738	.692
17	.111	.112				.	.	..	.	.		13.721	.687
18	-.029	.110				.	.	.	.	.		13.789	.743
19	-.098	.109				.	.	..	.	.		14.607	.747
20	-.025	.107				.	.	.	.	.		14.663	.795
21	-.105	.105				.	.	..	.	.		15.665	.788
22	.131	.104				.	.	....	.	.		17.265	.749
23	.100	.102				.	.	.	..	.		18.223	.745
24	-.108	.100				.	..	.	.	.		19.380	.731

Plot Symbols: Autocorrelations * Two Standard Error Limits .

BOX LJUNG = 14.663 DF = 20

Variables in the Model:

	B	SEB	T-RATIO	APPROX. PROB.
AR1	-.7051863	.123757	-5.6981750	.00000077
AR2	-.4960507	.123053	-4.0311889	.00020215
SAR1	.5152204	.133310	3.8648420	.00034015
CONSTANT	3.4698319	12.785174	.2713950	.78727567

FIGURE 10.6E RESIDUALS/SERIES 1-72/GUILTY PLEAS/CONTROL GROUP

Autocorrelations: ERR#1

Lag	Auto- Corr.	Stand. Err.	-1	-.75	-.5	-.25	0	.25	.5	.75	1	Box-Ljung	Prob.
1	.013	.116					.	.				.012	.913
2	-.071	.115					. .	.				.391	.822
3	-.101	.115					. . .	.				1.171	.760
4	-.191	.114						.				3.999	.406
5	-.082	.113						.				4.530	.476
6	.059	.112						.				4.804	.569
7	-.228	.111						.				9.001	.253
8	.077	.110						.				9.487	.303
9	.086	.109						.				10.107	.342
10	-.196	.108						.				13.370	.204
11	.012	.108						.				13.383	.269
12	-.033	.107						.				13.479	.335
13	.063	.106						.				13.837	.385
14	.053	.105						.				14.089	.443
15	.092	.104						.				14.878	.460
16	.030	.103						.				14.962	.527
17	.098	.102						.				15.893	.531
18	-.062	.101						.				16.272	.574
19	-.140	.100						.				18.215	.508
20	-.081	.099						.				18.881	.530
21	-.019	.098						.				18.920	.590
22	.120	.097						.				20.444	.555
23	.072	.096						.				20.998	.581
24	-.006	.095						.				21.002	.639

Plot Symbols: Autocorrelations * Two Standard Error Limits .

BOX LJUNG = 18.215 DF = 19

Variables in the Model:

	B	SEB	T-RATIO	APPROX. PROB.
AR1	-.596956	.110122	-5.4208343	.00000091
AR2	-.405230	.113788	-3.5613354	.00069066
SAR1	.510288	.118808	4.3059466	.00005656
STEP	85.050932	89.046247	.9551321	.34299645
CONSTANT	2.322447	12.926328	.1796680	.85796380

The final integrity check is the variation in jail or prison populations over the study period. This analysis was conducted to eliminate the possibility that counties sentenced less offenders to jail or prison in order to expedite drug cases.

The series of the experimental group's jail populations over the study period appears in Figure 10.7A. The data continually trends upward throughout the period from 4259 persons incarcerated in county jails to 8519 at the end of the study period. Because of this trend, the series required differencing. The differenced case plot appears in Figure 10.7B. The ACF and PACF of the differenced series (see Figure 10.7C) indicates an ARIMA model $(0,1,0)(1,0,0)_{12}$. The coefficients of this model include only that from the seasonal AR 1 of .442 with a t statistic of 2.53 which is significant. The residuals of this series appear in Figure 10.7D and they indicate that the residuals are not different from zero.

The intervention variable has a coefficient of -162.5 and a t statistic of -1.13 which is not significant. Therefore the intervention variable had no impact on this series.

The residuals of the modeled series appears in Figure 10.7E. The residuals are not different from zero. The model for this series is written as:

$$(1-\phi_{12}B^{12})(1-B)Z_t = a_t$$

FIGURE 10.7A JAIL POPULATION/EXPERIMENTAL GROUP

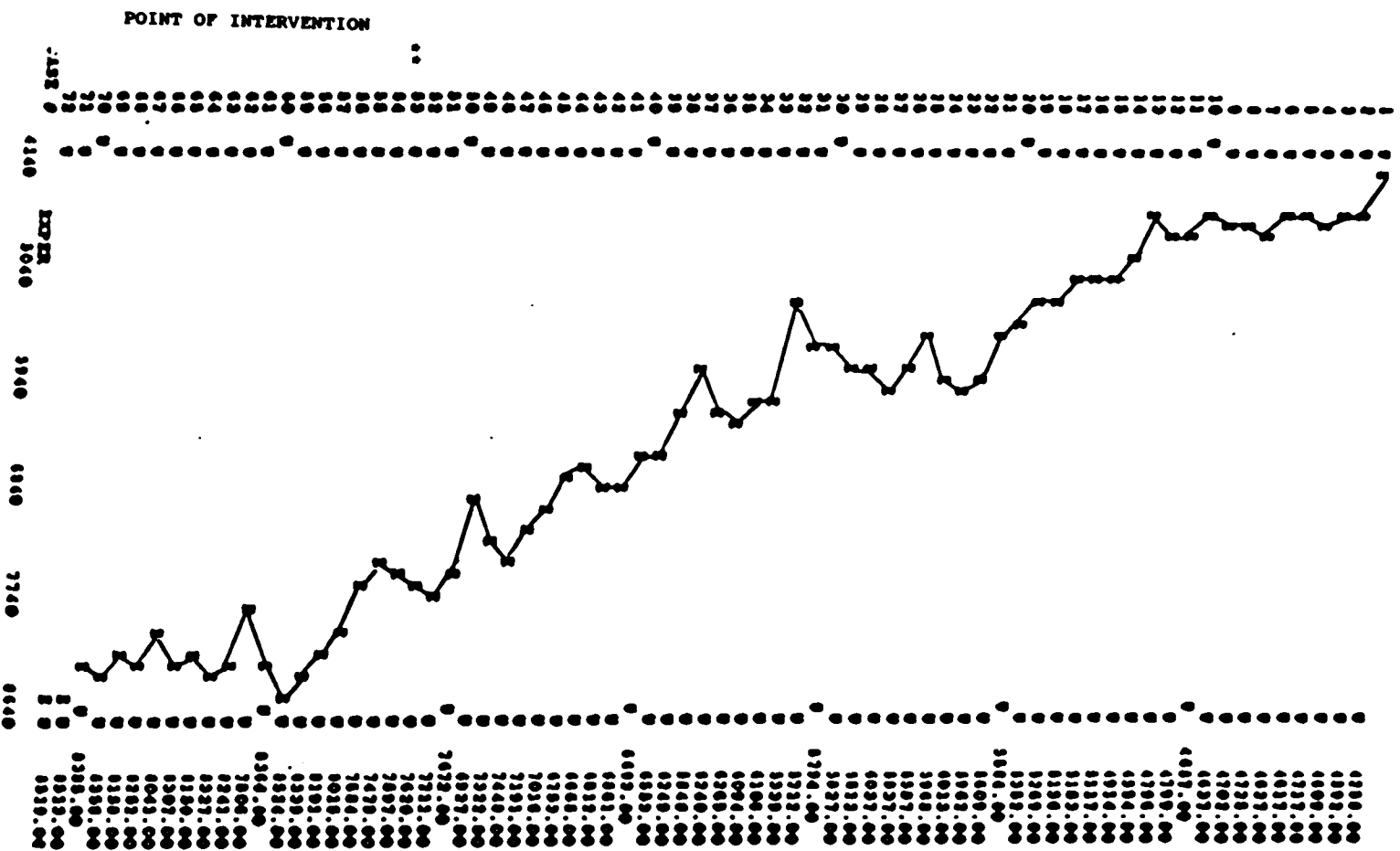


FIGURE 10.7B DIFFERENCED SERIES/JAIL POPULATION/EXPERIMENTAL

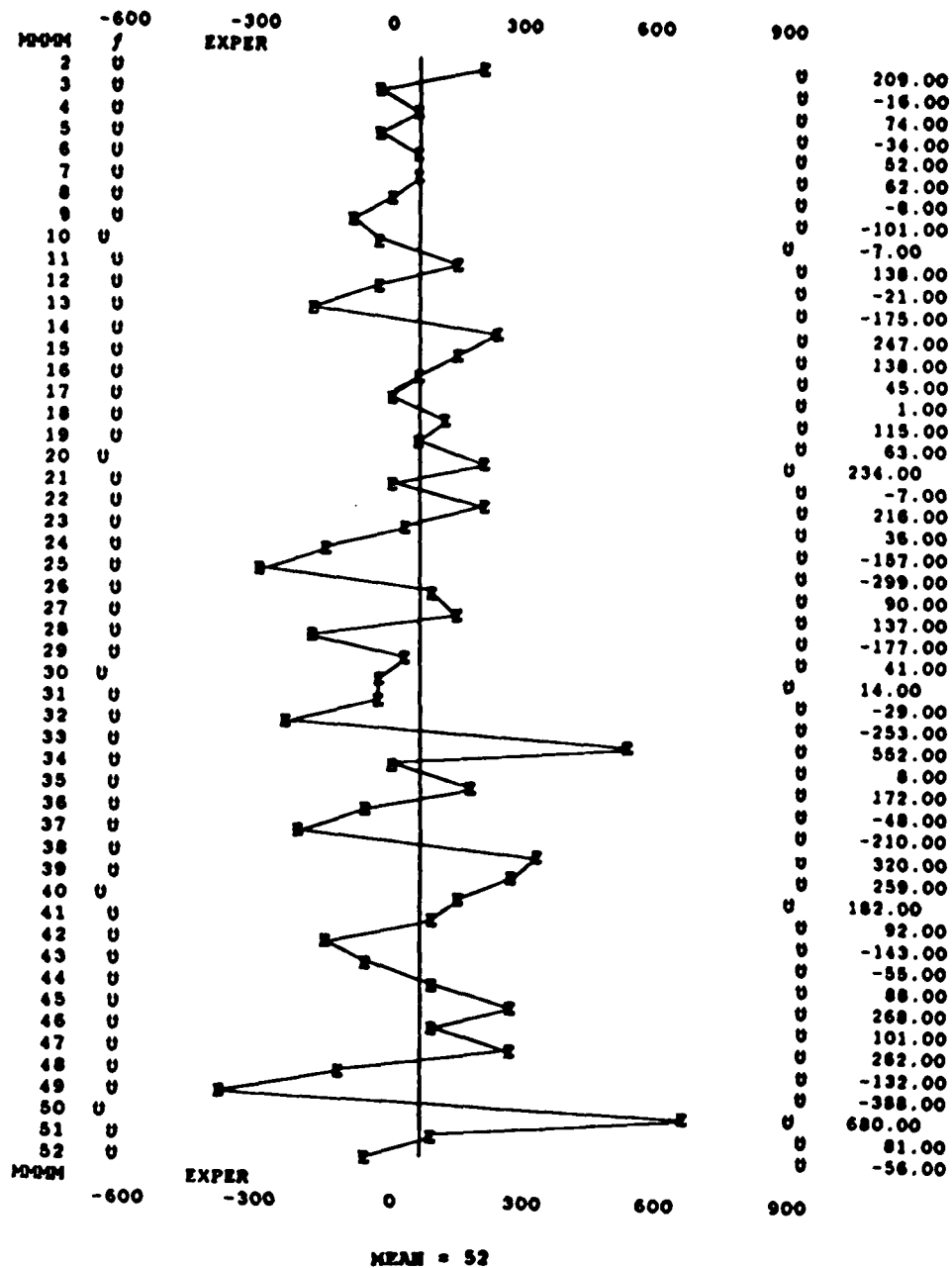


FIGURE 10.7C ACF/PACF JAIL POPULATION/EXPERIMENTAL GROUP

Autocorrelations: EXPER

Transformations: difference (1)

Lag	Auto- Corr.	Stand. Err.	-1	-.75	-.5	-.25	0	.25	.5	.75	1	(PERCENT)
1	-.160	.136					***					
2	-.226	.135					****					
3	-.023	.133					.					
4	-.042	.132					..					
5	.088	.130					..					
6	.151	.129					..					
7	.074	.128					..					
8	-.156	.126					..					
9	-.137	.125					..					
10	-.205	.123					..					
11	.053	.122					..					
12	.311	.120					..					
13	-.077	.119					..					
14	-.150	.117					..					
15	-.016	.115					..					
16	-.086	.114					..					
17	.193	.112					..					
18	.018	.110					..					
19	.056	.109					..					
20	-.006	.107					..					
21	.004	.105					..					
22	-.166	.104					..					
23	.014	.102					..					
24	.171	.100					..					

Plot Symbols: Autocorrelations * Two Standard Error Limits .

Partial Autocorrelations: EXPER

Transformations: difference (1)

Lag	Pr-Aut- Corr.	Stand. Err.	-1	-.75	-.5	-.25	0	.25	.5	.75	1	(PERCENT)
1	-.160	.140					***					
2	-.258	.140					****					
3	-.121	.140					..					
4	-.146	.140					..					
5	.013	.140					..					
6	.143	.140					..					
7	.192	.140					..					
8	-.007	.140					..					
9	-.101	.140					..					
10	-.359	.140					..					
11	-.272	.140					..					
12	.069	.140					..					
13	.003	.140					..					
14	.025	.140					..					
15	.121	.140					..					
16	.005	.140					..					
17	.187	.140					..					
18	-.109	.140					..					
19	-.060	.140					..					
20	-.048	.140					..					
21	.121	.140					..					
22	-.058	.140					..					
23	-.087	.140					..					
24	-.077	.140					..					

Plot Symbols: Autocorrelations * Two Standard Error Limits .

FIGURE 10.7D RESIDUALS/JAIL POPULATION/EXP GROUP

Autocorrelations: ERR#1

Lag	Auto- Corr.	Stand. Err.	-1	-.75	-.5	-.25	0	.25	.5	.75	1	Box-Ljung	Prob.
1	-.195	.136					U					2.045	.153
2	-.098	.135					..UU					2.572	.276
3	.049	.133					.U*					2.707	.439
4	.039	.132					.U*					2.793	.593
5	-.029	.130					.U					2.843	.724
6	.132	.129					.U...					3.887	.692
7	.045	.128					.U*					4.015	.778
8	-.195	.126					U					6.416	.601
9	-.145	.125					..UU					7.771	.557
10	-.161	.123					U					9.480	.487
11	.087	.122					.U**					9.987	.532
12	.012	.120					.					9.996	.616
13	-.035	.119					.U					10.082	.687
14	-.107	.117					..UU					10.916	.693
15	-.005	.115					.					10.918	.758
16	-.125	.114					..UU					12.119	.738
17	.234	.112					.U...					16.467	.491
18	.022	.110					.					16.507	.557
19	.047	.109					.U*					16.692	.611
20	.028	.107					.U*					16.760	.668
21	.030	.105					.U*					16.841	.721
22	-.087	.104					..UU					17.539	.733
23	.033	.102					.U*					17.646	.776
24	.107	.100					.U**					18.794	.763

Plot Symbols: Autocorrelations * Two Standard Error Limits .

BOX LJUNG = 17.539 DF = 22

Variables in the Model:

	B	SEB	T-RATIO	APPROX. PROB.
SAR1	.422632	.166498	2.5383546	.01436566
CONSTANT	49.174144	36.781146	1.3369389	.18741645

FIGURE 10.7E RESIDUALS/ SERIES 1-72/JAIL POPULATION/EXP GROUP

Autocorrelations: ERR#1

Lag	Auto- Corr.	Stand. Err.	-1	-.75	-.5	-.25	0	.25	.5	.75	1	Box-Ljung	Prob.
1	-.168	.116					***					2.088	.148
2	-.002	.115					***					2.088	.352
3	.078	.118					***					2.549	.466
4	-.004	.114					***					2.551	.636
5	-.014	.113					***					2.566	.766
6	.084	.112					***					3.134	.792
7	.053	.111					***					3.359	.850
8	-.196	.110					***					6.515	.590
9	-.091	.109					***					7.211	.615
10	-.140	.108					***					8.872	.544
11	-.007	.108					***					8.876	.633
12	.009	.107					***					8.884	.713
13	-.054	.106					***					9.141	.762
14	-.137	.105					***					10.838	.699
15	.079	.104					***					11.411	.723
16	-.098	.103					***					12.310	.722
17	.237	.102					***					17.719	.407
18	.010	.101					***					17.728	.474
19	.111	.100					***					18.956	.460
20	.021	.099					***					19.000	.522
21	-.074	.098					***					19.575	.548
22	.001	.097					***					19.575	.610
23	.001	.096					***					19.575	.667
24	.008	.095					***					19.581	.720

Plot Symbols: Autocorrelations * Two Standard Error Limits .

BOX LJUNG = 19.575 DF = 21

Variables in the Model:

	B	SEB	T-RATIO	APPROX. PROB.
SAR1	.54878	.11069	4.9579669	.00000504
STEP	-162.58304	143.38896	-1.1338602	.26083469
CONSTANT	40.25393	36.21469	1.1115360	.27025226

The case plot of the control group series of the county jail populations appears in Figure 10.8A. The series trends upward from the beginning of the study period until the end from 2759 to 5771. This series, similar to the experimental series, requires differencing. The differenced series appears in Figure 10.8B. The ACF and PACF of the differenced series (Figure 10.8c) indicates initially, that this series is an ARIMA model $(0,1,0)(1,0,0)_{12}$. The coefficients of this model are .461 for the seasonal AR 1 with a t statistic of 3.27 which is significant. The errors of the residuals appear in Figure 10.8D. The residuals are not statistically different from zero. Therefore this model can be accepted.

The intervention variable has a coefficient of 20.8 with a t statistic of .199 which is not significant. Therefore the intervention variable did not significantly impact on the series.

The residuals of the modeled series appear in Figure 10.8E. The residuals are not statistically different from zero and we accept the model. The model for this series can be written as follows:

$$(1 - \phi_{12}B^{12})(1-B)\hat{z}_t = a_t$$

FIGURE 10.8A JAIL POPULATION/CONTROL GROUP

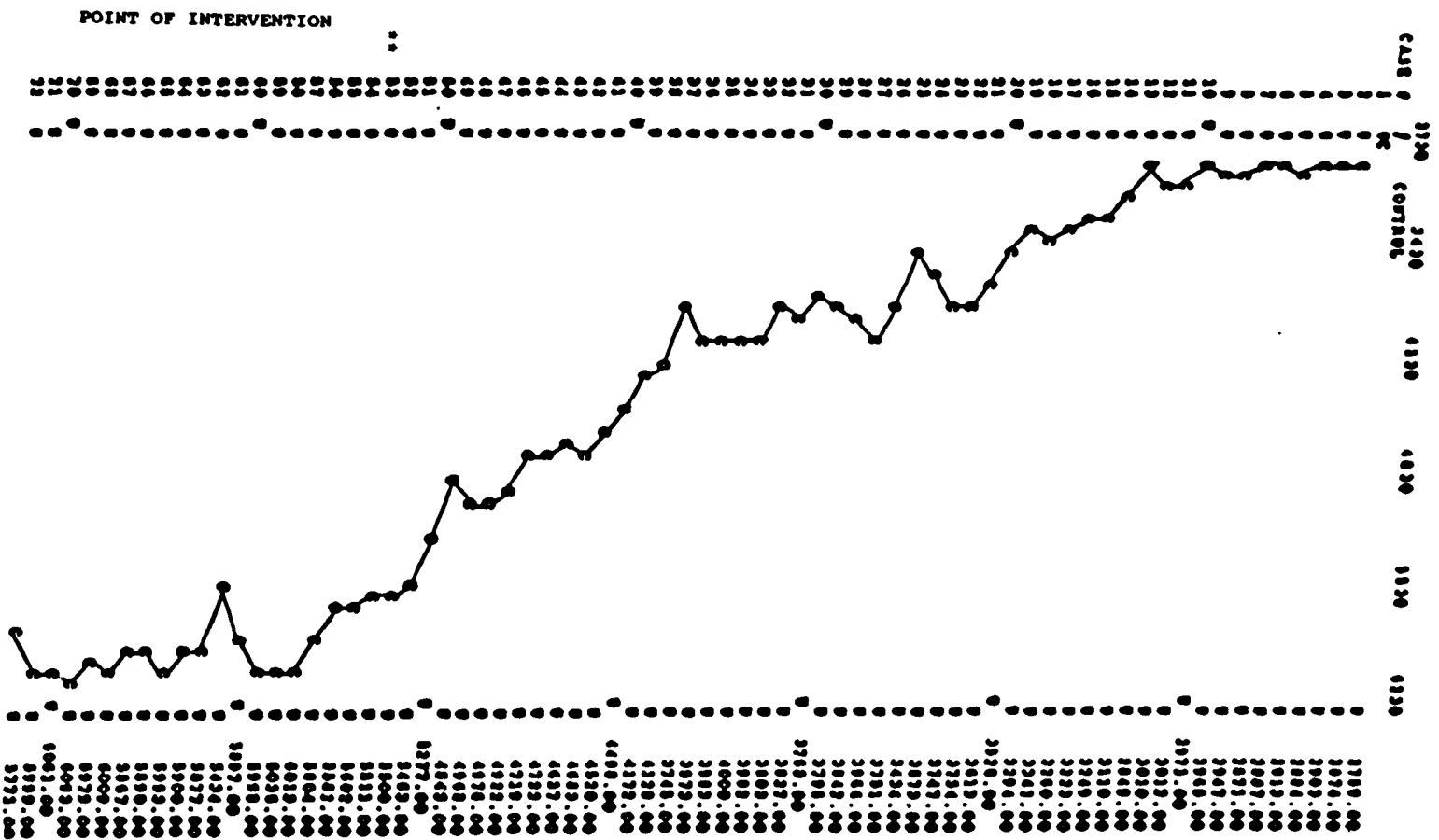


FIGURE 10.8B DIFFERENCED SERIES/JAIL POPULATION

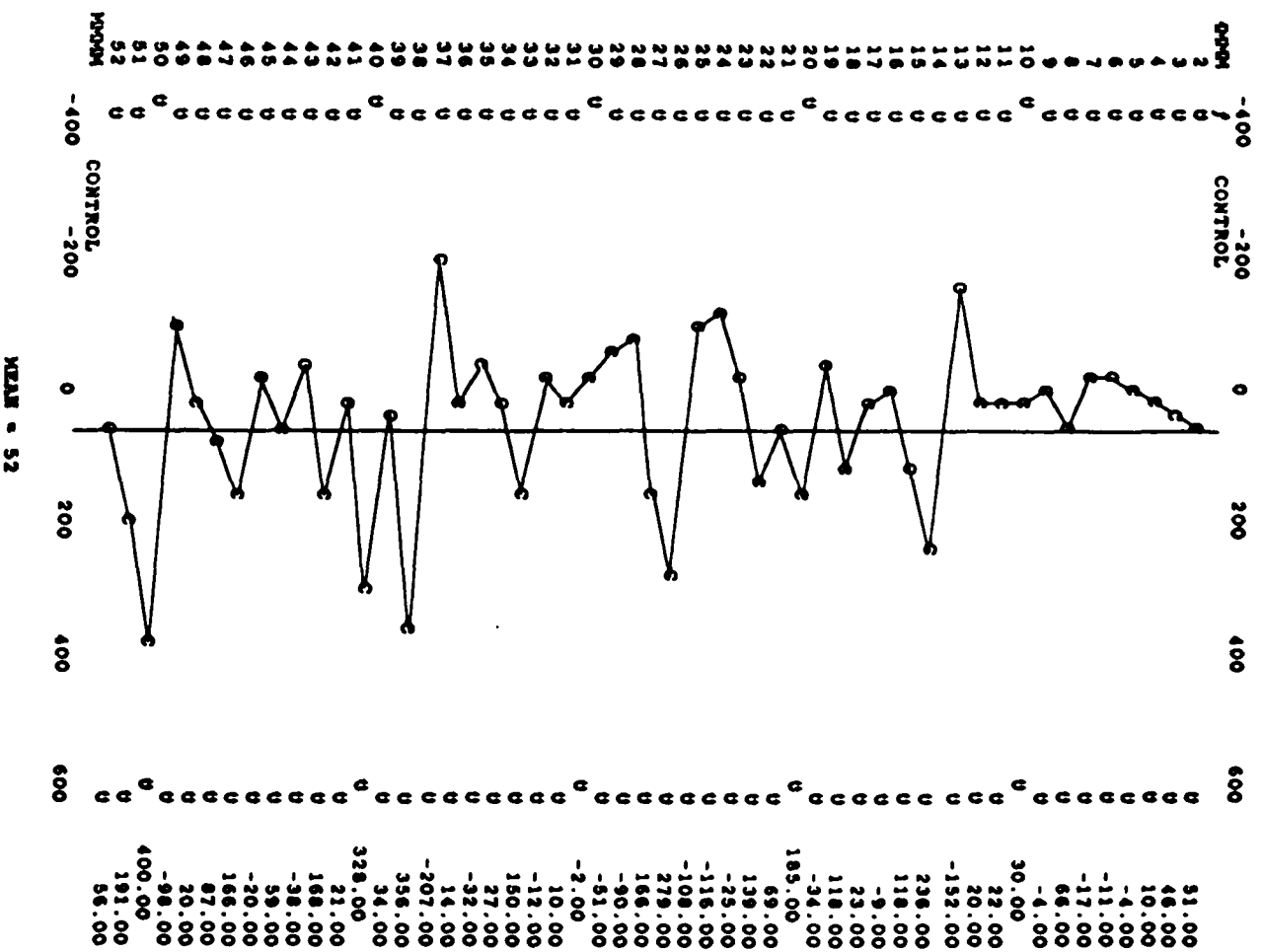
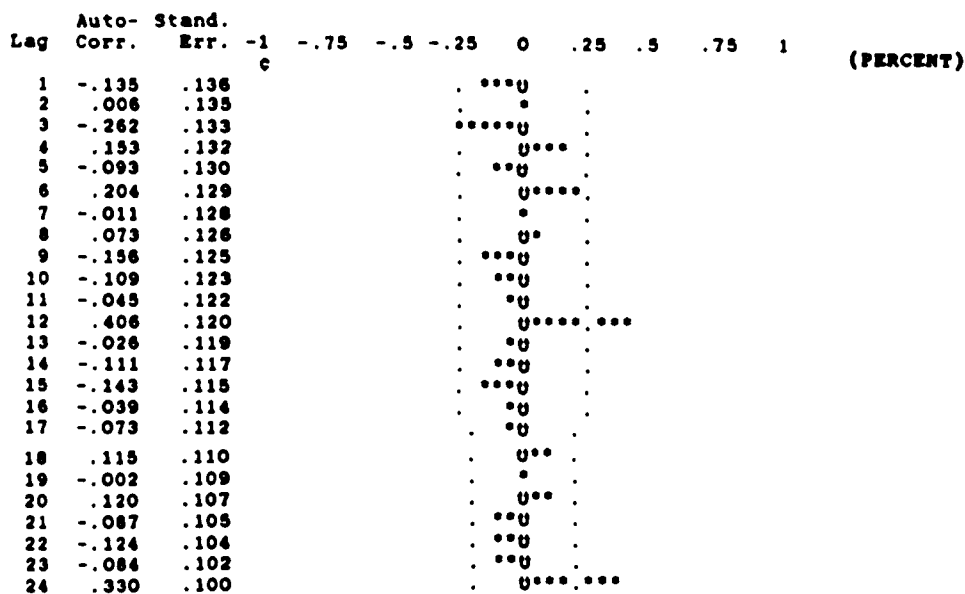


FIGURE 10.8C ACF/PACF JAIL POPULATION/CONTROL GROUP

Autocorrelations: CONTROL

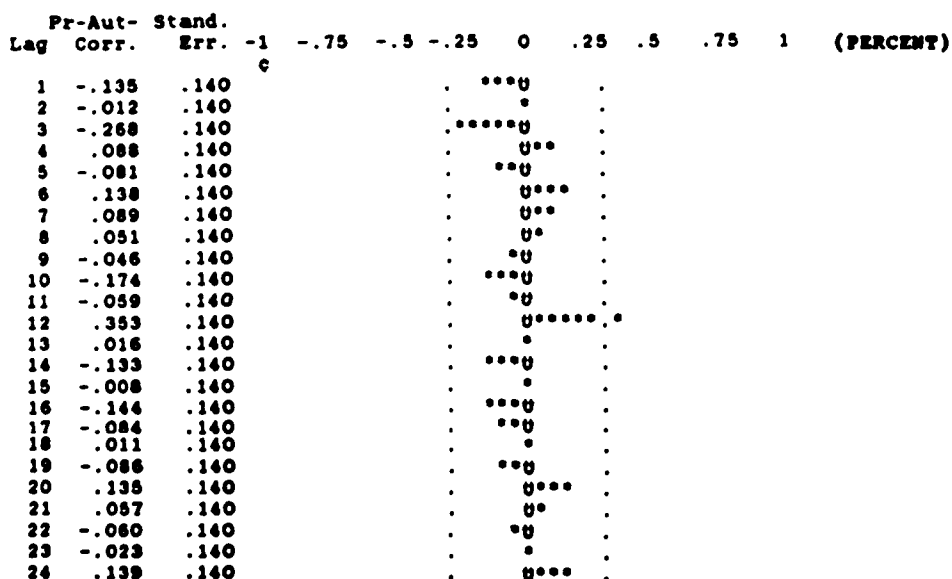
Transformations: difference (1)



Plot Symbols: Autocorrelations * Two Standard Error Limits .

Partial Autocorrelations: CONTROL

Transformations: difference (1)



Plot Symbols: Autocorrelations * Two Standard Error Limits .

FIGURE 10.8D RESIDUALS/JAIL POPULATION/CONTROL GROUP

Autocorrelations: ERR#1

Lag	Auto- Corr.	Stand. Err.	-1	-.75	-.5	-.25	0	.25	.5	.75	1	Box-Ljung	Prob.
1	-.162	.136					***U					1.415	.234
2	.134	.135					U***					2.410	.300
3	-.206	.133					***U					4.802	.187
4	.201	.132					U***					7.125	.129
5	-.103	.130					U***					7.750	.171
6	.107	.129					U**					8.441	.208
7	.058	.128					U*					8.646	.279
8	-.025	.126					U					8.685	.370
9	-.045	.125					U					8.814	.455
10	-.147	.123					***U					10.248	.419
11	.048	.122					U*					10.403	.495
12	-.045	.120					U					10.545	.568
13	.050	.119					U*					10.720	.634
14	-.162	.117					***U					12.634	.556
15	-.010	.115					U					12.642	.630
16	-.092	.114					***U					13.292	.651
17	-.078	.112					***U					13.777	.683
18	.046	.110					U*					13.951	.732
19	-.009	.109					U					13.958	.786
20	.141	.107					U***					15.687	.736
21	-.029	.105					U*					15.762	.783
22	.005	.104					U					15.764	.827
23	-.068	.102					U*					16.216	.846
24	.249	.100					U***					22.408	.555

Plot Symbols: Autocorrelations * Two Standard Error Limits .

BOX LJUNG = 15.764 DF = 22

Variables in the Model:

	B	SEB	T-RATIO	APPROX. PROB.
SAR1	.461014	.140954	3.2706697	.00196794
CONSTANT	49.621843	23.970962	2.0700814	.04373685

FIGURE 10.8E RESIDUALS/ SERIES 1-72/JAIL POPULATION/CONTROL

Autocorrelations: ERR#1

Lag	Auto- Corr.	Stand. Err.	-1	-.75	-.5	-.25	0	.25	.5	.75	1	Box-Ljung	Prob.
1	-.124	.116					. . . u					1.146	.284
2	.175	.115					. u . . .					3.433	.180
3	-.147	.115					. . . u					5.079	.166
4	.059	.114					. u .					5.346	.254
5	-.011	.113					. .					5.355	.374
6	.082	.112					. u . .					5.893	.435
7	.165	.111					. u . . .					8.102	.324
8	-.007	.110					. .					8.107	.423
9	.033	.109					. u .					8.196	.515
10	-.149	.108					. . . u					10.079	.434
11	.094	.108					. u . .					10.846	.456
12	-.082	.107					. . . u					11.443	.491
13	.036	.106					. u .					11.560	.564
14	-.122	.105					. . . u					12.916	.533
15	-.078	.104					. . . u					13.484	.565
16	.064	.103					. u .					13.872	.608
17	-.063	.102					. . u					14.258	.649
18	.012	.101					. .					14.272	.711
19	-.140	.100					. . . u					16.223	.642
20	.066	.099					. u .					16.665	.675
21	-.196	.098					 u					20.656	.480
22	.021	.097					. .					20.703	.539
23	-.139	.096					 u					22.781	.474
24	.234	.095					. u					28.831	.227

Plot Symbols: Autocorrelations * Two Standard Error Limits .

BOX LJUNG = 20.656 DF = 21

Variables in the Model:

	B	SEB	T-RATIO	APPROX. PROB.
SAR1	.554104	.12362	4.4823425	.00002919
STEP	20.821980	104.21085	.1998063	.84222853
CONSTANT	26.695485	26.60969	1.0032242	.31930950

The final ARIMA model presented is the state-wide prison population. This data can not be presented in terms of experimental or control group as the prison system is state wide.

The series of the prison population appears in Figure 10.9A. The series trends from 3543 in 1985 to 4397 at the end of the study period. This trend suggests the need for differencing and the series of the differenced data appears in Figure 10.9B. The ACF and PACF of the differenced series appear in Figure 10.9C. The ACF and PACF indicate that this series is an ARIMA model (0,1,0) or white noise. The residuals of the residuals (see Figure 10.9D) are not statistically different from zero, thus the white noise model is accepted.

The intervention variable has a coefficient of -60.7 with a t statistic of -.399 which is not significant. Therefore, the intervention did not impact on this series.

The residuals for the modeled series appears in Figure 10.9E. The residuals are not statistically different from zero, thus the model can be accepted. The model for this series is written as:

$$(1-B)\hat{z}_t = a_t$$

FIGURE 10.9A PRISON POPULATION

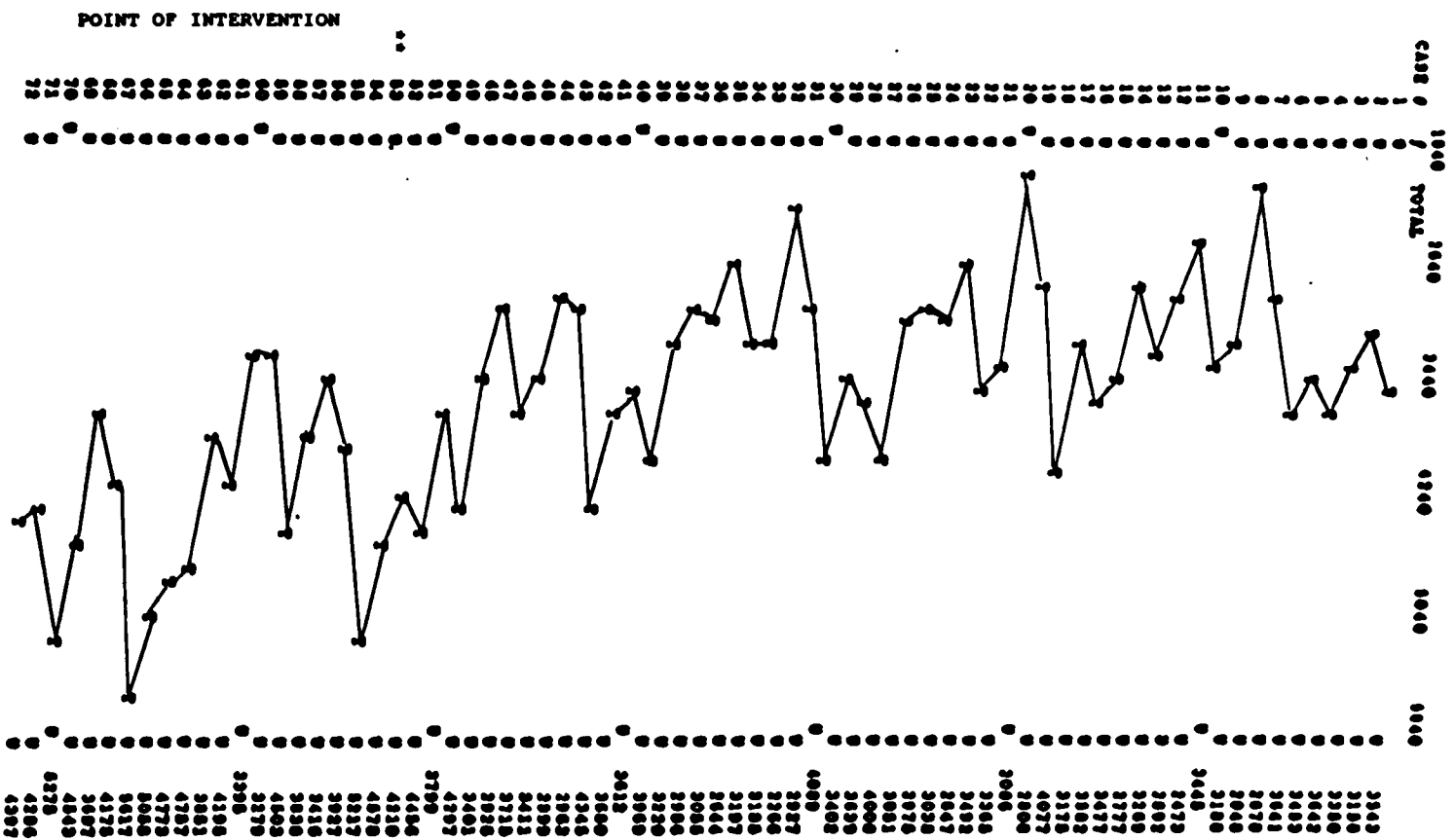
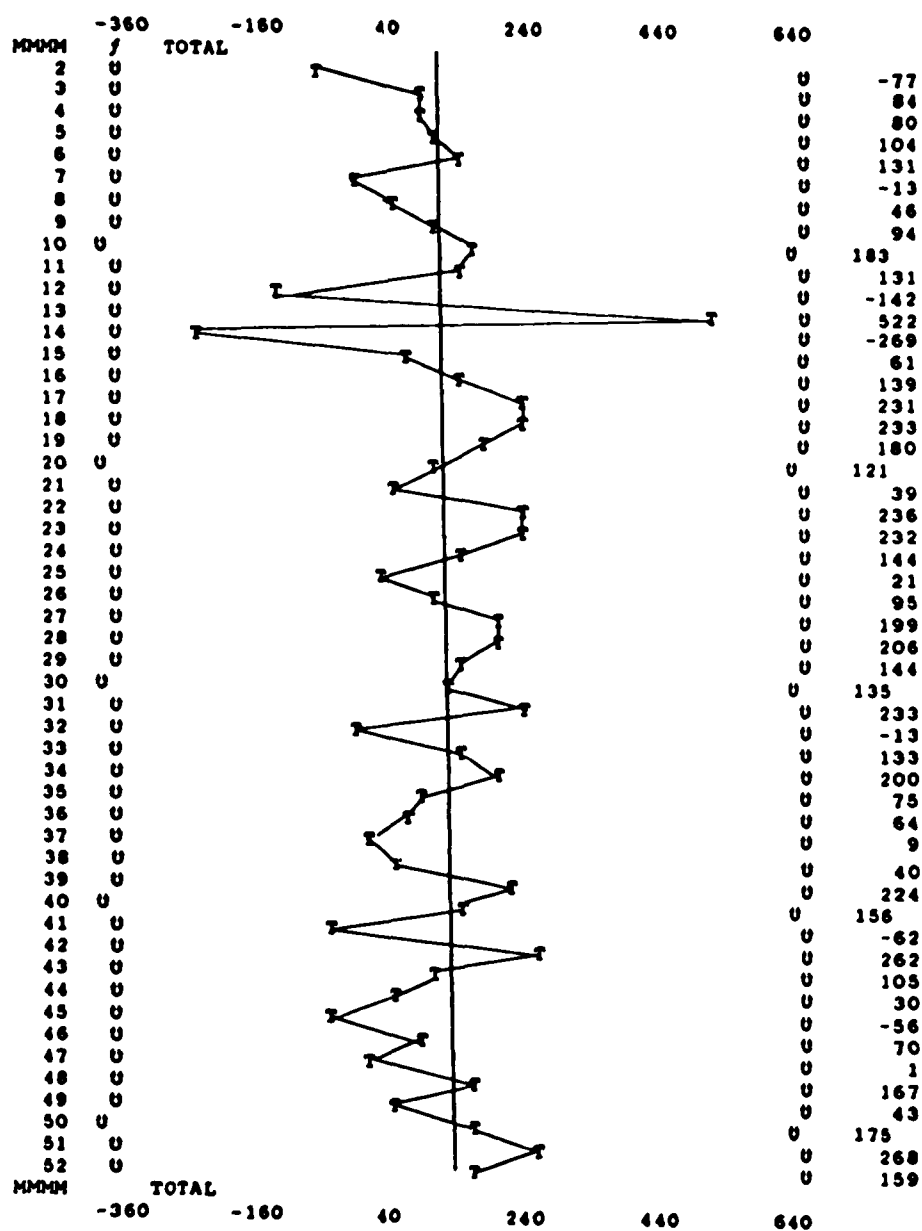


FIGURE 10.9B DIFFERENCED SERIES/PRISON POPULATION



MEAN = 109

FIGURE 10.9C ACF/PACF PRISON POPULATION

Autocorrelations: TOTAL

Transformations: difference (1)

Lag	Auto- Corr.	Stand. Err.	-1	-.75	-.5	-.25	0	.25	.5	.75	1	(PERCENT)
1	-.266	.136					U					
2	.026	.135					.U					
3	.003	.133					.					
4	.012	.132					.					
5	.044	.130					.U					
6	-.015	.129					.					
7	.025	.128					.					
8	-.067	.126					.U					
9	.088	.125					.U..					
10	-.030	.123					.U					
11	-.004	.122					.					
12	.136	.120					.U...					
13	-.038	.119					.U					
14	-.095	.117					.U					
15	-.106	.115					.U					
16	-.089	.114					.U					
17	-.036	.112					.U					
18	.058	.110					.U					
19	-.181	.109					U					
20	.008	.107					.					
21	.018	.105					.					
22	-.055	.104					.U					
23	.045	.102					.U					
24	.006	.100					.					

Plot Symbols: Autocorrelations * Two Standard Error Limits .

Partial Autocorrelations: TOTAL

Transformations: difference (1)

Lag	Pr-Aut- Corr.	Stand. Err.	-1	-.75	-.5	-.25	0	.25	.5	.75	1	(PERCENT)
1	-.266	.140					U					
2	-.048	.140					.U					
3	-.002	.140					.					
4	.014	.140					.					
5	.055	.140					.U					
6	.013	.140					.					
7	.026	.140					.U					
8	-.059	.140					.U					
9	.057	.140					.U					
10	.005	.140					.					
11	-.009	.140					.					
12	.142	.140					.U...					
13	.042	.140					.U					
14	-.110	.140					.U					
15	-.181	.140					.U					
16	-.207	.140					.U					
17	-.149	.140					.U					
18	.010	.140					.					
19	-.163	.140					.U					
20	-.069	.140					.U					
21	-.010	.140					.					
22	-.067	.140					.U					
23	.021	.140					.					
24	.041	.140					.U					

Plot Symbols: Autocorrelations * Two Standard Error Limits .

FIGURE 10.9D RESIDUALS/PRISON POPULATION

Autocorrelations: ERR#1

Lag	Auto- Corr.	Stand. Err.	-1	-.75	-.5	-.25	0	.25	.5	.75	1	Box-Ljung	Prob.
1	-.266	.136					U					3.826	.050
2	.026	.135					U*					3.864	.145
3	.003	.133					.					3.865	.276
4	.012	.132					.					3.872	.424
5	.044	.130					U*					3.985	.552
6	-.015	.129					.					3.998	.677
7	.025	.128					.					4.035	.776
8	-.067	.126					U					4.315	.828
9	.088	.125					U**					4.811	.850
10	-.030	.123					U					4.872	.900
11	-.004	.122					.					4.873	.937
12	.136	.120					U***					6.148	.908
13	-.038	.119					.					6.250	.937
14	-.095	.117					U					6.915	.938
15	-.106	.115					U					7.751	.933
16	-.089	.114					U					8.359	.937
17	-.036	.112					U					8.461	.956
18	.058	.110					U*					8.737	.966
19	-.181	.109					U					11.508	.906
20	.008	.107					.					11.510	.932
21	.018	.105					.					11.538	.951
22	-.055	.104					U					11.821	.961
23	.045	.102					U*					12.015	.970
24	.006	.100					.					12.018	.980

Plot Symbols: Autocorrelations * Two Standard Error Limits .

BOX LJUNG = 12.015 DF = 23

Variables in the Model:

	B	SEB	T-RATIO	APPROX. PROB.
CONSTANT	109.27451	17.185358	6.3585821	.00000006

FIGURE 10.9E RESIDUALS/ SERIES 1-72/PRISON POPULATION

Autocorrelations: ERR#1

Lag	Auto- Corr.	Stand. Err.	-1	-.75	-.5	-.25	0	.25	.5	.75	1	Box-Ljung	Prob.
1	-.050	.116					u					.184	.668
2	.130	.115					u**					1.461	.482
3	.156	.115					u**					3.310	.346
4	.090	.114					u**					3.942	.414
5	.036	.113					u*					4.041	.543
6	-.094	.112					u*					4.748	.576
7	-.031	.111					u					4.828	.681
8	-.071	.110					u					5.239	.732
9	-.019	.109					.					5.270	.810
10	-.031	.108					u					5.350	.867
11	-.067	.108					u					5.736	.890
12	.137	.107					u**					7.385	.831
13	-.094	.106					u*					8.172	.832
14	-.085	.105					u*					8.829	.842
15	-.116	.104					u*					10.083	.814
16	-.188	.103					u**					13.432	.641
17	-.044	.102					u					13.619	.694
18	-.190	.101					u**					17.180	.512
19	-.135	.100					u**					18.986	.458
20	-.017	.099					.					19.017	.521
21	-.052	.098					u					19.293	.566
22	-.084	.097					u*					20.043	.580
23	.134	.096					u**					21.989	.521
24	.031	.095					u*					22.098	.573

Plot Symbols: Autocorrelations * Two Standard Error Limits .

BOX LJUNG = 20.043 DF = 22

Variables in the Model:

STEP	B	SEB	T-RATIO	APPROX. PROB.
CONSTANT	-60.72857	151.87631	-.3998555	.69049788
	120.72857	18.02440	6.6980626	.00000000

CHAPTER XI

SUMMARY OF FINDINGS

The analysis conducted in this study utilized three components of conventional data analysis. Dichotomous variables, in the form of "dummy" variables, were used to represent the presence of a stimulus. These "dummy" variables were used throughout the analysis. Each time series was analyzed in the context of pre-intervention and post-intervention periods. Lastly, offsetting the effects of the experiment itself, were the use of experimental and control groups. The use of control groups are critical in drawing conclusions as they guard against the misinterpretation of the experiment's effects, which are due to affects occurring outside of the experiment. Thus, these findings are presented based on the tenants of experimental research and design.

Keeping accuracy in the forefront, these findings are intended for reasonable, fair-minded persons particularly those whose preconceptions may have run counter to the results of this study. Hopefully this study will influence program development and policy decisions on some of the critical problems facing the courts.

The main mission of this evaluation is to assess whether the program achieved its intended goals. Did the judicial units reduce backlogs?

Did the judicial units reduce case processing time? In addition, this evaluation examined New Jersey's court structure and analyzed the impact of the drug court program on pre and post indictment backlogs.

This evaluation presented some theoretical aspects of court mechanisms and a model was developed based on those theories. The model considers those factors that influence case processing. The reason this model was built was to assist in the assessment of the action between the players in the courtroom. In the State's "innovative" response to court backlogs, the Belsole-Pashman Report called for a communications model because they realized that cases will not be moved until all the players worked together toward a common mission.

The main variables analyzed in this evaluation were criminal court case backlogs and criminal court case processing times. The program called for the reduction of case processing time and a reduction of the number of court cases waiting to be heard. The pre-indictment backlog was analyzed in terms of both two and four month backlog. The post-indictment backlog was analyzed in terms of both the twelve month and total backlog numbers. The case processing times were analyzed in terms of the pre-indictment and post-indictment case processing times.

Pre-indictment Backlogs

The behavior of all of the pre-indictment backlog time series, including those experimental and control groups at two and four month levels, displayed the same general pattern. Generally, all of the time series in this group saw a steady increase of case backlogs from 1985 until about January 1990. After January 1990 each of these series saw a drop in backlogs until the end of the study period.

The interrupted time series statistical analysis of the pre-indictment backlog (Chapter VII) indicated that none of the series in the chapter realized a statistically significant change in the series at the time of the program intervention. A visual examination, however, of the pre-indictment backlog series (Chapter VII) shows backlog reduction in the experimental groups. But, a similar reduction occurred in the control groups for both the two month and four month series. This suggests the influence of an extraneous variable on the series other than the intervention. In other words, an outside variable reduced backlogs in these series. The primary suspect in the reduction of backlogs at the pre-indictment stage is the number of arrests. An examination of the arrest data shows similar series behavior, in that, arrest numbers fell in the same pattern as the pre-indictment backlog series leading to the conclusion that pre-indictment backlogs are arrest driven.

Post-indictment Backlogs

The post-indictment series behaved somewhat differently than the pre-indictment series. The post-indictment series tended to rise consistently throughout the study period. The post-indictment backlogs did not drop at month number 60 as did the pre-indictment series. This was the case in both post-indictment levels, the total backlog and the twelve month backlog. In short, all post-indictment backlogs continued to increase throughout the study period.

The intervention analysis conducted in Chapter VIII indicated that no statistically significant change occurred in the post-indictment series. This was true in the experimental and control groups of both the twelve month and the total post-indictment backlog variables. Thus, the intervention did not contribute significantly to post-indictment backlog reduction.

However, a visual examination of the post-indictment caseplots in Chapter VIII will note a drop of cases at month number 69 in the experimental group. This could be noted as a change in the behavior of this series, but with caution. A proper assessment of the reduced backlog phenomenon at the end of the study period for these series would require more time.

Case Processing Time

The case processing time series was analyzed in Chapter IX. The case processing time, both at the pre and post indictment level did not significantly change throughout the study period. There is, however, noticeable differences in variance between the experimental and control groups. The experimental groups (pre and post) display a markedly different behavior in terms of variance. The experimental group generates more variance than their corresponding control groups. Further analysis of case processing time is called for, most notably the method of calculating processing time. Currently case processing time is calculated as averages where a median calculation would be the better measure.

The intervention analysis conducted in Chapter IX indicated that no statistically significant change occurred in either the pre-indictment or post-indictment case processing times. This was also found true in the experimental and control groups at both levels. Thus, the intervention did not contribute significantly to the reduction of case processing time.

Program Integrity

The investigation of integrity checks revealed that pre-indictment dismissals, post-indictment dismissals and guilty pleas did not significantly change throughout the entire study period.

In fact, these activities, except for guilty pleas, seemed to remain rather constant throughout time. The guilty pleas in both the experimental and control groups tended to increase somewhat over the study period. This could be expected due to the overall increase of cases coming into the system.

The intervention analysis conducted on the program integrity data indicated that no statistically significant change occurred throughout the study period. Thus, then application of the drug court program had no effect on the series analyzed.

Similar to the other integrity checks, the jail and prison populations did not significantly change at the point of intervention. Nor, did it significantly change later in the study period. This indicates that the numbers of the incarcerated were not significantly changed as a result of the intervention.

For ease of comparison Table 11.1 lists each ARIMA model used in this study.

TABLE 11.1 ARIMA MODEL/INTERVENTION COEFFICIENT

ARIMA Model	Intervention	t
1... (1,1,0)(1,0,0)12	248.44	-.79
2. (1,0,0)(1,0,0)12	241.88	1.17
3. (0,1,0)	- 485.27	-.89
4. (0,1,0)	55.95	.41
5. (0,1,0)	- 291.17	1.99
6. (0,1,0)	55.95	.41
7. (0,1,0)(1,0,0)12	- 348.84	-1.40
8. (0,1,0)(1,0,0)12	- 18.41	.19
9. (0,1,1)(0,0,1)12	- 1.14	-.27
10. (1,0,0)(0,0,1)12	2.78	.79
11. (2,1,0)(1,0,0)12	- 9.59	-1.60
12. (1,0,0)(1,0,0)12	3.97	.77
13. (1,0,0)	41.24	1.75
14. (0,0,0)	100.43	5.74
15. (0,0,0)(1,0,0)12	51.76	1.66
16. (1,1,0)(1,0,0)12	-19.01	-.32
17. (2,1,0)(1,0,0)12	143.3	1.16
18. (2,1,0)(1,0,0)12	85.05	.95
19. (0,1,0)(1,0,0)12	- 162.58	- 1.13
20. (0,1,0)(1,0,0)12	20.82	.19
21. (0,1,0)	- 60.72	- .39

To Conclude

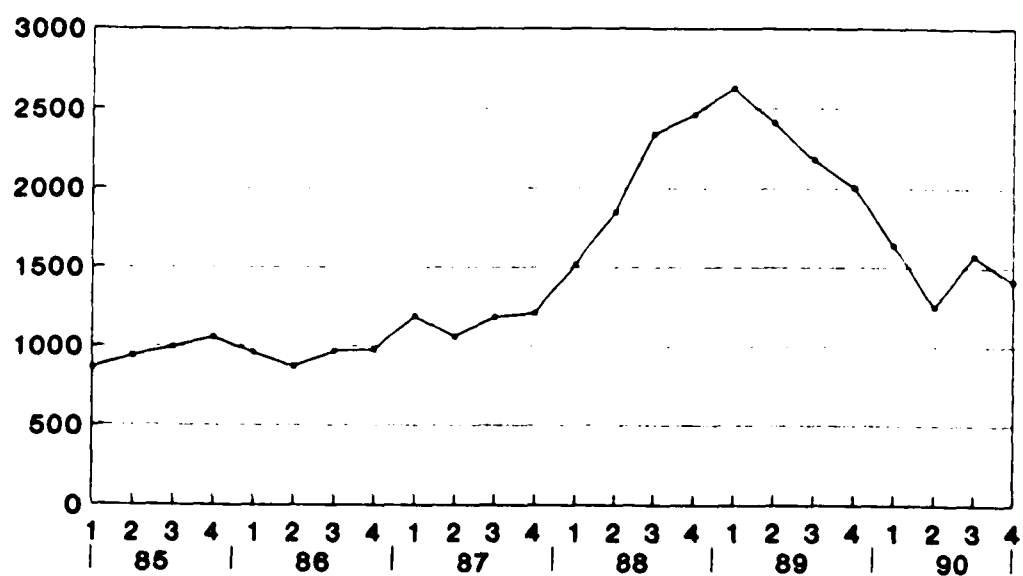
What does all of this mean? The state, realizing that increased drug arrest activity would create an imbalance in the court system, responded by studying the problem and forming special committees. These special committees, made up of experts in the system, concluded that resources should be directed at post-indictment backlogs. Cases were being piled into the system and complicated cases were forced to "wait in line". These complicated cases included multi-defendant or conflict cases where more than one defense attorney was required. As the drug arrests continued to increase so did the numbers of complicated cases and so did the post-indictment backlog. The state decided to create drug courts to expedite cases, reduce the post-indictment backlog and speed case processing time.

When common sense would tell us that allocating resources in the form of special drug-trial teams would help ease the criminal case backlog this did not appear to happen. Nor was case processing time impacted upon. At least, this was the result of case backlog analysis when the program counties were grouped into an experimental group. It could be argued that at least one evaluation problem arose as a result of grouping the counties.

Some of the smaller counties (such as County # 16) in the experimental group may have had some positive reduction of case backlogs but their numbers were overshadowed by the larger counties. This was exactly the case in county number 16. County number 16 was assigned two judges for this project and two special trial teams were formed. This county realized a reduction in the post-indictment backlogs, which was uncharacteristic of the other counties in the experimental group.

Further investigation of the program in this county, revealed that two trial teams were established instead of one (like the others). In this county more resources were directed at the problem and that could have had a more positive result. See Figure 11-2 for a caseplot of the post-indictment backlog behavior of county number 16. Notice the reduction of backlog at month number 52. The assignment of two judges to this county along with support staff did appear to reduce post-indictment backlog. This hints that the Belsole-Pashman plan was sound. The allocation of resources in this county did reduce backlogs.

FIGURE 11-2 POST-INDICTMENT BACKLOG, TOTAL, COUNTY NO. 16



A reasonable question remains if whether or not the court reform ran contrary to the beliefs and traditions of the local courts. Did the state's program and its system override the local legal culture and help speed or retard drug case processing? Was, in fact, the judicial team concept effective? These questions regarding the case processing time and backlog reduction can be answered in this study, but the answers to theoretical questions require more detailed analysis.

A fitting explanation of the lack of significant impact as seen in each series of this study may be found in the theories of organizational culture and innovation.

In Chapter V and VI of this volume some time was devoted to developing an organizational schematic along with some explanations by Church and other's theories of courtroom culture. Lundberg writes, in (Frost et al, 1985) that unless conditions are in a "permitting" mode change is unlikely. For cultural change to occur, the organizational domain must be forgiving, a modest congruence must exist between the organization and the courtroom culture and some precipitating pressure must exist internally.

Cultural change, especially change related to case processing time is inherently difficult to incorporate. The complexity of organizational culture requires a new program to have a clear vision in order to change its speed or process routine. The complexity of courtroom culture is compounded with multiple interventions imposed by many outside interests. Thus, according to Lundberg, managing cultural change is not likely, even if it is possible.

Cultural change requires a crisis, followed by a vision, incorporated by means of a written strategy, and implemented through a series of interventions. Throwing personnel at a backlog problem from the state level down to the county courts is atheoretical to Lundberg's process of cultural change.

Perhaps an autonomous process developed at the county level would have been more productive. Furthermore, according to Susan Clark, "Top-rated local-governmental strategies tend to be those that allow policy makers to retain their flexibility and sustain their legitimacy for future decision situations" (Clark, 1989). In other words, the best local programs, even though funded by a state agency, are those that retain their decision making autonomy.

In a nutshell, true cultural change of an organization such as a courtroom may very well require a crisis and corresponding reaction from within.

APPENDIX A
ATTORNEY GENERAL'S ACTION PLAN

REF #	DIRECTIVE
1.1	Participate in Demand Reduction programs.
2.2	Assign personnel to narcotics.
2.3	Inventory of resources done by Counties in 1987.
2.4	Assign additional personnel to narcotics.
5.1	Local agencies identify schools in their areas.
5.2	1,000 foot perimeter established from schools.
5.3	All officers to be familiar with perimeter of school zone.
5.4	School zone maps/photographs prepared.
5.7	Zero tolerance-arrest all juvenile CDS violators.
5.9	Patrol Plans - School Zones developed & implemented.
5.10	Clean Sweeps in schools-school authorities notified; approved by A.G. or county prosecutor.
6.7	Identify "high crime areas" with open narcotics sales.
6.8	Leader of Trafficking Network, Operating CDS Facility or Liability for Drug-Induced death charges not filed unless approved by prosecutor or A.G.
6.10	Zero tolerance - Arrest all CDS violators.
6.12	No "sell-bust" operations done without approval of A.G. or county prosecutor.
10.9	Comply with A.G. Forfeiture guidelines.
11.6	All officers receive basic in-service training on CDRA.
13.2	Agencies modify regulations to enforce provisions of Action Plan.
13.8	Study impact of CDRA
13.9	High School Survey be continued.
10.8	DAG designated to provide advice on forfeiture prosecution.

- 11.4 NJCJ to include narcotic training programs offered.
- 11.8 POST basic course revised to include CDRA updates.
- 12.1 Grants Administration Unit Established.
- 12.2 GAU reviews federal documents and maintains liaison with federal agencies.
- 12.3 GAU serves as clearing house for grant information.
- 4.9 Participate in "Operation Pipeline"
- 5.11 Make undercover teams available to counties on request.
- 6.5 With SNTF, train local police on identifying drug couriers, etc.
- 7.1 Coordinate, with SNTF air and sea interdiction efforts.
- 7.2 Develop cooperative operations with SNTF and federal agencies including LECCS and NNBIS.
- 8.6 Make investigative & equipment resources for clandestine lab interdiction.
- 9.10 Labs report data to NOMAD.
- 11.8 Revise basic narcotics course and other courses to reflect 1987 CDRA law.
- 4.7 To analyze data on trafficking networks, trends etc. & provide strategic reports to counties.
- 5.2 Develop procedures & methods for counties to analyze high density trafficking areas.
- 6.4 Provide information to police on current illicit drug transporting, offender profiles, vehicle concealing places.
- 6.5 Provide training on identifying drug couriers and seizing drugs in transport.
- 6.13 Drug-induced death investigations supervised by prosecutor.
- 7.1 With State Police, primary responsibility for air/sea interdiction.
- 7.2 Liaison with LECC, NNBIS, federal agencies.
- 7.3 Data on importation of CDS to be entered into NOMAD.

- 8.2 Data on CDS precursor & equipment sale to be entered into NOMAD.
- 8.3 SNTF to analyze materials entered in 8.2 and report back to counties.
- 8.4 SNTF to make lab investigators available as needed to counties.
- 8.8 Develop procedures with DEP for safe lab interdiction.
- 8.9 Street value of drugs estimated by SNTF or county NTF.
- 9.2 Review of litigation on CDRA Establishment of Brief Bank.
- 9.3 Deputy Attorney General assigned to counties on CDRA.
- 9.12 Study CDRA regarding 3.5 gr. freebase requirement.
- 9.14 Estimate street value drugs.
- 10.5 In all cases, determine if forfeitable assets exist. (w/counties).
- 10.7 Monitor implementation of forfeiture laws (w/FWG and NRWG).
- 11.7 Technical assistance and materials provided for CDRA training.
- 11.10 Review & report on grant availability to local law enforcement.
- 12.3 Be clearing house for information on grants; supply technical assistance on grant planning.
- 13.5 Review & consolidate confidential reports required from counties by 45 days of SNAP being active.
- 13.6 SNTF to designate statistical data to be reported by counties quarterly.
- 13.7 Standardized forms to be developed for 13.6 to be entered into NOMAD.
- 13.8 With DCJ, study impact of CDRA on charging, case disposition & sentencing, etc.
- 13.10 Issue report to A.G. on revisions needed to CDRA, or additions needed to Action Plan.
- 4.1 Organize County NTF.

- 4.2 CNTF monitors all narcotics programs in county.
- 4.3 Develop criteria for cases, plan for resource enhancement, work with demand reduction.
- 4.4 Designate person as liaison to SNTF.
- 4.5 Designate Asst. Prosecutor for legal advice to police.
- 4.6 Collect data required by SNTF and report it.
- 6.2 CNTF analyze data on high intensity drug trafficking and provide to SNTF.
- 6.6 Establish 24-hour tip line and a mail box for tips to be made in writing.
- 6.13 Ensure uniform enforcement of Drug-Induced Death; supervise such investigations.
- 7.3 Track locations of airports, marinas and self-storage.
- 7.4 Implement public awareness programs targeting airports marinas & self-storage areas.
- 7.5 Implement public awareness programs targeting airports marinas & self-storage areas.
- 8.1 CNTF identify wholesalers of glassware and precursors and monitor purchases.
- 8.2 CNTF report data gathered in 8.1 to SNTF through NOMAD.
- 8.4 Proactively investigate precursor & glassware sales.
- 8.5 Public awareness campaign on labs.
- 9.2 Submit briefs to narcotics brief bank.
- 9.5 Work with speedy trial committee to give narcotics cases priority.
- 9.10 County labs submit data to NOMAD.
- 9.14 Develop "street value" schedule & revise periodically.
- 9.15 Plan to ensure State's interests represented in municipal narcotics proceedings.
- 10.2 Assistant Prosecutor designated to oversee forfeiture actions.
- 10.5 In all cases, determine if forfeitable assets exist.

- 13.1 Ensure implementation of Action Plan in county.
- 13.3 Counties report early 1988 on how will implement Action Plan.
- 13.6 Counties report quarterly on progress and problems.
- 13.10 Give input on needed changes to CDRA or updates to Action Plan.
- 9.4 Review & Evaluate SOPS used by labs.
- 9.8 Develop criteria for prioritizing requests for analysis.
- 9.11 Develop forms and SOPS on lab certificates.
- 9.6 Automate lab data through NOMAD.
- 9.9 Develop workload referral system.
- 10.1 All agencies to Aggressively pursue forfeiture.
- 10.3 Develop & distribute forfeiture manual.
- 10.4 Develop data collection procedures to ensure compliance with asset identification and prosecution; collect through NOMAD.
- 10.6 Develop training on forfeiture w/TWG.
- 9.1 Develop drug offense charging manual.
- 6.9 Report on recommended charging guidelines.
- 9.13 Develop model targeted offenders prosecution program.
- 11.3 Statewide Assessment Training Needs.
- 11.4 Training Column in NJCJ.
- 11.9 Assess federal narcotics training programs available.
- 11.2 Coordinate revision of basic course; develop specialized curricula.
- 11.3 Statewide training network established and delivery system.
- 11.1 Form Training Working Group.
- 4.8 Coordinate narcotic activities.

- 7.2 Coordinate air & sea initiatives with federal agencies (w/NJSP & SNTF).
- 6.14 Develop Search & seizure handbook & distribute.
- 6.15 Develop training on Search & Seizure (w/TWG).
- 6.16 Develop articles for NJCJ on Search & Seizure.
- 5.12 Meet with Department of Education on Action Plan.
- 5.13 Train police & school officials on CDRA, federal search guidelines.
- 5.14 School Zone Working Group should be formed.

APPENDIX B
NEW JERSEY DRUG LEGISLATION

- Demonstrates the Legislature's recognition that drug crimes undermine the basic fabric of our social and legal institutions and that none of these offenses can fairly be characterized as "victimless." (See N.J.S.A. 2C:35-1.1);
- Incorporates controlled substance analogs, so-called "designer drugs," into the definition of controlled dangerous substances so as to close a loophole in current law and thereby ensure that our drug laws will hereafter keep pace with advances in pharmacological technologies. (See N.J.S.A. 2C:35-2);
- Highlights the punishment for seven specific substances--ccaine, heroin, PCP (angel dust), methamphetamine (speed), LSD, marijuana and hashish--in recognition of their prevalence, availability or inherent dangerousness. (See N.J.S.A. 2C:35-5);
- Creates an entirely new offense, Leader of Narcotics Trafficking Network, which is patterned after New Jersey's current racketeering laws and which is designed to facilitate the investigation and prosecution of upper echelon drug distributors and kingpins. (See N.J.S.A. 2C:35-3);

- Creates an offense, Employing a Juvenile in a Drug Distribution Scheme, which is designed to provide especially stern punishment for any adult who employs or uses a juvenile in furtherance of a drug distribution scheme. (See N.J.S.A. 2C:35-6);
- Provides for the doubling of the term of imprisonment, term of parole ineligibility, fine and penalty otherwise applicable to an adult who is convicted of distributing drugs to a minor or to a pregnant female. (See N.J.S.A. 2C:35-8);
- Creates an entirely new, separate offense to provide especially stern punishment for persons who distribute drugs within 1,000 feet of any elementary or secondary school or school bus. This new offense thus establishes a drug "safety zone" around schools and schoolyards in recognition that our schools must serve as the primary medium for educating our youth and modifying widely held, tolerant attitudes about drug use. (See N.J.S.A. 2C:35-7);
- Creates an entirely new offense which makes drug distributors and manufacturers strictly liable for drug-induced (i.e., overdose) deaths. (See N.J.S.A. 2C:35-9);
- Provides for mandatory extended terms and periods of parole ineligibility for repeat drug distributors. Those offenders who are not deterred by the prospect of enduring harsher penalties and who continue to commit

- serious drug crimes will, upon apprehension and conviction, be incapacitated for a substantial period of time. (See amendments to N.J.S.A. 2C:43-6);
- Provides for mandatory terms of imprisonment and terms of parole ineligibility for certain offenses and offenders. These mandatory terms will carefully circumscribe judicial sentencing discretion and can only be waived with the consent of the prosecutor pursuant to a plea for post-conviction agreement. This provision, which recognizes that all drug offenders are part of a complex drug distribution chain, will facilitate and encourage offenders to cooperate with law enforcement efforts to detect, apprehend and successfully prosecute otherwise well-insulated upper echelon drug traffickers. This provision would also prohibit the imposition of shorter prison terms or lesser fines than are contemplated by a negotiated plea or post-conviction agreement, thereby ensuring that prosecutors as well as defendants receive the full benefit of negotiated agreements. (See N.J.S.A. 2C:35-12);
 - Creates enhanced cash fines which can be based on three (or in some cases five) times the street value of the controlled dangerous substance involved, thereby reducing the economic incentive to engage in illegal drug trafficking. (See amendments to N.J.S.A. 2C:43-3 and 2C:44-2);

- Requires the imposition of stiff cash penalties based on the degree of the offense, the proceeds of which will be used to fund enhanced education, public awareness and rehabilitation programs. (See N.J.S.A. 2C:35-15);
- Permits courts and prosecutors to "aggregate" the amount of drugs distributed on separate occasions or to separate individuals in order to determine the degree of the crime committed. This will ensure that the most dangerous, prolific drug dealers will be accurately identified and subjected to appropriate punishment. (See N.J.S.A. 2C:35-5c.);
- Authorizes the rehabilitation of drug dependent persons. Such rehabilitation includes mandatory periodic urinalysis and, in all cases involving convictions for second degree crimes, a minimum of six months confinement to a residential treatment facility. This provision would also establish strict revocation procedures to ensure compliance with the program and the safety of the community. (See N.J.S.A. 2C:35-14);
- Requires that all persons convicted of any drug-related offense, including disorderly persons and petty disorderly person offenses, forfeit their driving privileges for not less than six months, and further renders any juvenile under age 17 adjudicated delinquent for a drug-related offense ineligible for a

- driver's license for at least six months after he reaches the age of 17. (See N.J.S.A. 2C:35-16);
- Facilitates the waiver of jurisdiction of juvenile offenders to adult court when the juvenile is accused of a drug-induced death or of selling drugs for profit while on school property. (See amendment to N.J.S.A. 2A:4A-26);
 - Provides that offenders convicted of a disorderly persons possessory drug offense which is committed on or near school grounds or on school buses be required to perform not less than 100 hours of community service. (See N.J.S.A. 2C:35-10);
 - Repeals conditional discharge, leaving Pretrial Intervention as the exclusive means for the pretrial diversion of persons accused of serious drug crimes. (See N.J.S.A. 2C:36A-1 and amendment to 2C:43-12);
 - Streamlines trial practice and related costs by authorizing in certain circumstances the use of sworn laboratory certificates in lieu of the live testimony of State forensic chemists. (See N.J.S.A. 2C:35-19);
 - Authorizes the State or counties to recoup certain laboratory analysis fees from convicted drug offenders so as to help defray the cost of maintaining modern laboratory facilities. (See N.J.S.A. 2C:35-20).

Penalties and fines mandated by State law via the Drug Enforcement and Demand Reduction Program, have been levied against drug offenders. These monies have been dedicated to fund

the Governor's Alliance to Prevent Alcoholism and Drug Abuse, which is a network of community-based education, prevention and treatment initiatives. As of January of 1991, more than \$25 million in penalties have been collected.

While the penal law represents significant changes and articulates the notion of "zero tolerance", this law would be ineffective without a clearly defined implementation plan. From this was born the Attorney General's Statewide Narcotics Action Plan (SNAP) and Implementation Strategy.

,

BIBLIOGRAPHY

- Alschuler, Albert W. (1975) "The Defense Attorney's Role in Plea Bargaining." The Yale Law Journal, Vol. 84, No.6: 1179 -1324
- Alschuler, Albert W. (1975) "The Prosecutor's Role in Plea Bargaining." The University of Chicago Law Review, Vol.36, No. 50: 889 - 1036
- Alschuler, Albert W. (1976) "The Trial Judge's Role in Plea Bargaining." Columbia Law Review, Vol.76, No. 7: 1059 - 1154.
- Buckley, Walter, (1967) Sociology and Modern Systems Theory Prentice Hall Inc., Englewood Cliffs, New Jersey.
- Church, Thomas W. (1985) "Examining Local Legal Culture." The Journal of the American Bar Foundation. Vol, 3: 449 - 518.
- Church, Thomas W. (1986) "Plea Bargains, Concessions and the Courts: Analysis of a Quasi-Experiment." Law and Society Review, Spring: 225 - 240.
- Church, Thomas W. (1982) "The Old and the New Conventional Wisdom of Court Delay." The Justice System Journal, Vol. 7 No. 3: 259 - 261.
- Clark, Susan, (1989) Urban Innovation and Autonomy, Sage Publications, Newbury Park, California.
- Dahlin, Donald C. (1986) Models of Court Management, Associated Faculty Press, Fallstaff, New York.
- Fleming, Roy B., Nardulli, Peter F. and Eisenstein, James (1987) "The Timing of Justice in Felony Trial Courts." Law and Policy, Vol. 9, No. 2: 179 - 206.
- Frost, P., Moore, L., Louis, M.R., Lundberg, C., Martin, J.(1985) Organizational Culture, Sage Publications, Newbury Park, California.
- Hannan, Michael and Freeman, John (1984) "Social Inertia and Organizational Change." American Sociological Review, 17: 404 - 423.
- Jacob, Herbert (1983) "Trial Courts in the United States: The Trails of Exploitation." Law and Society Review, Vol. 17, No.3: 407 - 423.
- Luskin, M. L. (1978) "Building a Theory of Case Processing Time." Judicature, Vol.62, No.3: 1 - 25.

McDowell, David, McCleary, Richard, Meidinger, Errol (1980) Interrupted Time Series Analysis, Sage Publications, Newbury Park, California.

Nardulli, Peter (1978) The Courtroom Elite: An Organizational Perspective On Criminal Justice, Ballinger Publishing Co. Cambridge, Mass.

Nimmer, Raymond (1978) The Nature of System Change: Reform and Impact in the Criminal Courts, The American Bar Foundation. Washington, D.C.