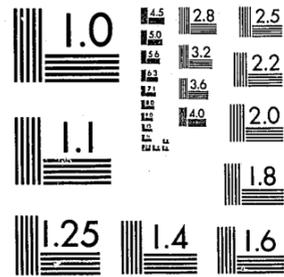


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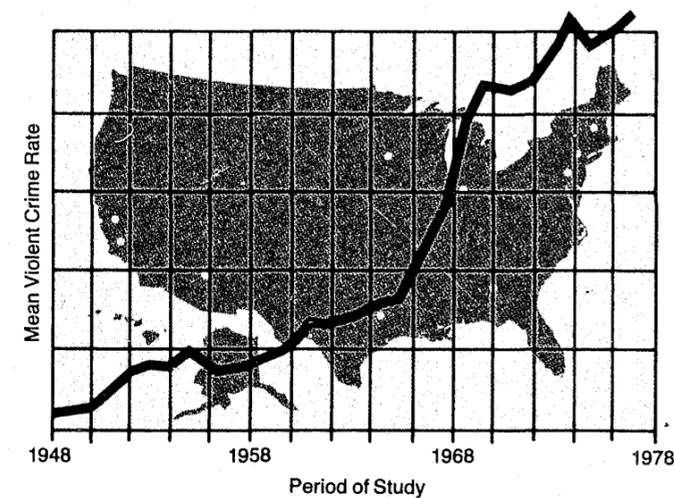


8/25/82

Governmental Responses to Crime

Crime and Governmental Responses in American Cities

81622



a publication of the National Institute of Justice

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Governmental Responses to Crime

Crime and Governmental Responses in American Cities

by
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June 1982

U.S. Department of Justice
National Institute of Justice

National Institute of Justice

This project was supported by Grant Number 78-NI-AX-0096, awarded to the Center for Urban Affairs and Policy Research, Northwestern University by the National Institute of Justice, U.S. Department of Justice, under the Omnibus Crime Control and Safe Streets Act of 1968, as amended. Points of view or opinions stated in this document are those of the authors and do not necessarily represent the official position or policies of the U.S. Department of Justice.

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ABSTRACT

In this volume, we explore the growth of crime in the post World War II United States and governmental responses to it. We focus primarily on the responses of the police, courts, prosecutors, and correctional institutions in ten large American cities. Our data are comprised of information on crimes and arrests, institutions and policies, and criminal justice system expenditures and personnel in these ten cities for the period, 1948 - 1978. A wide variety of supplementary data for all cities over 50,000 are also utilized. Chapter I outlines the basic questions addressed in this volume and our principal research strategies. Chapter II provides an analysis of the nature and causes of the phenomenal growth in officially reported crime over the last three decades. We find that the rise of crime can be best explained by national level forces such as changing life styles and increasing levels of affluence.

Chapter III examines police responses to crime by focusing on changes in police resources and activity levels, and their relationship to increased levels of crime. We find that, for the most part, police expenditures, manpower, and activity levels have expanded noticeably over the last three decades and have varied directly with increases in officially reported crime. However, we also find that the rise of police resources and activity levels have actually not kept pace with the magnitude of increase in crime. In Chapter IV, which focuses on court, prosecutor, and correctional responses to crime, we find a pattern of change similar to that revealed in our analysis of the police. Resources for courts, prosecutors, and correctional institutions have grown dramatically in the last three decades and have varied directly with changes in the crime rate and volume of arrests in a majority of our ten cities. We also find that levels of personnel for courts and prosecutors have kept pace with the volume of arrests in a majority of the cities under study. However, activity and output of the criminal justice system are shown to have fallen significantly behind the growth in crime rates and the volume of arrests in all of the cities examined. In concluding the volume, Chapter V discusses the policy implications of our findings concerning the causes of, and responses to, the growth of crime in the post World War II United States.

ACKNOWLEDGMENTS

This Technical Report of the Governmental Responses to Crime Project represents the capstone of several years' collaboration between the authors and many other people. At one time or another, more than a hundre persons, ranging from undergraduate assistants to professional scholars, have worked together.

Much of the data on which this report is based was collected by our field directors who were in charge of the data collection in their own city. They were: Jack Tucker (Atlanta), Susan Greenblatt (Boston), Kenneth Mladenka (Houston), Harold Pepinsky and Philip Parnell (Indianapolis), Marlys McPherson (Minneapolis), Dorothy H. Guyot (Newark), David Graeven and Karl Schonborn (Oakland), Peter Cope Buffum (Philadelphia), John Stuart Hall and David L. Altheide (Phoenix) and Kenneth Aron Betsalel (San Jose). Without the tireless efforts of these field directors and their staff assistants, we would not possess the data on which this report is based.

The central staff in Evanston coordinated the field efforts, collected some of the data, managed the data base, and assisted in myriad ways during the data analysis. They made our work truly collaborative. This staff was most ably presided over by Anne M. Heinz, our project manager. In addition to the authors listed, our research associates were Lenore Alpert, Stephen C. Brooks, Mark Fenster, David Kusnitz, Sarah-Kathryn McDonald, David McDowell, Jack Moran, Delores Parmer, Marilyn Schramm, and Sharon Watson. Our secretarial staff, without whom all our word processing would have been for naught, included Elaine Hirsch, Barbara Israelite, Leonie Kowitt, Nita R. Lineberry, Brigitta Masselli, Ann Wood and Norma L. Wood.

Others, too have contributed to our thinking and have expedited our work. Our colleagues in the Center for Urban Affairs and Policy Research and the Department of Political Science at Northwestern provided us with intellectual stimulation as well as a comfortable environment in which to work. Ms. Marjorie Carpenter of the Northwestern University Interlibrary Loan Department helped us borrow thousands of reels of microfilmed newspapers, a project of unprecedented dimensions for her small staff. Ms. Mina Hohlen and other

consultants at Vogelback Computing Center answered countless questions.

One other group of individuals, most of whom we have never met, has aided our work in important ways. These are the local officials who helped our field directors secure access to data. Our staff rarely encountered a reluctant official from whom we sought information. It was far more common to find people who went out of their way to help us track down sometimes esoteric sets of information. A sizeable number of individuals also helped us by agreeing to be interviewed as "knowledgeables," shedding light on the patterns of the governmental process in their cities.

It is not uncommon for grantees to complain about bureaucratic nitpicking or meddling from their granting agencies. It is particularly important, therefore, for us to record here our very deep gratitude to the National Institute of Justice and to Dr. Richard Rau, our project monitor. Far from giving the common impression of a rule-bound bureaucracy, they were unflagging in their devotion to expediting our work, respecting at the same time our scholarly independence and integrity, even when disagreeing with some of our conclusions.

The list of persons who have given us aid and comfort is quite a long one. However, we make clear that what follows in this Technical Report is our responsibility and that neither the National Institute of Justice nor any others should be saddled with its contents. We remain, however, very much in their debt.

Herbert Jacob
Evanston, Illinois

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Lawrence, Kansas

December 31, 1981

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PREFACE

This is one of three technical reports of the Governmental Responses to Crime Project. The project constituted an unprecedented opportunity to examine on a broad scale the ways in which local governments responded to crime. With much of the nation mesmerized by the specter of rising crime and with an apparently wide variety of programs seeking to contain it, such a study seemed propitious when it was begun in October 1978. The project sought to analyze policy responses to the rise of crime in American cities during the previous 31 years. Its principal research questions were:

What characterized the rise of crime in the United States during this period?

How did attentiveness to crime change over the period?

What were the connections between the structures and patterns of urban governments and their responses to crime?

How did the urban communities' principal responses to crime change over time?

Our focus here is primarily, though not exclusively, on the local community. In the United States, local governments have always possessed the major responsibility for responding to crime. Police slowly evolved from the unpaid watch system of colonial times. At no point were state or national governments entrusted with substantial responsibility for policing. Despite a steady growth in federal expenditures on criminal justice, only 14.8 per cent of all criminal justice expenditures in 1978 were made by the federal government. An additional 29.7 per cent were made by states but 56 per cent came from local governments (Hindelang, Gottfredson, and Flanagan, 1981:7). Even elements of the system which are funded and managed by state and national officials are physically located in (and often influenced by) local communities. Our focus, though mainly on city governments, does not preclude investigations of some county, state and national responses to crime, though it is their implementations at the city level upon which we concentrate.

Our analysis does not attempt to study superficially all local communities. Rather we draw heavily upon intensive studies of ten American cities. We track their crime problems, their attentiveness to crime, their political and governmental processes, and the policies chosen by those processes. These ten cities are:

Atlanta, Georgia
 Boston, Massachusetts
 Houston, Texas
 Indianapolis, Indiana
 Minneapolis, Minnesota
 Newark, New Jersey
 Oakland, California
 Philadelphia, Pennsylvania
 Phoenix, Arizona
 San Jose, California

These cities do not constitute a representative sample of American communities, but they represent a broad spectrum of American urban life. They represent distinct clusterings on particular dimensions of cities which are theoretically and practically interesting to us. Three cities, Newark, Atlanta, and Oakland, elected black mayors during the period. Three others, Minneapolis, Houston, and Philadelphia, are noted for their politically active police departments and two of these (Minneapolis and Philadelphia) elected police officials as mayor. Three cities (San Jose, Oakland, and Phoenix) are "reformed" local governments with a city manager plan, while the others are not.

Moreover, these ten cities vary considerably with respect to their fiscal strength. Many indices of fiscal conditions have been proposed in recent years (Schneider, 1975; Louis, 1975; Nathan and Adams, 1976; Bunce and Glickman, 1980). Regardless of the index used, the ten cities exhibit enormous diversity. Table 1 reports, for example, the scores from Harold Bunce and Norman Glickman's "needs index" for 58 cities with 1970 populations larger than 250,000 (Bunce and Glickman, 1980). This is probably the most influential of the various city ranking efforts, largely because it was developed to evaluate HUD's allocations of Community Development Block Grant moneys. The "needs index" is a factor score composed of more than 20 indicators of community age and decline, density, and poverty. As Table 1 indicates, the ten cities selected for this project anchor both ends of the spectrum, even though the site selections preceded the publication of the needs index. Newark is the worst-off American city by this calculation; Atlanta, Boston, and Oakland are among the twelve most distressed cities. At the other end of the ranking are three more of our ten cities, Phoenix, Indianapolis and San Jose, scoring as the three best-off cities among the 58. Minneapolis scored almost at the median. This index certainly documents the very wide range of cities studied by the Governmental Responses to Crime project.

Other indices, constructed for somewhat different

TABLE 1.1

NEED SCORES AND NEED RANKINGS, CITIES WITH POPULATIONS OVER 250,000

Rank	City	Need Score*	Rank	City	Need Score*
1	Newark	1.448	30	Kansas City	0.042
2	New Orleans	1.166	31	Los Angeles	0.017
3	St. Louis	1.022	32	Denver	-0.030
4	Cleveland	0.782	33	Fort Worth	-0.117
5	Birmingham	0.777	34	St. Paul	-0.134
6	Baltimore	0.764	35	Sacramento	-0.142
7	Washington	0.663	36	Portland	-0.160
8	Detroit	0.626	37	Columbus	-0.165
9	Atlanta	0.590	38	Toledo	-0.168
10	Boston	0.556	39	Baton Rouge	-0.178
11	Cincinnati	0.543	40	Long Beach	-0.202
12	Oakland	0.524	41	Seattle	-0.221
13	Chicago	0.521	42	Oklahoma City	-0.242
14	Buffalo	0.513	43	Dallas	-0.249
15	New York	0.507	44	Charlotte	-0.260
16	Philadelphia	0.495	45	Jacksonville	-0.331
17	Louisville	0.485	46	Houston	-0.356
18	Pittsburgh	0.484	47	Wichita	-0.363
19	San Antonio	0.467	48	Albuquerque	-0.365
20	Miami	0.459	49	Omaha	-0.389
21	Norfolk	0.341	50	Austin	-0.399
22	El Paso	0.322	51	Tucson	-0.435
23	Memphis	0.316	52	Honolulu	-0.476
24	Rochester	0.299	53	San Diego	-0.510
25	San Francisco	0.219	54	Tulsa	-0.517
26	Tampa	0.155	55	Nashville-Davidson	-0.556
27	Milwaukee	0.060	56	Phoenix	-0.564
28	Minneapolis	0.059	57	Indianapolis	-0.567
29	Akron	0.048	58	San Jose	-0.892

* The average need score for the population of the 483 metropolitan cities included in the needs analysis is zero. Large cities as a group are somewhat needier than average.

Source: Bunce and Glickman (1980: 525)

purposes, array large cities in different ways, but confirm the "spread" of our cities on various dimensions. Two of these indices are reported in Table 2. One is Nathan and Adams' (1976) ranking of central city "hardship", the degree to which the central city is disadvantaged in relationship to its suburbs. Another is Arthur Louis's (1975) popularized and often-cited ranking of the quality of life among 50 large cities. His assessments represent the average ranking of 24 separate indicators ranging from parkland to Who's Who listings from the city. The third and final index, listed in Table 3, is particularly useful for our purposes, because it is the only one to provide rankings at two points in time. Fossett and Nathan (1981) developed an "urban condition index" score for large cities in 1960 and 1970. Among our cities Boston and Newark rank as the most distressed while San Jose and Phoenix were relatively well off in both years.

All of these indices demonstrate that our ten cities vary widely as places to live, work, or govern. In comparison with other large American cities, these ten communities are not concentrated in a narrow band with respect to key variables. They provide us with ample variations in key socioeconomic dimensions, regional location, and the overall measures of the quality of urban life.

The period of our study was chosen to capture the years when reported crime rose rapidly in the United States. The year 1948 was selected as the beginning point because by then most of the temporary dislocations caused by World War II had passed and the nation was electing its first post World War II, post FDR president. The year 1978 was chosen to mark the end of a decade of federal grants from the Law Enforcement Assistance Administration and because it was the most recent year for which data could be obtained during the time that the study was funded.

There are, of course, countless ways in which governments can respond to crime or to perceptions of it. Just as all governments cannot be encompassed in a single research enterprise, neither can all possible responses. Varying responses to crime have been debated with considerable fervor and are tinged with ideological content. Some have advocated policy responses designed to attack the purported "root causes" of crime, such as poverty, discrimination, and breakdowns in family structure. Other strategies center around reforming or reinforcing traditional law enforcement institutions. These include expanding police forces, manipulating their behavior, experimenting with new parole and penal systems, and somehow "toughening" the punishment of offenders. Such strategies are intended to increase apprehension rates of offenders and to deter additional criminal acts. More recently, a whole new

TABLE 1.2
RANKINGS OF GRC CITIES ON CENTRAL CITY HARDSHIP INDEX
AND "WORST AMERICAN CITY" INDEX

	Nathan-Adams Ranking of Central City Hardship (55 cities ranked) ^a			Louis Ranking of "Worst American City" (50 cities ranked)		
	City	Rank	Hardship Score	City	Rank	Score
Most Disadvantaged ↑	Newark	1	422	Newark	1	41.6
	Atlanta	7	226	Philadelphia	12	31.0
	Philadelphia	14	205	Atlanta	15	30.0
	Boston	15	198	Boston	17	29.6
	San Jose	18	181	Houston	23	27.4
	Minneapolis	32	131	Oakland	25	25.9
	Indianapolis	36	124	Phoenix	30	23.3
	Houston	46	93	Indianapolis	35	20.6
	Phoenix	47	85	Minneapolis	43	18.8
	Least Disadvantaged ↓				San Jose	47

Sources: Nathan and Adams (1976: 51-52); Louis (1975: 71).

^aOakland was not included.

TABLE 1.3

FOSSET-NATHAN URBAN CONDITIONS INDEX

	CITY	1960 SCORE	1970 SCORE
Most Disadvantaged ↑	Boston	201.0	193.2
	Newark	196.3	207.0
	Philadelphia	166.2	168.5
	Minneapolis	144.5	154.7
	Oakland	120.7	106.6
	Atlanta	70.7	67.0
	Houston	40.2	27.7
	San Jose	27.7	13.3
	Phoenix	9.8	18.5
Least Disadvantaged ↓			

Source: Fossett and Nathan (forthcoming, Table 1). Indianapolis is not included in this ranking.

battery of crime control and prevention policies have been advocated, some of which involve "target hardening" or "environmental design" (see, e.g., Angel, 1968) or enlisting neighborhoods in social control processes.

Clearly, if a single research project investigated every policy taken in the name of crime reduction, a panoply of social programs as well as the criminal justice system could be included. A war on poverty may be urged (and was urged by some people) to remove one of the causes of crime, as can a host of other social programs. Our resources, however, required us to distinguish between proximate and distal responses to crime. By proximate responses, we mean those policies whose adoptions are urged primarily because of their assumed links with the crime problem. An increase in police manpower, a change in sentencing procedures, or a police reorganization is normally advocated because of its putative impact on offenders or potential offenders. Distal responses, on the other hand, may have intended impacts on crime claimed by supporters, but crime reduction is only one among a large number of objectives. Reduction in youth unemployment, for example, might achieve a number of policy goals, only one of which is to deter juvenile delinquency.

There is one other crucial distinction between proximate and distal responses to crime. The theory underlying proximate responses implies a relatively simple causal chain, while that underlying distal responses is quite complex. Changing from two- to one-man patrol cars, for example, is justified as spreading the police over a broader catchment area for responding to service calls. Schemes to cut unemployment, reduce poverty, or reverse family disintegration depend upon much more complex causal webs if they are ultimately to have an impact upon crime. Moreover, the adoption of such meliorative policies is the result of different political strategies and they require different resources.

Already we have drawn some boundaries around our inquiry into governmental responses to crime. Our focus is a particular time period, 1948-78. Our locus is a set of American cities. Our particular concern is with proximate rather than distal responses. Last, we concentrate on governmental responses rather than on the responses of families, firms, or neighborhoods.

Even with these four limitations, there is a large research agenda. The research task required collection of a very substantial amount of both qualitative and quantitative data from individual communities. This information went well beyond census data and information available from other secondary sources. Insofar as possible, we secured quantitative annualized information. These primary source materials were supplemented with historical and contextual information about the cities themselves. To provide reliable

and comparable information from a number of cities, many of the resources of the Governmental Responses to Crime project were spent in the field. We had the good fortune of being able to employ as field directors an exceptionally able group of social scientists. Under our direction, they collected the data upon which this report is based.

Details of the site selection process, data collection and management are available in the Final Administrative Report of the Governmental Responses to Crime project. Much of the data will be deposited with the Inter-University Consortium for Political and Social Research at the University of Michigan.

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Chapter I

COMPLEXITIES OF POLICY RESPONSES

A. Introduction

The ways in which governments respond to problems are often subtle, complex, and mysterious. To the casual observer, it often seems that governments ignore or respond inadequately to pressing problems while addressing others that seem less significant from the observer's perspective. The relationship between the scope of the problem and the solution which is considered and then possibly adopted is unclear. This volume addresses some elements of these connections. In Crime on Urban Agendas (Jacob and Lineberry, 1982), we examined some of the ways in which crime found a place on public and policy agendas during campaigns and during mayoral terms of office. In this volume, we examine some of the characteristics of the crime problem and some of the responses that it evoked from local governments.

B. The Crime Problem

If we are to understand responses, we need first to examine some of the stimuli that evoke them. Among them is the problem which the responses address -- in this case the crime problem. There are many elements of the crime problem that we might examine. If public opinion data were available over time for cities, we might have examined what aspects of crime people were concerned about. Then we would learn whether they were mostly concerned about personal violent crime or property crime, attacks by strangers or by acquaintances, crimes in their neighborhood or crimes which they read about regardless of their locale. Alternatively, we might study how decision-makers view crime as a problem -- whether they considered it a serious matter, how much they thought it cost the public, and how much expenditure its correction was worth. Still another approach would examine the degree to which crime was a national rather than a local problem (or vice versa) and how much the factors that seemed associated with the rise in crime were subject to governmental manipulation. This last approach is the one adopted here.

It has been conventional in the United States to consider crime to be a local problem. Although the laws that define what behavior is criminal are mostly state laws and affect an entire state, most studies of crime in the United States have focused on its occurrence in urban settings. The wickedness of

the city has been a constant theme in social commentary in the United States. Vice and gambling as well as robbery, assault, and murder have been used to portray American cities as dangerous places.

Not only has crime been presented mostly as an urban problem, but it is also portrayed as a problem of particular cities. It was the special problem of large cities which at the turn of the century were the recipients of large numbers of immigrants and which in later decades were the destination of many internal immigrants -- the black laborers coming from the South. Small cities were often portrayed as idylls of peaceful living while the big cities were described as dens of iniquity.

Further, big city politics were seen as a factor in crime. In all periods of American history, certain kinds of crime were alleged to have had close links to city politics. During Prohibition, rum runners bought police protection from city officials; more recently, vice, narcotics, and racketeering were linked to public office holders in the city (Gardiner and Olson, 1974). The remedy which often was offered to eradicate both corruption and crime was municipal reform. Reform was to break the link between criminal elements and public officials and replace it with the zeal and efficiency of professionals. Reformed cities were seen as less likely to be troubled by serious crime than unreformed, boss-governed cities. Thus Newark got rid of its commission form of government in 1954 and Phoenix reformed its government in 1948, in part as reactions to corruption and crime.

Such conclusions, largely nurtured by journalists and civic reformers, received indirect backing from sociological investigations of crime during the 1920s. The Chicago school of sociology examined the incidence of crime within cities and found that it flourished in the form of juvenile delinquency most fully in the inner core of the city, an area which was commercial, typified by a high degree of residential instability, and often inhabited by the city's most recent immigrants (Shaw 1929; Shaw and McKay, 1931, 1942). These were also areas of great strength for city political machines based on a system of favors dispensed by ward politicians. These studies drew a picture of a city of concentric rings of crime; the further one was from the center, the less crime occurred. By extension, the fewer unstable, central core-like neighborhoods a city had, the less its crime rate would be. Thus, to control crime, a city would seek to avoid such neighborhoods or, if it already possessed them, it would redevelop them into less threatening areas.

In Chapter 2 of this volume, we will critically examine these expectations of conventional wisdom. We will look both at how crime rates are distributed across cities at one point of time and how the growth of crime is related to various city characteristics. Clearly, our expectations about government

responses may be different if we reaffirm that crime is a local problem than if we discover that it is essentially a national problem. Further, we need to assess whether conditions that appear to be criminogenic are ones that local or national governments can modify or whether they are beyond governmental control in the United States.

C. Policy Responses

Governmental responses can be conceptualized as occurring in at least two ways. First, government institutions may initiate broad policy responses; secondly, we may expect more specific implementing actions to take place. Politically responsible institutions like legislatures and city councils are likely to adopt the former; administrative agencies and courts are likely to be most concerned with the latter. Broad policy responses may take many forms. Among them are changes in the laws that govern the sanctions directed against criminal behavior. Some of those laws are in the form of city ordinances while others are in the form of state laws. The ways in which such laws are changed are complex and are the subject of a separate Technical Report, Legislative Responses to Crime (Heinz, 1982). In this volume we will examine two other kinds of broad policy responses -- expenditures and the employment of personnel devoted to working on the crime problem.

It was not unusual during the last 30 years to consider changing resource allocation patterns when a new problem arose or when an old problem persisted. Throwing money at a problem was an easy "solution" because during most of the period the economy was expanding and public funds were relatively plentiful. Moreover, increasing expenditures is an attractive option to policy-makers because it often minimizes disruptions in ongoing operations and organization. Those in charge of the solution like it because it enhances their power and prestige with the growth of their agency unless the new funds are allocated to a new, competing organization. Often the only promises that have to be made are ones which involve doing the same thing as before but doing them more intensively.

Increasing personnel to deal with a problem is also a favorite "solution" to problems where techniques for addressing the problem are relatively labor intensive. If one wishes to go to the moon, it is clear that much money will have to be spent on machines to get there. But if one wishes to reduce crime, the machines which might help with such an effort are less self-evident and more money is likely to be spent on more or better trained police officers rather than on patrol cars, communications equipment, or armaments. Again, such a "solution" is likely to be relatively attractive because it minimizes disruptions in current agency practices. No one

needs to learn new techniques nor does a new technology compete with existing ones. Rather, one only adds more people to do the same kinds of things that had always been done. This is as true of courts as of police. Both are agencies where responding to crime involves the commitment of many human resources.

D. Implementing Activities

Committing more fiscal and human resources is likely to be insufficient for producing a full response to a problem. The new funds and personnel must do something that is relevant to the problem. They must produce some results either in intermediate actions or in visibly final results to justify the continued commitment of those funds to the problem. That means that we should be able to see some difference after the commitment in funds in the kinds of things that police officers did or in the work of the courts. We might expect that with greater funds, better trained police officers would be hired who would be more successful in making arrests. If there were concern with violent crime, more of the officers' activities might be focused on violent crime after the increase in resources than before.

On the other hand, we might find few differences or even a decline in the activity of the police if they lacked an appropriate technology to apply to the problem they were supposed to address. If they do not know what to do with the additional money and officers, they may fail to implement the broad policies implicit in the commitment of additional funds. Broad policy thus may be responsive to the growth of crime while implementing actions may appear unresponsive.

Each of the chapters which follow take up part of this problem. We examine the manner in which expenditures and personnel were added to criminal justice agencies -- police, courts, and corrections. But we also examine the ways in which the activities of these agencies changed to see whether their implementing actions became transformed by the injection of funds. In the last chapter we report a study that we have published elsewhere (Jacob and Rich, 1981) which suggests that the police lacked the appropriate technology to address the crime problem to effectively employ the resources which they acquired.

We do not wish to present here a full-fledged model of the policy responses. However, the fragments we concentrate on -- characteristics of the problem, broad policy responses, and implementing actions are, we believe, essential elements of a fuller conceptualization of a policy response model.

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THE RISE OF CRIME IN AMERICAN CITIES

A. Introduction

It is commonplace to observe that cities vary in their crime rates. City officials often compare their cities with others to point with pride or alarm to their crime rate. We have become accustomed to thinking about certain cities -- like St. Louis or Newark -- as particularly troubled by crime while others -- mostly small and suburban -- as relatively free of serious crime. Such comparisons are not only made from city to city but also over time. People in many time periods think that crime has become worse as compared to the past. In contemporary America, people think fondly of the days when they did not feel the need to lock their doors and could walk about at night without fear. By contrast, many people now think that cities in the United States have become dangerous.

There is surprisingly little research addressed to the question of distinguishing between crime-ridden and crime-free cities. (The principal work is Schuessler, 1962; Schuessler and Slatin, 1964; and Skogan, 1977.) Most of the research on the "ecology" of crime is directed to the question of which areas of cities -- any and all cities -- have more crime and which have less. Much of that research also has been directed principally at juvenile rather than adult crime. That research tradition stems largely from the work of Shaw and McKay and the so-called Chicago school of sociology (Shaw, 1929, 1930; Shaw and McKay, 1931, 1942; also see Schmid, 1965; Boggs, 1965; Beasely and Antunes, 1974; Mladenka and Hill, 1976; for a critique, see Baldwin, 1979). They identified the central areas of cities -- areas with the most dense population, with the poorest and least well educated inhabitants, and with the largest minority populations -- as the most troubled ones, while areas farther from the center (in concentric rings) were less troubled. That research, however, does not address the question of whether whole cities with high crime rates have particular social characteristics.

While it is natural to think first about smaller geographic areas like neighborhoods rather than cities in relation to crime, it is important to concern ourselves with whole cities too. Cities vary almost as much as neighborhoods. Some are large and others are small; some stand as independent entities while others are anchored in a metropolitan area, either as the central core or as suburbs. Their social and economic functions vary. Some have relatively homogeneous

populations but most have quite varied populations in terms of income, social class, race, and occupation. Most important, cities are the principal governmental jurisdiction with responsibility for crime control. It is cities which in most instances in the United States provide police services. In addition, there are also reasons grounded in prior research on cities and crime for believing that cities with particular characteristics have differing crime rates.

Size, in and of itself, may be expected to affect the incidence of crime. The larger a city, the more likely it is that it will have the kinds of neighborhoods that are thought to breed crime. This is because larger cities are more likely to have areas that have unstable social structures, cater to transients, and breed impersonal living, all conditions thought by the ecological school of criminology to be associated with a propensity for crime.

It has also been often noted that more blacks are arrested for crimes than whites in proportion to their population. Thus, one might expect that cities with larger black populations would have higher crime rates. The same holds true for youth, and cities with exceptionally large youthful populations might be expected to have higher crime rates. Inequality has been found to be associated with crime (Braithwaite, 1979; Danziger, 1976) therefore, cities which are esconced in metropolitan areas with high degrees of income inequality may be expected to have higher property crime rates than cities which are located in more egalitarian surroundings.

Cities experiencing substantial growth or decline may also be expected to have different crime rates than cities that are stable. A focus on change both in the characteristics of cities and in the reported incidence of crime may lead to quite different conclusions than a static, cross-sectional analysis. Cities, of course, are constantly changing. Many expand geographically to incorporate new areas or to annex formerly independent ones. The composition of city populations changes; their economic base grows and declines. Their crime rates may also change, either in response to these altered circumstances or as a consequence of other factors. For instance, decaying cities are likely to suffer from many social ills that may be associated with crime: a deteriorating housing stock, poor public services, unemployment, high transiency, much familial instability (Bunce and Glickman, 1980; Nathan and Adams, 1976). These conditions are particularly likely to breed personal and violent crime. Growing cities, on the other hand, have high mobility, rootlessness in the new neighborhoods, and visible affluence, traits which might be associated with higher property crime rates. Skogan (1977) has suggested that central cities have become more like the central neighborhoods of old cities with their suburbs draining off the middle class that is less prone to common crime. Hence, large central cities may be expected to have higher crime rates than suburbs.

We might summarize these expectations as follows:

HIGH EXPECTED CRIME RATE	LOW EXPECTED CRIME RATE
Large City	Small City
Declining & Growing City	Stable City
Many Blacks	Few Blacks
Many Youths	Few Youths
Much Income Inequality	Little Income Inequality
Much Poverty	Little Poverty
Large Central City	Suburb

B. The Data

To examine these hypotheses, we analyze two sets of cities. Some of our analysis is of the ten cities which we selected for intense study of governmental responses as shown in the following chapters. But because those ten cities are not a random sample of all cities, we need to know how deviant they are. To do so, we collected information on all cities which had a population exceeding 50,000 at the 1950, 1960, or 1970 censuses. This provided us a set of 396 cities. Because some of these cities were considerably smaller in 1950 or 1960, we do not have complete data on all of them and all analyses are in fact performed on a smaller subset for which data are complete.

All data in this baseline set were collected at either annual or decennial intervals. No attempt was made to collect data more frequently than annually because of the enormous effort involved and because very little information is available on a monthly or quarterly basis for the entire period. All data in this set except population estimates have been recorded directly from their original sources. Population figures, of course, are available only on a decennial basis for most cities. Consequently, we calculated intercensal population estimates using a log-linear estimation procedure [See Technical Appendix].

We collected three categories of data. The first were the

number of Part I offenses known to the police from the Uniform Crime Reports (UCR hereafter) in so far as they were available for the 396 cities for each of the 31 years. Our data set includes both larcenies under and over 50 dollars; for our analysis, they have been combined for the entire period so that our conclusions are not affected by the UCR's decision to combine them in 1973. The number of rapes is available only after 1958 which is the first year that the UCR reported them. We collected these statistics directly from published UCR volumes (1).

The third set of data reflect demographic factors which might be associated with crime. This category consists of decennial data from the census on the percentage of non-whites, the percentage of families under the poverty line, the median family income, the population density, and the proportion of youth between the ages of 15 and 24 in the population. For the decade 1959-1969, we also have an income inequality index for a portion of our 396 cities based on SMSA data compiled by Sheldon Danziger (1977). We have also replicated the Cohen, Felson, and Land (1980) "household activity" ratio for the nation as a whole. It reflects the number of women in the workforce and out of the home, and, therefore, indirectly represents the number of households which are left unguarded as well as the number of persons who are especially vulnerable to personal attack. We also recorded the number of households with television sets during the period as an indicator of the availability of readily stolen goods. Finally, we have included national consumer price index data which we have used to convert fiscal data to constant 1967 dollars, thereby removing the effects of inflation from our analysis.

These data permit us to analyze changes in crime rates for various groups of cities. We can examine all 396 cities which constituted approximately 35 percent of the American population in 1970; we can look at cities on the basis of their 1950, 1960, or 1970 characteristics. We can examine differences in both the levels of crime and in changes in crime rates.

As with all official indices, crime statistics are imperfect (see, e.g., Wolfgang, 1963; Reiss, 1965). They suffer from many faults. First, they depend in large part on the willingness of citizens to call the police when something that might be a crime has occurred. Most crimes occur in private places out of sight of the police; unless citizens call the police, the police will remain unaware that a crime might have occurred and the incident will not enter the crime statistics. Public opinion polls tell us that many -- and for some types of crime, most -- incidents are not reported to the police. Some people are afraid of the police; others think it useless to call; still others are not aware that a crime has occurred. In addition, citizen willingness to call the police may depend on the police department's technology to receive such calls. The availability of a "911" emergency telephone

number may increase citizen calls. quick response by the police may also encourage calls. On the other hand, complex calling procedures and slow response will discourage citizen reports of crime. In addition, the police have traditionally been more concerned with street crime than with white collar crime. Such offenses as business fraud, tax evasion, or embezzlement do not routinely come to the attention of the police and many of them are left out of crime statistics. Consequently, crime statistics count only some of all incidents that might be included if the index were comprehensive.

Not all crimes, however, depend upon citizen calls for the police to become aware of them. Some, indeed, are uncovered only through aggressive police work such as undercover drug investigations, vice squad members posing as customers, and the use of decoys to trap muggers. To a considerable extent, the number of such crimes uncovered by the police depends at least as much on the willingness of the police to commit resources to proactive police work as on the existence of such crimes in the community.

A third reason that crime counts are imperfect is that they depend on the accuracy and diligence of many thousands of police officers. Some are good at the paperwork that crime reporting requires; others produce incomplete records. How well the police succeed in counting the crimes they know about depends on many factors. Among them are the quality of police training for record keeping, kinds of incentives that superiors offer for good reporting as compared to the disincentives which exist, and the explicit policy of a police department. Some departments have a reputation for producing low crime counts; others have been known to alter crime counts to suit the policy preferences of elected officials (Seidman and Couzens, 1974).

Consequently, crime statistics do not give a full or accurate picture of the amount of crime in a city. Nevertheless, we rely on them for three reasons. First, the media, public officials, and perhaps ordinary citizens use them in at least two ways. They make comparisons between their city and other cities like theirs to see whether their city has more or less crime. In addition, people make comparisons between this year's crime rate and those in the immediate past to see whether crime has increased or decreased. As a result, these data are widely used like other errorful and biased statistical series such as the Consumer Price Index and the unemployment rate. They help mold official and public perceptions of crime. Our second reason for using the crime statistics collected by police departments is that they are the only city-specific data available for this period. By contrast, victimization data only exist for a limited number of cities at one or two time points. Thirdly, we reduce some of the biases resulting from recording errors by aggregating over cities by years and by aggregating crime types from individual offense rates. We grouped crimes into two categories in the following analysis.

Criminal homicide, assault, and robbery constitute violent crimes; burglary, theft, and auto theft are property crimes. While these precautionary steps eliminate some of the irregularities which bedevil official crime rates, we do not assert that the rates accurately portray the amount of crime in a city. But they remain an important stimulus for official responses.

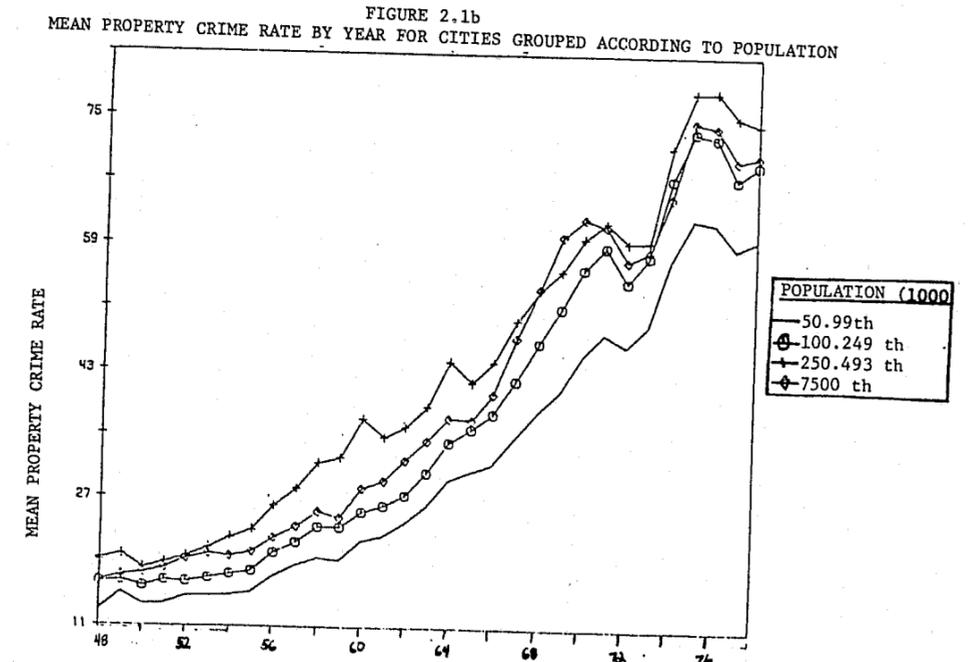
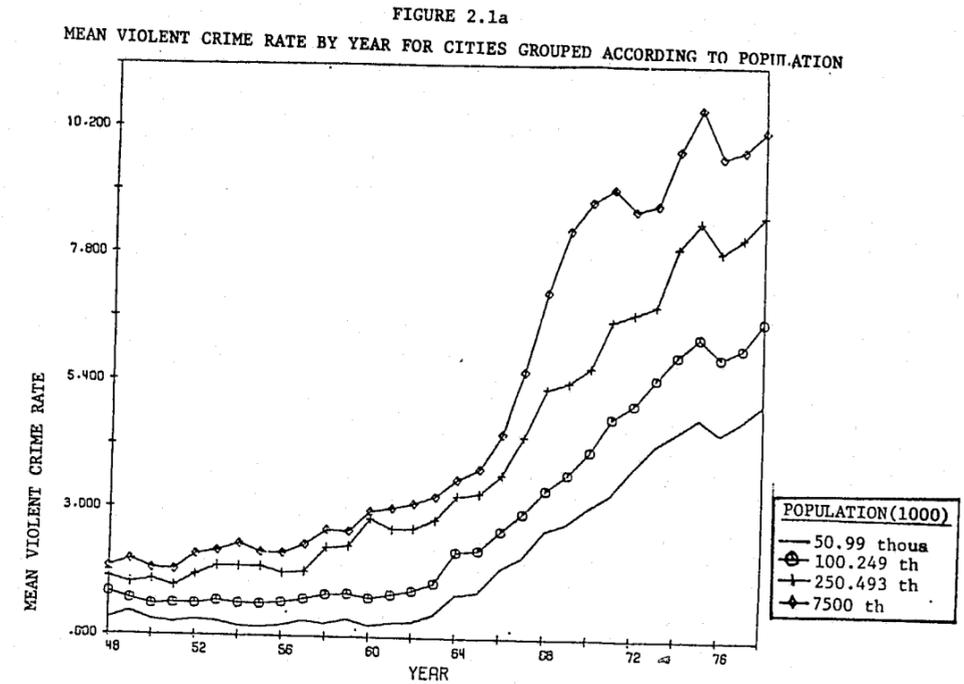
C. Variations in City Crime Rates

1. Population Size and Reported Crime. Prior research has suggested a number of city characteristics which may be associated with reported crime rates. Our data permit a test of these effects based on a comprehensive set of cities. We first look at cross-sectional bivariate relationships between crime rates and population size, population change, race, youthful population, poverty, and income inequality. Then we examine the multivariate relationships, and finally we analyze these effects in the framework of the 31 year time series that our data constitute.

Our principal concern in this analysis is to choose between two alternative perspectives on crime. The first sees crime as the correlate of the particular characteristics of the cities we are examining. The second sees crime as the correlate of national trends which erase individual city differences and produce relatively uniform consequences throughout the country.

Examining only the 32 largest American cities, Skogan (1977) found that population size was inversely related to crime rates until about 1960; thereafter it was very moderately related in a positive direction. That there is a relationship and that it is increasingly important especially for violent crime is suggested by Figures 2.1a and 2.1b. The cities in these figures are grouped according to their 1970 populations; the same relationship exists if we used 1950 or 1960 population figures. For almost every year larger cities had higher rates than the next smaller category of city. This relationship holds both for property crime rates and for violent crime rates. However, when we calculate the correlation coefficients between city size and crime rates, we discover that they are very small. As Figure 2.1 suggested, the relationship is stronger for violent than for property crime rates. The correlation coefficients range from .07 (violent crime) and -.02 (property crime) in 1948 to a high of .35 in 1969 for violent crime and .12 in 1968 for property crime. The range of coefficients is in every case smaller than that which Skogan reported for the 32 largest cities.

Another way of looking at city size is to compare central cities and suburbs. The suburbs in the baseline data set are



large ones, those with more than 50,000 inhabitants. We have not analyzed the growth of crime in smaller suburbs because of the difficulties involved in obtaining information for them over most of the 31 year period included in this study. (For a cross-sectional study of suburban crime based on data from 645 places with more than 10,000 inhabitants in 1971, see Stahura, Huff, and Smith, 1980.) The suburbs we analyzed are often older inner-fringe suburbs rather than new towns on the outer edge of the metropolitan area. In general, these suburbs and small central cities were like the low crime, outer periphery neighborhoods of the large cities studied by the Chicago School. In Table 2.1, we focus on the differences between suburbs and central cities. The two types of cities became more like each other with respect to violent crime while they became more distinct with respect to property crime in the 20 years between 1950 and 1970. Whereas suburbs with fewer than 50,000 inhabitants perhaps continued to differentiate themselves from the central cities with respect to total reported crime, this was not true of the large suburbs which were included in our data set.

2. Population Change and Reported Crime. Our data also allow us to systematically examine the effects of population growth and decline on crime rates. Decline in urban America conjures up the images of St. Louis, Cleveland, and Newark among many others. All suffer from what appears to be substantially higher than normal crime rates. Growth suggests such cities as San Jose or Phoenix which to outsiders appear to be safe cities.

Our data provide only partial support for the hypothesis. Figures 2.2a and 2.2b show our 396 cities grouped by the amount of population change between 1950 and 1975. As we would expect, the relationships are unclear in the early years of the period before most of the population change had occurred. However, by the mid 1960s the two groups of declining cities had the highest violent crime rates and by 1970 those cities which maintained more or less stable populations ranked third. The three groups of growing cities are clustered very closely together with lower crime rates which, however, also show increases. This suggests that as we hypothesized, population decline is more strongly related to the rise of violent crime than is population growth.

The relationships are quite different for property crime rates as Figure 2.2b shows. All cities show almost the same growth pattern. However, by 1960 two groups of cities -- those with the most decline and those with the most growth -- had especially high property crime rates. The high growth cities retained their high position until 1976 when they fell into the pack of all the other cities. Clearly, the differences between declining and growing cities are not as large for property crime rates as for violent crime rates. Thus our hypotheses that growing cities would be especially vulnerable to property

TABLE 2.1

RATIO OF LARGE CENTRAL CITY^a TO SUBURBAN REPORTED CRIME RATES FOR 1950, 1960 AND 1970

YEAR	TOTAL CRIME RATE	VIOLENT CRIME RATE	PROPERTY CRIME RATE
1950	1.20	1.93	1.17
1960	1.28	2.42	1.23
1970	1.25	1.73	1.24

Source: See text on "Data" in this chapter.

^aThis table includes only those central cities with more than 100,000 inhabitants.

FIGURE 2.2a MEAN VIOLENT CRIME RATE BY YEAR FOR CITIES
GROUPED ACCORDING TO POPULATION CHANGE 1950-1975

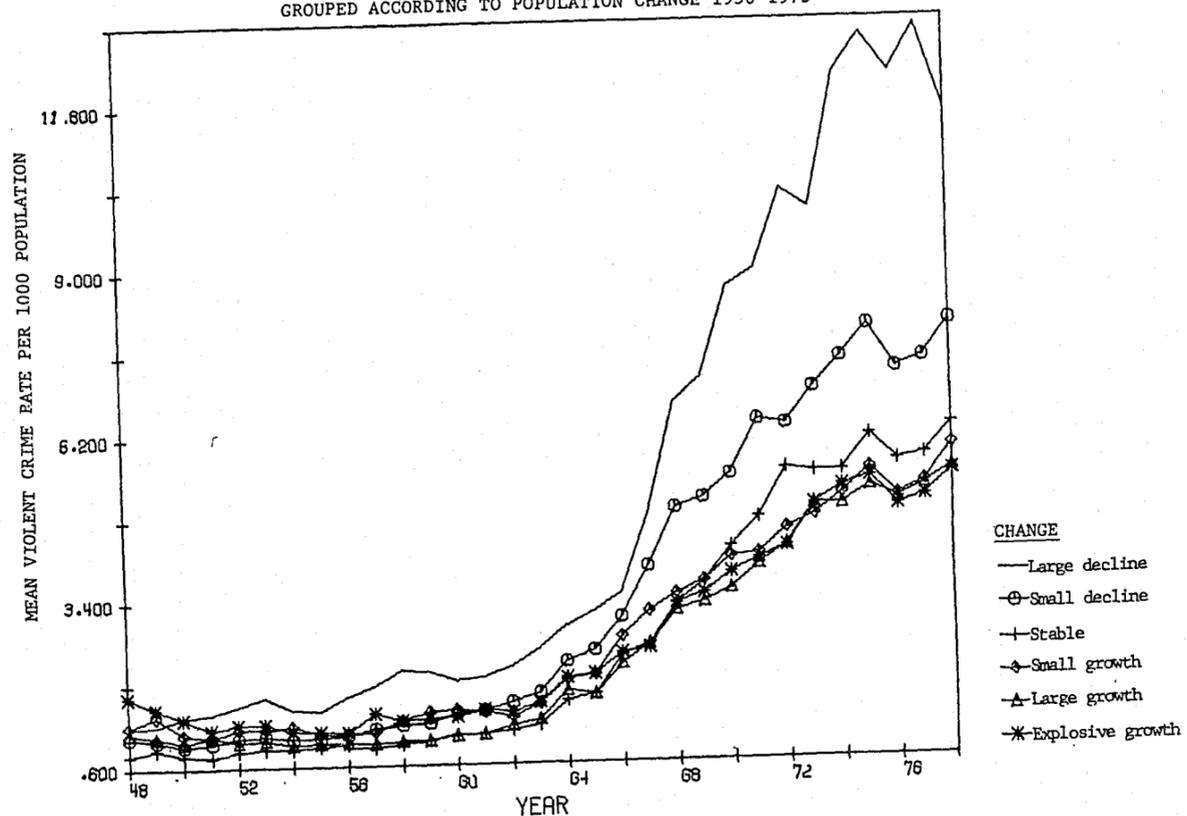
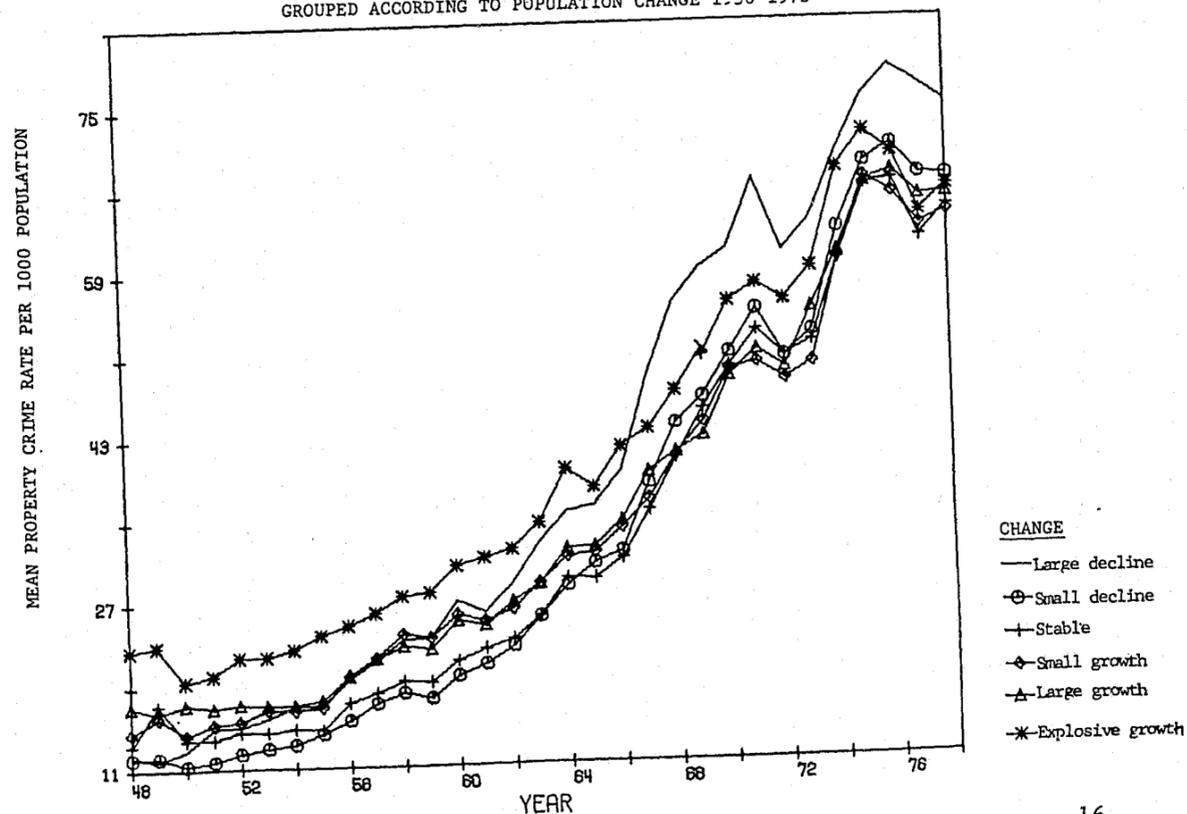


FIGURE 2.2b MEAN PROPERTY CRIME RATE BY YEAR FOR CITIES
GROUPED ACCORDING TO POPULATION CHANGE 1950-1975



crime is not confirmed.

This kind of difference between violent and property crime rates and their association with demographic characteristics has, of course, often been noted in research on crime (Schuessler, 1962; Schuessler and Slatin, 1964; Boggs, 1965; Boland, 1976.) We shall return to it frequently.

Note that the two kinds of associations we have examined are potentially contradictory. If smaller cities have lower crime rates, some declining cities (which are growing smaller) should generally have lower rather than higher property crime rates and some growing cities (which are moving from being small to large) should have higher ones. This suggests that more than simple population movements are involved in delineating high and low crime rate cities.

3. Race and Reported Crime. As we noted earlier, the relationship between race and crime has often been investigated (for a thorough review of this literature, see Silberman, 1978: 117-166). Although there is much controversy about the causes of the association, it is clear that blacks are disproportionately involved in crimes of the sort measured by the UCR. Our data permit us to investigate the extent to which a city's crime rates are related to the proportion of its population that is non-white (which for most cities means, black). The relationship between the size of the non-white population in cities and the property and violent crime rates is shown in Table 2.2. Two things are evident from these data. The relationship between the proportion non-white and the reported violent crime rate is much stronger than the relationship between the size of the non-white population and the reported property crime rate. Secondly, although both relationships have increased between 1950 and 1970, the association with violent crime rates has increased much more than that with property crime rates. In the latter instance, the percent non-white in a city's population accounted for almost 50 per cent of the variance in violent crime rates among the 396 cities. The fact that a city had a large proportion of non-whites in its population was apparently much more closely related to its violent crime rate in 1970 than in 1950 when no other demographic characteristics are taken into account.

These data allow us to conclude that when we look only at the bivariate relationship of race to crime, cities which have large fractions of their population that are non-white generally have higher rates for violent crimes. There are numerous exceptions to that rule because the correlation is far from perfect. There are many more exceptions to the association between the non-white population and property crime rates.

4. Youth and Crime. There has also been considerable speculation about the covariation of reported crime and the

TABLE 2.2

RELATION BETWEEN PROPORTION NON-WHITES POPULATION
AND VIOLENT AND PROPERTY CRIME RATES 1950 - 1978.

YEAR	%NON-WHITE AND VIOLENT CRIME RATE	%NON-WHITE AND PROPERTY CRIME RATE
1950	.51 **	.08
1960	.60 **	.25 **
1970	.70 **	.32 **

**
p < .01

size of the youthful population because most arrested offenders are under the age of 25 (Wilson, 1975: 17-22; Silberman, 1978: 49). Cities vary in the size of their youthful populations. The mean for the 396 cities in 1950 was 15 per cent with a standard deviation of 3.5 per cent; in 1970, the mean was 18.2 per cent with a standard deviation of 4.1 per cent. The bivariate relationship between the proportion of youth in a city and crime was, however, small for the entire period as shown in Table 2.3. At no time did the proportion of the youthful population account for as much as five per cent of the variance in either violent or property crime rates. For both, the relationship was slightly stronger in 1950 than the decade before or the decade after. This analysis leads us to conclude that the size of the youthful population was not by itself significantly related to the reported crime rates in cities during this period.

5. Poverty and Crime. Crime has also been attributed to poverty. Poverty is both an absolute and relative concept. People are poor because they lack the income needed to sustain themselves decently; they may also feel poor because they live in an area where others are much more affluent. Thus we can deal with poverty both in terms of the proportion of persons in a city who have poverty-level incomes and in terms of the income inequality of the metropolitan area in which they live. As Table 2.4 shows, neither our measure of absolute poverty nor the two Danziger measures of income inequality demonstrate a substantial relationship between them and crime. The number of poor people in a city is only marginally related to either property or violent crime; only in 1970 does it account for a substantial proportion of the variance -- 33 per cent. The measure of inequality which is based on metropolitan-wide distribution of income shows even less of a relationship. Cities in metropolitan areas with much income inequality or a substantial increase in income inequality do not regularly have higher crime rates than other cities. The lack of relationship between crime rates and poverty supports Braithwaite's earlier (1979) analysis. However, he suggests that income inequality has a much larger effect and we do not find that. Our finding also conflicts with Danziger's (1976) which concludes that income inequality is related to robbery and burglary rates in an analysis of 222 SMSA's in 1970. The difference between our findings and his may be due to a different crime rate measure, to our focus on cities rather than whole metropolitan areas, and to our use here of bivariate tests.

6. The Combined Effects of Demographic Variables on Reported Crime Rates. All of these demographic characteristics, of course, exist together. One should, therefore, examine their joint relationship on reported crime rates. Using a backward, step-wise regression technique, however, we find that only some of them are related to crime when all the others are taken into account.

TABLE 2.3

RELATION BETWEEN CRIME RATES AND PROPORTION OF
POPULATION AGED 15 - 24

ZERO ORDER PEARSON CORRELATION COEFFICIENTS		
YEAR	VIOLENT CRIME RATE	PROPERTY CRIME RATE
1950	.13**	-.02
1960	.18**	.15**
1970	.03	.13**

** P < .01

TABLE 2.4

RELATION BETWEEN PROPORTION POOR AND MEASURE OF INEQUALITY
AND CRIME RATES: ZERO-ORDER PEARSON CORRELATION COEFFICIENTS

	1950	1960	1970
%Poor and Violent Crime	.33	.00	.58
%Poor and Property Crime	-.03	-.03	.35
Income Inequality in 1965 and Violent Crime	Not Available	Not Available	.09
Income Inequality in 1965 and Property Crime	Not Available	Not Available	.17
Change in Income Inequality 1959-69 and Violent crime	Not Available	Not Available	.02
Change in Income Inequality 1959-69 and Property Crime	Not Available	Not Available	.00

First, we examine the relationships for all cities without the income inequality measure which is available only for some of them. Table 2.5 shows these analyses for three census points: 1950, 1960, and 1970 for both violent and property crime rates. For reported violent crime rates, the proportion non-white is always the most significantly related variable; it is paired with city population size. By 1970, these two variables account for half the variance between cities. The proportion of the population that is youthful has a small statistically significant beta only in 1960; poverty is not statistically significant at any of the time points.

Different sets of variables are significant for reported property crime rates but they account for much less of the variance. Race is again always the most powerful variable. It is not teamed with city population size but with poverty in 1950 and with youth in 1970. It is important to note that poverty in 1950 is inversely related to property crime rates. For that year the more affluent a city, the higher its reported property crime rate, indicating that opportunity to steal may have been a more powerful influence on property crime rates than the proportion of poor people who might become offenders. In any case, even the best equation (for 1970) accounts for only a tiny 12 per cent of the variance.

When we add Danziger's measure of inequality for 1960 and 1970 as in Table 2.6 for the smaller number of cities for which we have it, the proportion of the variance explained is increased for both violent and property crimes. Although inequality is not statistically significant for violent crimes in 1960, its marginal effect makes youth a statistically significant factor; in 1970, inequality itself just misses statistical significance. Race and population size, however, remain the more important factors. For property crime, inequality is just below statistical significance in 1960 but well above it in 1970. With it, we now account for almost 30 per cent of the variance by 1970.

These regression models are weaker although generally consistent with those that have been developed by others including Danziger (1976). They show the importance of examining multiple factors simultaneously. They indicate that individual city characteristics are modestly successful in accounting for inter-city variation in reported crime rates. However, few of these characteristics are subject to much control by city governments. Only the size of the city is sometimes subject to its direct control; cities can regulate their growth by zoning and annexation policies. They have less control over population decline. Racial composition, the proportion of youth, the amount of poverty, and the extent of income inequality in the metropolitan area are all factors fundamentally beyond the control of city officials. Many are the consequences of national population movements and economic trends which affect individual cities differently even though

TABLE 2.5

MULTIVARIATE RELATIONSHIP OF DEMOGRAPHIC VARIABLES (EXCLUDING INEQUALITY) AND CRIME RATES, 1950-1970, FOR CITIES OVER 50,000 POPULATION (STANDARDIZED REGRESSION COEFFICIENTS)

	VIOLENT CRIME RATES			PROPERTY CRIME RATES		
	1950	1960	1970	1950	1960	1970
Population size	.12*	.21**	.14***	NS	NS	NS
Race	.50**	.55**	.72**	.17**	.23**	.38**
Youthful pop.	NS	.09*	NS	NS	NS	.13*
Poverty	NS	NS	NS	-1.6	NS	NS
Constant	.43	.13	1.82	17.79	17.67	37.84
R ²	.27	.41	.50	.02	.08	.12
F	57.15	60.45	114.24	3.69	16.78	15.3
Sig	.000	.000	.000	.026	.000	.000
N	298	364	343	298	364	343

* p < .05

** p < .01

TABLE 2.6
 MULTIVARIATE RELATIONSHIP OF DEMOGRAPHIC VARIABLES (INCLUDING INEQUALITY)
 AND CRIME RATES, 1960-1970, FOR CITIES IN SMSA'S
 (STANDARDIZED REGRESSION COEFFICIENTS)

	VIOLENT CRIME RATES		PROPERTY CRIME RATES	
	1960	1970	1960	1970
Population	.19**	.19**	NS	NS
Race	.66**	.72**	.31**	.44**
Youthful Pop	.15**	NS	.14*	.26**
Poverty	NS	NS	NS	NS
Inequality	NS	NS	NS	.19**
Constant	-2.09	-3.69	-7.33	-46.82
R ²	.61	.63	.15	.29
F	58.65	104.49	11.76	24.80
Sig	.000	.000	.000	.000
N	201	185	201	185

* p < .05

** p < .01

they swing through the nation as a whole.

7. Crime Rate Changes Over Time. Figures 2.1 and 2.2 show more than rising crime rates. They also show a markedly similar rise in the reported crime rates for cities with quite different characteristics. Both the Newarks and the Houstons of the United States have experienced substantial rises in their reported crime rates. Those increases, moreover, occurred at about the same time and with the same velocity for all kinds of cities. The results are the same when we inspect similar figures (not presented here) for cities categorized by the size of their non-white population, by the size of their poverty level population, or by the size of their youthful population.

An analysis of this change using demographic characteristics is quite unsuccessful, as Table 2.7 shows. Only a fraction of the variance is accounted for by change in demographic traits. Increasing violent crime rates are slightly related to racial change and decreases in poverty. Increasing property crime rates are slightly related to racial change and population decline. Changes in the youthful population and income inequality are not related either to changes in violent or property crime rates. This does not mean that race, age, and poverty are unrelated to changing crime; it does mean that such characteristics cannot differentiate between the various cities of the United States.

In part this may be the result of dramatically declining differences between cities over the 31 years we studied. Table 2.8 shows that the variability of city crime rates declined over the period we studied. In each decade the coefficient of variation declined even though we have data from more cities in the later periods than in the earlier ones. By 1978, variability for crime rates was only two-thirds what it had been in 1948.

D. The Nationalization of Crime

One conclusion that can be drawn from our analysis is that the rise of reported crime is more a national than a local phenomena. It was neither isolated to one kind of local community nor was it apparently driven by local characteristics that could be controlled at the local level. This conclusion is reinforced by an examination of the experiences of individual cities. All of the ten cities we studied experienced considerable rises in their reported crime rates. The situation was worst in Newark where property crime rates increased by a factor of seven and violent crime rates by more than a factor of eleven. Yet even the booming cities of San Jose and Phoenix experienced more than a doubling of their property crime rates and more than a quadrupling of their

TABLE 2.7

THE RELATION BETWEEN CHANGE IN DEMOGRAPHIC CHARACTERISTICS OF CITIES
AND CHANGES IN REPORTED CRIME RATES, 1950-1970
(STANDARDIZED REGRESSION COEFFICIENTS)

	CHANGE IN VIOLENT CRIME RATES	CHANGE IN PROPERTY CRIME RATES
Pop Change	NS	-.24**
Race Change	.29**	.21**
Youthful Pop Change	NS	NS
Poverty Change	-.15*	NS
Inequality Change	NS	NS
Constant	8.55	2.98
R ²	.11	.12
F	9.02	16.3
Sig	.000	.000
N	233	233

* p < .05

** p < .01

TABLE 2.8

THE DECLINING VARIABILITY OF CITY CRIME RATES: COEFFICIENTS OF VARIATIONS*
1948-1978 FOR 396 CITIES WITH POPULATIONS EXCEEDING 50,000

	PROPERTY CRIME RATE	VIOLENT CRIME RATE
1948-57	54.2	111.5
1958-67	47.0	100.3
1968-78	36.0	82.5

*Coefficients in table are the mean coefficients for each time period.
The number of cities included in the calculation varies each year
according to missing data; it ranges for a low of 271 in 1948 to 389
in the late 1970s.

violent crime rates. We get the same results when we look at the Cleveland suburb of Lakewood, a place called by one author, "America's safest city" (Franke, 1974: 15). Lakewood's violent crime rate rose by a factor of six while its property crime rate increased more than Newark's. However, in 1978 as in 1948, Lakewood was among the cities with the lowest crime rate of all those with more than 50,000 inhabitants.

Although some cities experienced a sharper rise of reported crime than others, the dominant fact is that the rise occurred everywhere. It was a national rather than a local phenomenon.

The national character of the rise in reported crime rates may well be the result of nationwide changes in the conditions that nurture crime. The work of a research team at the University of Illinois (Cohen and Felson, 1979; Cohen, Felson and Land, 1980; Cohen and Cantor, 1980) has suggested that crimes occur when three conditions coexist: first, there must be property or persons who might be the object of a crime; second, these possible targets must be vulnerable to attack; and third, a person inclined to commit an offense must be present. Cohen, Felson, and Land concentrate their efforts on identifying changes in the availability of targets and their vulnerability during the last 30 years rather than on an increase in the number of persons who are criminally inclined. They show that two variables go far in accounting for the rise of several offenses. These are the size of the youthful population which produces not only more potential offenders but also more potential victims since victimization surveys indicate that the young are the most likely to be victimized. Secondly, they compute a "household activity ratio" which is based on the number of women in the work force who leave homes unprotected during the work day. Unprotected homes make much property vulnerable to burglars. They find these two variables are powerful predictors of burglary, robbery, non-negligent homicide, rape, and aggravated assault.

As shown above, we did not consistently find the proportion of youths in cities to be related to crime rates. But when we relate the national household activity ratio and another indicator of opportunity -- the percentage of households with televisions -- to the crime rates of our ten cities, we obtain striking results, as we show in Table 2.9. In eight of our cities, more than half of the variance in property crime rates is accounted for. As we would expect, the measures for opportunity for theft have a lower relationship to violent crime although seven of the cities with satisfactory auto-correlation corrections have an r-square above .5. Note that the results reported in Table 2.9 are achieved by applying national data for the household activity ratio and television ownership to city crime rates. One would expect substantial error in the goodness-of-fit. In fact, however, there is very little slippage. The success of using national opportunity

TABLE 2.9

REGRESSION OF PROPERTY AND VIOLENT CRIME RATES FOR TEN CITIES WITH HOUSEHOLD ACTIVITY RATIO AND PER CENT HOUSEHOLDS WITH TV, 1950 - 1977, CORRECTED FOR AUTO CORRELATION

	PROPERTY CRIME RATE		VIOLENT CRIME RATE	
	R ²	DURBAN-WATSON	R ²	DURBAN-WATSON
Phoenix	.84	1.477	.52	1.684
Oakland	.48*	.869*	.88	1.95
San Jose	.52	1.473	.84	1.934
Atlanta	.88	1.565	.54*	1.182*
Indianapolis	.46	1.420	.63	1.780
Boston	.86	1.338	.77*	1.238*
Minneapolis	.82	1.628	.79	1.60
Newark	.66	1.657	.60	1.59
Philadelphia	.87	1.79	.57	1.40
Houston	.95	1.741	.29	1.371

* Unsatisfactory correction for auto-correlation. To be satisfactory the Durban-Watson statistic should be not less than 1.28 and preferably exceed 1.57. Correction was accomplished by using estimate of rho for each variable as outlined by Wonnacott and Wonnacott, 217ff.

indicators in accounting for local crime rates supports the view that the rise in crime between 1948 and 1978 was fundamentally a national rather than a local phenomenon:

It was not always so. Monkkonen (1981) has recently reviewed most of the statistical series on crime in the United States for the 19th and early 20th centuries. These series consist of crime counts for individual cities for portions of this period. They suggest that crime rose and fell idiosyncratically in many cities. For instance, in Boston arrests for major offenses rose between 1849 and the late 1870s, then remained relatively constant until the 1920s and then declined (Ferdinand, 1967). In Buffalo, arrests for serious personal crimes also peaked around 1870, declined until 1900 and then rose again; property crime arrests dropped between 1870 and 1885 and then remained about the same (Powell, 1966). In Missouri, there was a steady rise in prison commitments from 1850 to 1920; these figures show none of the valleys or plateaus evident in Boston, Buffalo, and some other places (Kuhlman, 1929). Summarizing, Monkkonen writes: "Generalizing about national trends from these previous studies is most frustrating, synthesis difficult, and analysis nearly impossible" (Monkkonen, 1981: 69).

Methodological problems abound with such historical materials. Each city used its own counting methods as no uniform crime reporting system existed. Counts, when available, existed only for arrests which, of course, are an even less reliable indicator of crime than "offenses known to the police." Arrest counts varied then as now because of policy changes. Among the most dramatic variations in this period were those concerning the emphasis on public order arrests, particularly for drunkenness. Thus it is fruitless to attempt a comparison between the relationship of demographic characteristics of cities and crime in this earlier period and 1948-1978.

However, the limited data that are available seem to indicate that crime was more responsive to local conditions in that era than now. We do not contend that crime was immune to national events like the Civil War and the demobilization that followed it or to wide fluctuations in economic well-being. However, it appears that a larger local component existed then than now.

Another indicator of this can be found in analyzing arrest data collected for a number of cities in 1907 by the Department of Commerce and Labor. Separating northern from southern cities, we find that southern cities had many more arrests, reflecting either more active police, more crime, or a combination of both. However, three-quarters of a century later, these differences nearly disappeared as shown by Jacobson (1975) and in our data. When we turn from an analysis of levels of crime to changes in the crime rate, our data show

no regional differences at all for the period 1948-1978.

Our conclusions cannot be tested by substituting criminalization data for police offense data. The ranking of our ten cities would not be substantially different if we could employ victimization rates rather than offenses known to the police. Table 2.10 arrays the seven cities for which some victimization data are available according to both counts for 1973-1975, the only period for which victimization information is available. The two arrays are quite similar. Victimization surveys, of course, count crime in a very different way than the Uniform Crime Reports. They depend on responses to a sample survey and decisions by survey personnel about the classification of incidents as crimes. The surveys count incidents by where the victims live rather than by where the incident occurred. They only count victims who are twelve years old or older. They count victimizations rather than offenses; a single victimization may involve several offenses and vice versa. These differences lead us to expect substantial differences between victimization counts and UCR data. A number of investigations have examined the parallelism between the two kinds of data. Hindelang (1974), Wellford (1975), and Decker (1977) have shown that the two methods produce counts that are different but related to one another. However, Booth, Johnson, and Choldin (1977) have demonstrated that victimization data are related in different ways to demographic variables than are UCR data such as we use in this report. We cannot proceed further in examining the differences of the sort Booth, Johnson and Choldin discovered because victimization data are not available in a time series for cities.

In sum, we find many supportive pieces of evidence for the hypothesis that the rise in crime rates is a national rather than local phenomenon. We may summarize our analysis as follows:

1. Crime has risen in all the cities we examined during the period 1948-1978.
2. Differences in the rate of increase are only slightly related to demographic characteristics of cities.
3. The variations that appear to have existed in the nineteenth century between cities, especially those between the north and the south, seem to have disappeared.
4. The amount of variation in city crime rates decreased during the thirty years after 1948.
5. One can account for individual city crime rate changes by national data pertaining to the opportunity for theft as well as by individual city demographic characteristics.

Our analysis does not suggest that no differences between cities remain in crime rates. Large differences persist but

TABLE 2.10
CITIES RANK-ORDERED BY FREQUENCY OF VIOLENT
CRIME OFFENSES AND VICTIMIZATION

	UCR OFFENSES ^a	NCS VICTIMIZATIONS ^b
Most Numerous	Newark	Newark
	Atlanta	Atlanta
	Oakland	Minneapolis
	Boston	Boston
	Minneapolis	Oakland
Least Numerous	Philadelphia	Philadelphia
	Houston	Houston

^aViolent crime rate as defined in text for 1974.

^bPersonal sector crimes of violence per population age 12 and over from National Crime Survey city surveys for each of the above cities 1971, 1973, and 1974 (as available), Table 1.

they appear to be the effects of demographic characteristics over which cities have no control and of earlier events which cannot be recovered by this study. Those differences in the level of reported crime rates are well illustrated by the ten cities which are the focus of the following chapters.

We show the distribution of our ten cities according to their violent crime rates for 1950, 1960, and 1970 in Figure 2.3 while Figure 2.4 shows the distribution for property crime rates. The end points of the scales indicate the lowest and highest crime rates for those years, x-bar indicates the average for the whole set of cities for which we have data for that year, and the individual points show where each of the ten cities of our study stand in relation to each other and to all cities over 50,000 population. These graphs show that considerable variation existed over the entire period for both types of crime. Some cities reported crime rates that were 50 times or more higher than those of other cities. Our ten cities cluster more closely together but also show considerable variation. For instance, Newark reported six and a half times as many violent crimes as San Jose in 1970 but Atlanta, Houston and Boston reported almost identical rates (7.4, 7.5, and 7.9 respectively). These differences and similarities do not necessarily reflect the "true" amount of crime in these cities, but they do represent the scope of the problem as presented to city officials and the general public. Most of our ten cities were usually above the mean for all cities in both violent and property crimes.

Our ten cities did not experience crime in the same ways as the average cities of their population size. Table 2.11 compares each of our cities' crime rates with the crime rates of cities of comparable size at the time of the comparison. For instance, San Jose, a rapidly growing city, is compared to other cities of less than 100,000 for 1948 to 1950, to cities with 100-200 thousand for 1951-1962, to cities with populations of 250-499 thousand for 1963-1972, and to cities over 500,000 for 1973-1978. The same kinds of comparisons are made for the other cities. As this table indicates, some of our cities had much higher crime rates than comparably sized cities while others had much lower crime rates. Three of the cities with declining populations -- Atlanta, Newark, and Oakland -- generally had higher than average crime rates but other declining cities such as Minneapolis and Philadelphia did not. The most rapidly growing cities -- Phoenix, Houston, and San Jose -- do not show a consistent pattern of above or below average crime. Thus for our ten cities as for all cities in the United States, crime rates are not systematically related to size or population change.

E. Conclusions

Our analysis demonstrates the national character of crime as a public problem. Its dimensions, as recorded by local

FIGURE 2.3

VIOLENT CRIME RATES FOR CITIES OVER 50,000 POPULATION AND SELECTED TEN CITIES

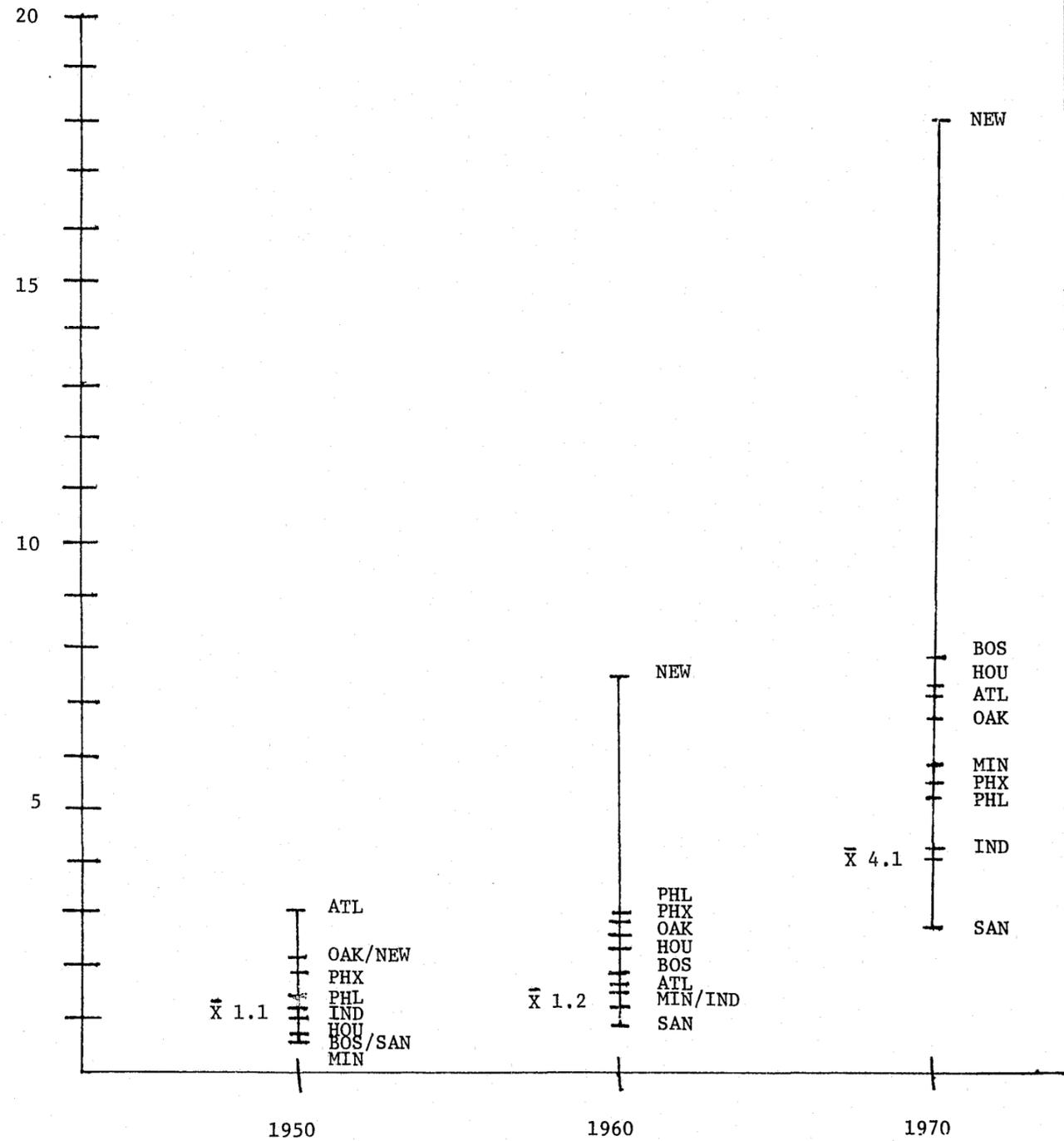


FIGURE 2.4

PROPERTY CRIME RATES FOR CITIES OVER 50,000 POPULATION AND SELECTED TEN CITIES

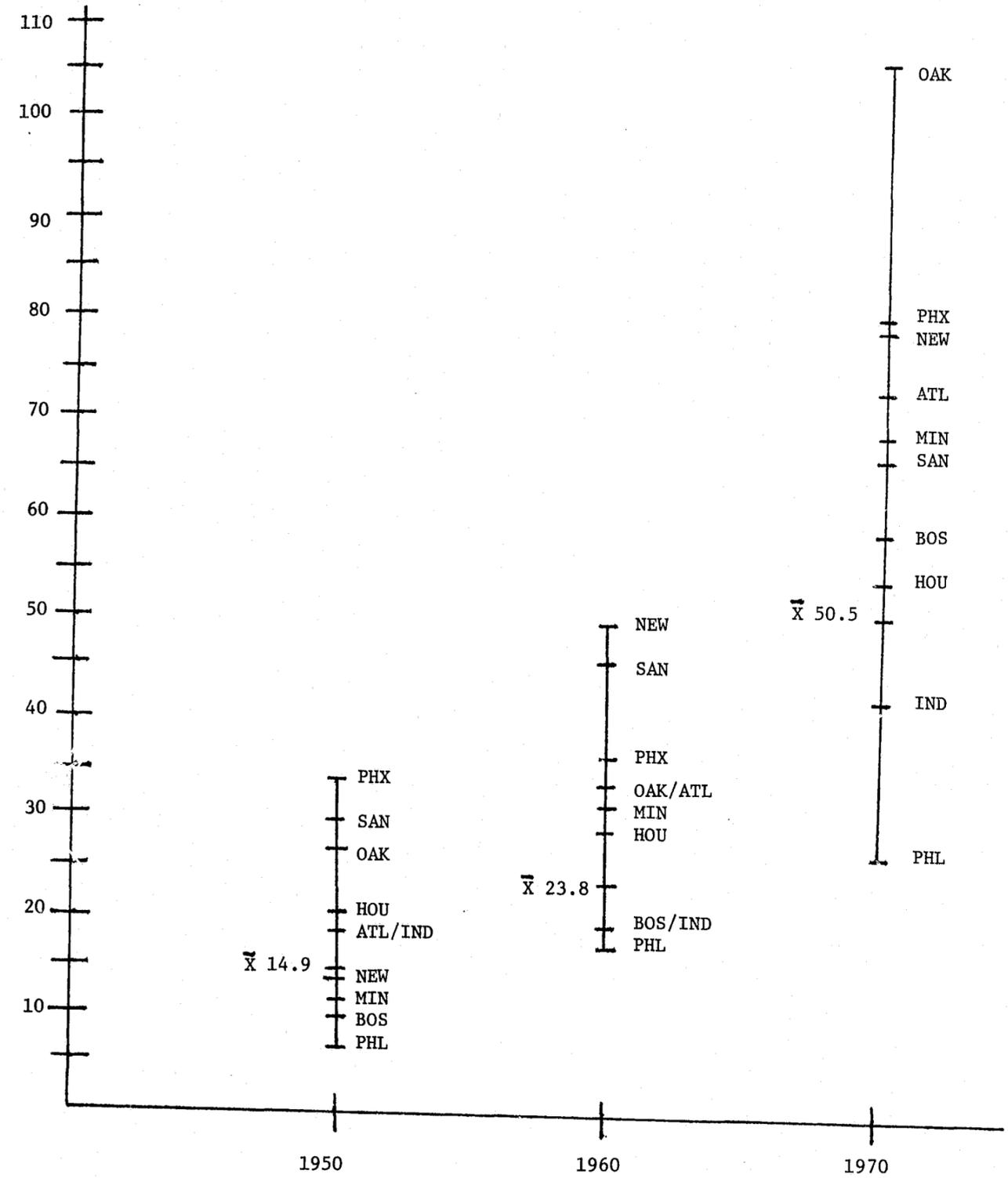


TABLE 2.11
 CRIME RATES OF TEN CITIES COMPARED TO CITIES OF SIMILAR
 SIZE DURING INDICATED TIME PERIODS

POPULATION CHANGE 1950-1975	VIOLENT CRIME RATE			PROPERTY CRIME RATE		
	1948-59	60-69	70-78	1948-59	60-69	70-78
.725	Minneapolis	-	+	-	+	+
.774	Newark	+	++	++	-/++	++
.794	Boston	-	-	+	-	++
.860	Oakland	+	+	++	+	++
.877	Philadelphia	-	-	-	-	--
1.316	Atlanta	+	+/-	+	+	++
1.831	Indianapolis	-	-	-	-	--
2.226	Houston	-	-	-	+	-
5.832	San Jose	-	-	--	++	++
6.223	Phoenix	+	-	--	++	++

++	>5 per 1000 above average	++	>10 per 1000 above average
+	0 to 4.9 per 1000 above average	+	0 to 9.9 per 1000 above average
+/-	split evenly during period	+/-	split evenly during period
-	0 to -4.9 per 1000 below average	-	0 to -9.9 per 1000 below average
--	< -4.9 per 1000 below average	--	< -9.9 per 1000 below average

police departments, is only slightly related to the characteristics of the communities in which offenses take place. While the rhetoric of law enforcement still heavily emphasizes its local character, its true dimensions appear more national than local. Thus, while one can to some degree predict a city's crime rate by knowing its demographic characteristics, city officials can do little to alter those characteristics. Indeed, demographic traits are not closely related to the rise of crime in this period. Instead, national trends in the opportunities to commit crime seem to be more closely associated with changes in urban crime rates.

TECHNICAL APPENDIX

Population Estimation Procedures We estimated the rate of the population change using the following formulas:

$$(1) \text{ Rate} = (\text{Ln}(\text{pop2}/\text{pop1}))/10$$

$$(2) \text{ Popest} = (\text{pop1} * (\text{e}^{**}(\text{rate} * \text{T})))$$

where pop1 is the first of the two census enumerations, pop2 is the second of the two census enumerations, Ln is the natural logarithm, and where e = 2.7182818, and t = the number of years from the first census enumeration year to which one is estimating--e.g. for 1964, t=4.

FOOTNOTES

1. UCR data were not drawn from FBI tapes because those tapes proved too difficult to decipher for our CDC computer. They are also not drawn from the Hoover Institution data set available from the Interuniversity Consortium for Political and Social Research because that data set was found to have numerous errors and omissions.

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Chapter III

POLICE POLICIES AND URBAN CRIME

A. Introduction

Public expectations about the way police should, can, and actually do respond to crime often diverge significantly from the realities of policing the city. Citizens often presume that police departments spend (or can spend) a large proportion of their time and effort engaged in criminal deterrence and apprehension. This presumption has now been thoroughly laid to rest by a variety of studies on policing (for example, Bittner, 1970). Police perform many other functions -- for example, dispute settlement, citizen assistance, traffic control, order maintenance, and so forth -- in large part because people expect them to. Thus, only a fraction of actual police work is associated with the kinds of things most people assume police are mainly doing (that is, fighting crime). Many of these functions have changed dramatically since the end of World War II (Richardson, 1974). Some of the things police were called upon to do in earlier years are no longer important. For example, police no longer board vagrants or perform the range of regulatory functions they once did. However, other sorts of demands have emerged to take their place. Demands have been made on the police to adopt new policies -- community relations and aggressive minority recruitment are two examples -- which are only indirectly justified (if justified at all) by the claim that they would improve community crime control (Bayley and Mendelsohn, 1969). Most cities have been at least partially responsive to these demands. One important example is Atlanta's movement from the trepidatious hiring of a handful of black police officers in 1948 to a force headed by a black public safety commissioner in the late 1970s.

Accordingly, it is important to stress from the outset that we are concerned with those police tasks related to violations of municipal ordinances or state statutes. Our emphasis is on the criminal justice role of the police and not upon the myriad other functions they are called upon to perform. Furthermore, we do not intend to investigate all of the important changes in police organization and behavior. We exclude what we call "distal" and focus on "proximate" responses. Specifically, our concerns in this chapter are the following:

- (1) the changes in the resources devoted to urban policing in our ten cities, changes measured not only by the expenditures on police, but also by police manpower;

(2) the way in which these resources were actually used by departments, as reflected in the activities and focus of police departments.

(3) the relationship between increases in urban crime and police resources and activities; and

(4) changes in the entrance requirements, training, and remuneration of police officers.

B. Context, Change, and Challenge: 1948-1978

There being almost 80,000 units of local government in the United States, most municipal institutions and agencies operate in a fragmented context. This is certainly true of local police departments, of which there are approximately 20,000. Very few cities have departments which are truly coterminous with their entire metropolitan area. So strongly felt is the desire for local control of the police function that when one of the cities we examined (Indianapolis) consolidated its city and county governments, police departments were specifically excluded from the consolidation. In addition, the geographical jurisdiction of a department bears little relation to the geographical and political jurisdictions and responsibilities of courts, prosecutorial offices, and correctional systems. Different authorities control different aspects of the criminal justice system.

Either because of, or in spite of, this fragmented system, police departments are somehow able to respond to community norms and standards. No one has shown this better than James Q. Wilson (1968), whose pioneering study of eight local police departments shows how police departments and policies differ from place to place. Dividing departments into three major "styles" (legalistic, service, and order maintenance), Wilson demonstrated linkages between the community's social and political system and its policing system.

The communities we have chosen to study vary widely. As we indicated in the preface to this volume, almost every index of urban conditions finds our ten cities ranging across the continuum. Similarly, these ten cities also vary considerably in their political structure and processes. Accordingly, one would expect to find considerable variation in police resources, activities, and organizational patterns among these ten cities.

Over the time period analyzed here, a number of changes in the external environment of police departments have affected their behavior. Without question, the most important of these has been the soaring rate of serious crime. As we indicated in the Technical Report, Crime on Urban Agendas (Jacob and Lineberry, 1982), crime was a major issue on the urban agenda for much of this time period, and many mayors were elected on

"law and order" platforms, promising to increase investments for crime fighting. As we will demonstrate in the next section, it is clear that over time there has been an upward trend in the level of police expenditures. It is not clear, however, whether resources have risen in response to or merely in tandem with crime rates. There has also been considerable evidence that increased investments in police resources were one consequence of the major civil disorders of the 1960s (for example, Welch, 1975; Button, 1978). If this pattern can be detected in the ten cities we have chosen to study then the additional investments in policing should be greater in the post-riot period than in earlier periods and also greater in those cities with significant racial disorders than in those without.

Considering the individual patrol officer, we know a good deal about the way in which police officers carry out their routine activities. Skolnick (1966) studied one of our cities (Oakland) and Rubenstein (1973) wrote about the day-to-day activities and norms of patrol officers in another (Philadelphia). These examinations record a relatively high degree of individual officer autonomy and discretion. What has not been extensively examined, certainly not within a longitudinal framework, is the way in which resources have been translated into activities at the departmental level. In addition, virtually all studies of traffic enforcement, arrest patterns, and or activities of local police departments have been based on a single point in time, often using data from only one city. Little evidence exists on whether the activities of departments follow an upward, downward, or stable trend. One possible reason so few studies exist is because data over any long period of time are extremely limited. Our compilation of data from departmental records, however, will permit us to describe some of the major trends in the behavior of police departments over a relatively long period of time. Because the data are sometimes incomplete and on occasion are based on different definitions from one city to another, intercity comparisons should be treated cautiously.

Demands on the police, other than the rising crime rate, have also grown over the time period studied here. Motor vehicle ownership has increased substantially and vehicle-miles traveled have increased dramatically as a vast network of superhighways have been constructed in and around the cities. This in turn has increased demands for traffic enforcement, which Gardiner (1969) found to be an exceptionally heavy component of police department activities, but also one that was quite variable across cities.

All police departments must constantly make public policy decisions about the allocation of their scarce resources. The choices departments make to allocate their activities and time among various functions can be called their focus. Not all departments will make the same choices or establish the same

priorities (Wilson, 1968; Gardiner, 1969). A simple stimulus-response model of police policy would suggest that as property crime increased in relation to violent crime, for example, departments would shift their focus from violent to property crime. Departments, though, may make different choices or tradeoffs, with respect to their focus on community service, traffic enforcement, and concentration on violent or property crime. Certainly we do not expect them to abandon the service functions which they perform, and those have also demanded more resources in the post war period.

One way of measuring the increased demands on local departments is to look at trends in citizens' calls for police service. Departments calculate these calls for service measures in very different ways, so intercity comparisons should be treated cautiously. Quite clearly, though, as Table 3.1 indicates, where information is available on these service calls, their levels have often increased substantially. However, when these calls are compared to the number of officers in a department, the pattern is somewhat more mixed. For example, in Phoenix and Minneapolis the ratio of calls to officers shows a clear decline, but that was more a result of a substantial increase in the number of police officers than of a decline in the number of calls for service. Only Indianapolis, where calls per police officer more than doubled between 1970 and 1978, shows a substantial increase for this ratio. While these data are imperfect and not completely comparable from city to city, they do offer one quantitative indicator of increased demands on the police. Not only have crime rates increased, but so too have the myriad other activities which police are called upon to perform by individual citizens.

One other key change over the 31 year period described here was the demand for, and movement toward, a more "professional" police force (Fogelson, 1977). The meaning of professionalism was not always clear, but commentators on policing were nearly unanimous in calling for more of it. At a minimum, professionalism involved changing the entrance requirements and promotional standards for department officers, upgrading the training programs of officers, and making advancement less contingent upon political connections (Saunders, 1970). How a department organized itself was also a concern of advocates of the professionalization of the police. Various departments experimented with centralized and/or decentralized organizational structures, with the creation of special units for particular functions, and with other innovations (for example, computerized record-keeping systems).

Coinciding with the drive to professionalize was the drive to unionize (Feuille and Juris, 1976). Many police departments saw the creation of local police organizations, some of them unabashed unions, while others found local officers affiliating with a national union such as the Teamsters or the American Federation of State, County, and Municipal Employees. Unions

TABLE 3.1

NUMBER OF CALLS FOR SERVICE AND CALLS FOR SERVICE PER POLICE OFFICER, SELECTED CITIES AND SELECTED YEARS, 1950-1978

CITY	1950	1960	1970	1978
<u>ATLANTA</u>				
Calls for service	230,072	514,599	na	640,664
Calls per police officer	482.3	764.6	na	573.0
<u>BOSTON</u>				
Calls for service	391,816	370,157	465,372	na
Calls per police officer	157.1	133.9	166.3	na
<u>INDIANAPOLIS</u>				
Calls for service	na	na	255,205	618,115
Calls per police officer	na	na	234.1	590.9
<u>MINNEAPOLIS</u>				
Calls for service	93,174	93,108	187,759	na
Calls per police officer	161.5	158.1	144.5	na
<u>PHILADELPHIA</u>				
Calls for service	na	459,544	1,123,891	1,236,325
Calls per police officer	na	84.3	144.3	150.6
<u>PHOENIX</u>				
Calls for service	na	na	324,423	394,273
Calls per police officer	na	na	344.0	258.0

na = Not available

posed new challenges for municipal police officials, as matters of work rules and employment conditions as well as salaries entered into contract negotiations (Juris and Feuille, 1973). These, too, may have implications for the activity patterns of police departments.

C. Framework for Analysis

The central focus of this chapter is an examination of the relationships between the level of serious crime (the Part I crime rate as reported to the FBI) and changes in police resources (standardized per capita police expenditures and police officers per 1,000 population) and police activities (the ratio of arrests to offenses, arrests per police officer, moving violations per police officer, and police focus on violent crime). Our intent is to examine whether or not police resources and activities have kept pace with increasing demands for more and better police protection (that is, the soaring rate of serious crime).

In order to assess the longitudinal relationships between these two sets of variables, time series regression analysis was utilized for each of the ten cities. Each of our police resource and activity variables were regressed on the Part I crime rate, controlling for the previous level of the police resource or activity variable. For example, we regressed the number of police officers per 1,000 population (time t) on the Part I crime rate (time t), controlling for the number of police officers per 1,000 population during the previous year (time t-1). By controlling for the lagged value of the dependent variable we are able to assess the effect the crime rate has upon changes in police resources and activities, independent of any secular trend in these resource and activity variables.

In addition, we also examine the trend of the time series for each of our indicators. Trend coefficients were obtained through ordinary least squares regression of each indicator on time (measured in years) for each of the ten cities. The unstandardized regression coefficient for the variable year can be interpreted as the trend of the time series (that is, the annual change, on the average, over the time period) and is interpreted in the indicator variable's metric (as opposed to percentages). The trend coefficient allows one to determine whether or not the slope of the time series regression line is statistically significantly different from zero.

Although we rely on data collected from standard national sources for police expenditures and the number of sworn police officers, most of the data reported in this chapter were collected by our field directors from local police departments. Generally, the data were obtained from departmental annual

reports or unpublished archival records. One caveat we strongly emphasize is that the reader should be cautious in making intercity comparisons because of differences in definitions across cities. In addition, we found that it was not uncommon for definitions and/or data sources to vary across time within cities as well. However, we have chosen the measures reported in this chapter to minimize the extent of noncomparability. For example, while we collected data on thirteen categories of arrest, we present here data only on Part I arrests as these arrests are generally more clearly defined across cities than Part II arrests. Furthermore, we found the data on Part I arrests to be more complete than that for Part II arrests and the sources of this information tended to vary less.

D. Police Resources

During the post World War II era, governmental responses to crime were expressed in many ways. Two of the more prominent were increases in the size of police forces and increases in the amount of funds allocated to police departments. In this section we examine two indicators of a community's investment in policing -- standardized per capita police expenditures and the number of police officers per 1,000 population. We collected data on police expenditures from the U. S. Bureau of Census' City Government Finances, standardized these expenditures in terms of 1967 dollars to allow for comparison across time in constant dollars, and finally per capitized these standardized expenditures to allow for meaningful comparisons across cities. Data on the number of police officers were collected from the Uniform Crime Reports, published annually by the U. S. Department of Justice and then standardized in terms of the number of police officers per 1,000 population to permit comparisons across cities. Intercensal population figures were computed using decennial census data and natural log estimation techniques as explained in Chapter 2.

1. Police Expenditures. Among all 396 cities with populations greater than 50,000, police expenditures rose sharply in the 31 year period studied. In 1948, cities spent, on the average, \$3.63 per capita for police. By 1960, police expenditures had risen to \$9.04 and in 1970 communities spent, on the average, \$22.64 per capita for police protection. In the 1970s, expenditures increased so rapidly that by 1978 the mean per capita expenditure for police (in constant 1967 dollars) was \$91.58--more than 25 times their 1948 level. This reflects not only increases in the size and compensation of police forces but also the increasing tendency for police departments to outfit themselves with the latest in technological crime-fighting hardware.

Figure 3.1 presents the data on standardized per capita police expenditures for the ten case study cities for the entire 31 year period. As the figure illustrates, expenditures rose only slightly in six of the ten cities (Atlanta, Houston, Indianapolis, Minneapolis, Phoenix, and San Jose), most of which grew in size between 1948 and 1978. After 1970 per capita expenditures began to rise more rapidly in this group of cities, with Atlanta and Phoenix recording the sharpest increases. Unlike the other six cities, standardized per capita police expenditures rose substantially throughout most of the period in the cities with declining populations--Boston, Newark, Oakland, and Philadelphia. Figure 3.1 also shows that in the latter part of the period studied (after 1974) police expenditures, when adjusted for inflation and population, declined in five of the ten cities (Atlanta, Boston, Indianapolis, Minneapolis, and Newark). Per capita police expenditures fell most sharply in Newark, declining from \$80.60 in 1976 to \$55.81 in 1978.

Examination of the coefficient of variation (CV) for this measure for the ten cities indicates that these ten cities were more similar in the amount of funds allocated for police protection in 1978 (CV=34.6) than they were in 1948 (CV=38.0). These cities were most dissimilar during the period 1965-1970 (CV > 50.0), a period during which crime rates rose rapidly and also the period during which a number of these cities experienced riots and civil disorders.

While the data in Figure 3.1 clearly demonstrate that police expenditures have risen considerably in the post World War II era, it is important to examine whether or not this trend is statistically significant and also to examine what effect, if any, the rise in crime had on police expenditures. Table 3.2 displays the results of our analysis of the trend of this time series and also the results of our analysis of the effects of the Part I crime rate upon standardized per capita police expenditures. Examination of the trend coefficients (column one) shows that there was a significant, positive increase in the level of standardized per capita police expenditures in seven of the ten cities (all but Atlanta, Houston, and Phoenix). Expenditures increased most precipitously in Newark, where they increased at an annual rate of \$1.64 per capita, on the average, during the 31 year period examined. Only three cities (Boston, Newark, and Oakland) show a mean annual change of more than fifty cents per capita.

The second column of Table 3.2 reports the results of our analysis of the effects of Part I crime rates on police expenditures. Since the coefficients reported were obtained by controlling for the lagged value of the dependent variable, these coefficients may be interpreted as the effect of a one unit increase in the Part I crime rate upon annual changes in the amount of per capita dollars allocated for police protection, independent of any trends in prior levels of police

FIGURE 3.1

STANDARDIZED PER CAPITA POLICE EXPENDITURES, 1948-1978

51

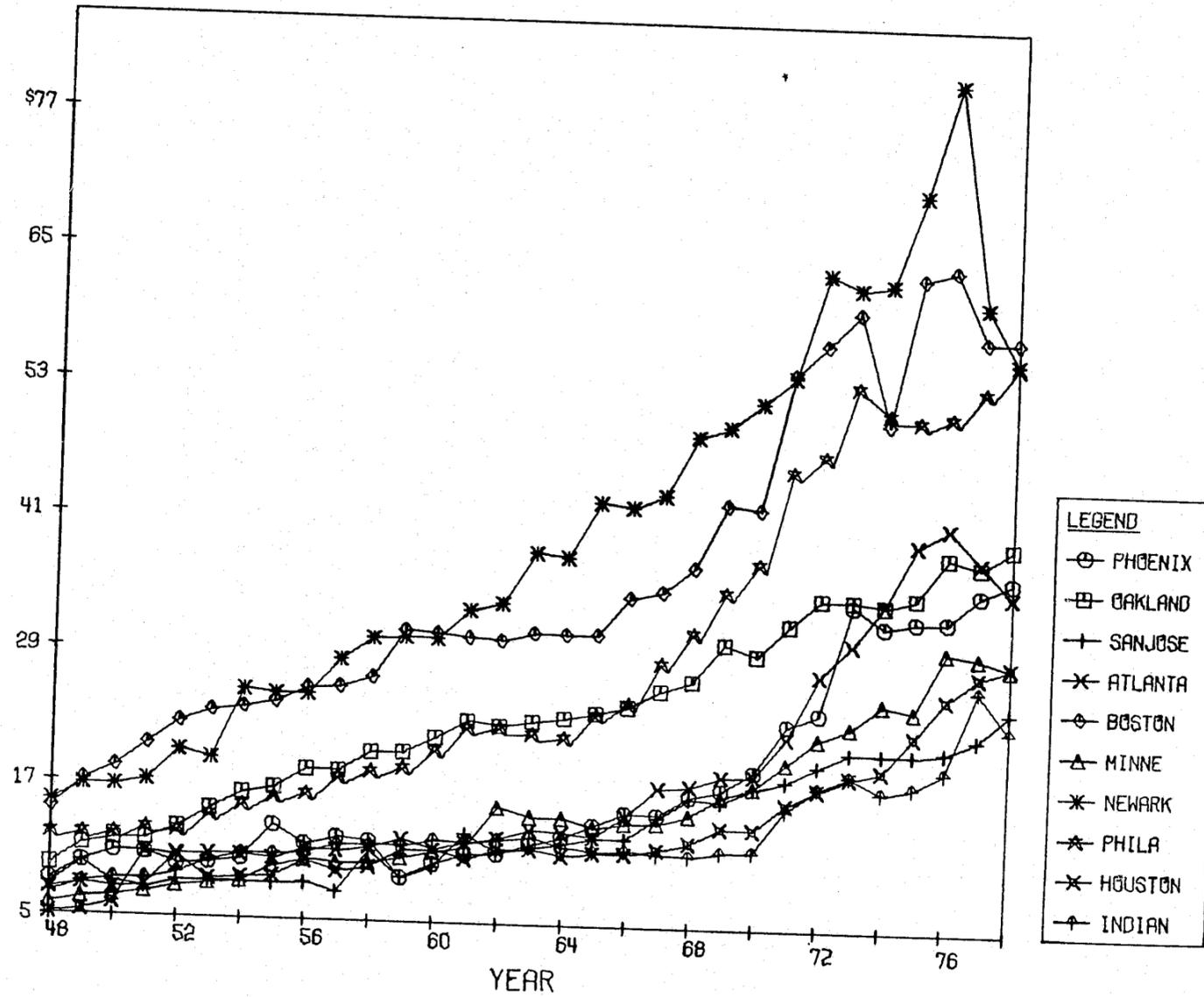


TABLE 3.2

STANDARDIZED PER CAPITA POLICE EXPENDITURES:
MEAN ANNUAL CHANGE AND THE EFFECT OF THE PART I CRIME RATE,
1948-1978

CITY	MEAN ANNUAL CHANGE ^a	PART I CRIME RATE ^b
ATLANTA	\$0.18	.100**
BOSTON	0.89**	.191**
HOUSTON	0.14	.051**
INDIANAPOLIS	0.42**	.035
MINNEAPOLIS	0.23**	.046**
NEWARK	1.64**	.121
OAKLAND	0.80**	.031**
PHILADELPHIA	0.31*	.221**
PHOENIX	0.25	.078*
SAN JOSE	0.38**	.060*

* p < .05

** p < .01

a. Values reported in this column are unstandardized regression coefficients. They were obtained by regressing the variable upon time (measured in years).

b. Values reported in this column are unstandardized regression coefficients. They were obtained by regressing the variable (time t) upon its lagged value (time t-1) and the Part I Crime rate (time t).

expenditure. In eight of the ten cities (all but Indianapolis and Newark) significant positive associations were found between the level of crime and changes in police expenditure. Our analysis indicates that Boston and Philadelphia appear to be the most responsive cities to changes in the crime rate. For example, in Philadelphia a ten unit increase in the Part I crime rate is associated with an increase of \$2.21 per capita in police expenditures, net of any trends in prior levels of expenditure. Similarly, an annual increase of ten units in the Part I crime rate in Boston is associated with an additional \$1.91 in per capita police expenditures. In Oakland, police expenditures were less responsive to increases in the crime rate. In that city, a ten unit increase in the Part I crime rate is associated with only an additional 31 cents per capita in police expenditures, net any trend in previous per capita police expenditures.

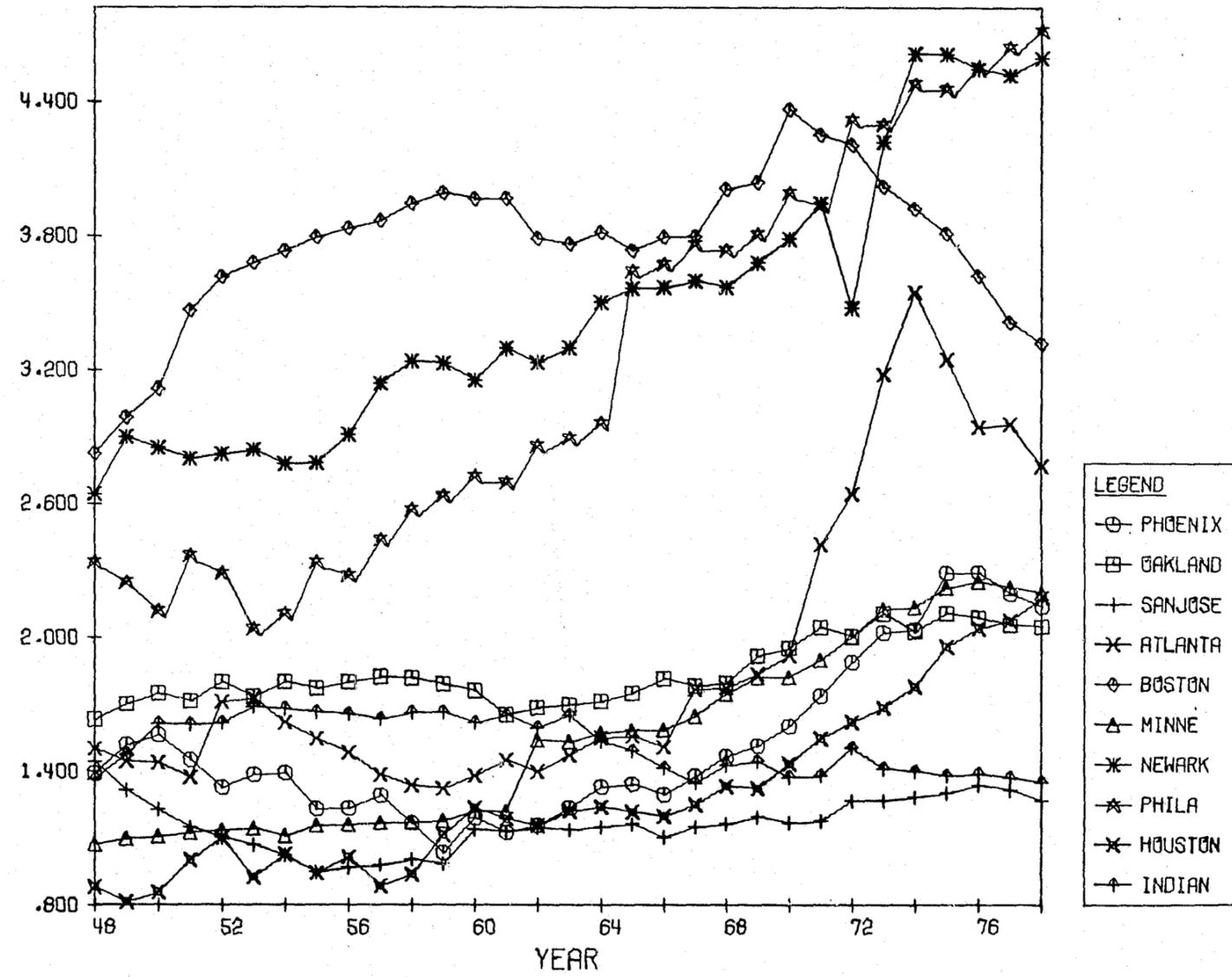
In summary, both Figure 3.1 and Table 3.2 suggest regional and growth/decline distinctions among the ten cities. For example, the three cities with the greatest per capita police expenditures throughout the entire period are older, Northeastern cities (Boston, Newark, and Philadelphia). Of the remaining seven cities, Oakland and Atlanta -- cities that more closely resemble the older, declining cities of the Northeast than the growing central cities of the South and West -- consistently spent more for policing. In short, the neediest cities (Atlanta, Boston, Newark, Oakland, and Philadelphia) exhibit the highest level of per capita police expenditures during the post war era and generally show larger mean annual changes, although in the latter 1970s expenditures in these cities declined or leveled off whereas expenditures in the growth cities (particularly Houston and San Jose) continued to increase substantially.

2. Police Officers. Although there is a relatively strong relationship between police expenditures and police officers, more dollars for policing does not necessarily imply that a city has hired more police officers. However, perhaps the most common local governmental response to the soaring crime rate was the hiring of more police officers. Indeed, among all cities with populations greater than 50,000, the number of police officers per 1,000 population increased from 1.33 in 1948 to 1.96 in 1978. Figure 3.2 displays the data on the number of police officers per 1,000 population for the ten case study cities for the period 1948-1978. Overall, the figure suggests two quite distinct clusters of cities -- Boston, Newark, and Philadelphia on the one hand and the remaining seven cities on the other. While the data suggest that cities have roughly the same proportion of police officers to population in 1978 as in 1948, there are a few noticeable distinctions. Newark and Philadelphia both substantially increased the size of their police forces when adjusted for population. In Philadelphia police officers per 1,000 population rose from 2.34 in 1948 to 4.72 in 1978. Similarly,

FIGURE 3.2

POLICE OFFICERS PER 1000 POPULATION, 1948-1978

54



- LEGEND
- PHOENIX
 - OAKLAND
 - + SAN JOSE
 - * ATLANTA
 - ◇ BOSTON
 - △ MINNE
 - * NEWARK
 - ★ PHILA
 - * HOUSTON
 - + INDIAN

police officers per 1,000 population rose from 2.64 to 4.59 between 1948 and 1978 in Newark. The size of the Newark police force increased most rapidly during the period 1972-1974 when Newark was a participant in the Law Enforcement Assistance Administration's (LEAA) High Impact Anti-Crime Program. However, as Newark's participation in this program came to a close the city was forced to dismiss a number of police officers it had previously hired with federal funds. Overall, the city's police force increased from 1,266 officers in 1972 to 1,603 in 1974 and then declined to 1,453 police officers by 1978. Boston, which had the highest ratio of police officers to population throughout most of the period, illustrates a steady and dramatic decline beginning in 1970 as police officers per 1,000 population dropped from 4.36 in 1970 to 3.31 in 1978, a 24 per cent decline. However, because Boston was also losing population during this period, the actual decline in the size of the city's police force was much greater (nearly one-quarter) as the number of sworn officers declined from 2,798 in 1970 to 2,102 in 1978.

Atlanta shows a distinct break from the cluster of the other seven cities in 1970 as the proportion of police officers to population steadily increased between 1970 and 1974, a period in which the size of the Atlanta police force increased by more than 600 officers. Much of the growth in the size of the Atlanta Police Department during this period was made possible by the city's selection as one of eight cities to participate in LEAA's High Impact Anti-Crime Program (Jordan and Brown, 1975). Of the 18 million dollars in federal funds received by Atlanta through this program, nearly two-thirds (11.3 million dollars) was allocated to the city's police department where it was used to fund, among a number of other things, several specialized crime prevention units (for example, burglary, robbery, and rape) and to increase preventive patrol manpower in two high crime areas within the city. The subsequent decline in departmental manpower begun in 1974 appears to be the result of two factors: (1) a court case over hiring practices which froze police hiring for several years and (2) the completion in 1976 of the federally-funded projects and activities. In fact, by 1978, the Atlanta police department had 468 fewer police officers than in 1974, which represents nearly a one-third reduction in the size of the Atlanta police force.

Clearly, what we have is a set of cities -- Boston, Newark, and Philadelphia -- which appear to have "labor intensive" police departments. Even when Boston's ratio of police officers to population declined significantly in the latter years, it remained well ahead of the other seven cities in the ratio of officers to people. Toward the end of the period, Atlanta came closer to membership in this list of labor-intensive departments. These three large Northeastern cities have lost significant numbers of people over the years, but they have nonetheless managed to maintain relatively high

ratios of police officers to population, much higher levels in fact than the more rapidly growing cities in other regions.

The trend of this time series, reported in the first column of Table 3.3, indicates a relatively modest increase in the number of police officers per 1,000 population between 1948 and 1978 in a majority of the cities. The mean annual change in this ratio ranged from a low of -.007 in Indianapolis to a high of .07 in Atlanta and Philadelphia. These trends translate into a decline of approximately two police officers per 10,000 population in Indianapolis and an increase of nearly twenty-two police officers per 10,000 population in Atlanta and Philadelphia, on the average, over the period 1948-1978. The trend was statistically significant in nine of the ten cities, all of which reported an increase for this indicator.

Examination of the second column of Table 3.3, which reports the effects of the Part I crime rate on the number of police officers per 1,000 population, shows that this relationship was statistically significant in eight of the ten cities (all but Newark and Philadelphia). In two of the eight cities with significant relationships (Boston and Indianapolis), the association between changes in the crime rate and changes in the number of police officers per 1,000 population was negative. This is the result not only of smaller changes in years in which the crime rate increased but also of an actual decline in the ratio of police officers to population in years in which the crime rate increased. In Indianapolis, for example, the ratio of police officers to population declined in 16 of the 31 years. In Boston, this ratio has declined steadily since 1971. Among the cities with positive associations, Atlanta, Houston, and Minneapolis responded similarly to increases in the crime rate. In each of these three cities each additional 1,000 offenses annually reported to the police is associated with an increase of more than five additional police officers. A similar increase in Oakland is associated with only one additional police officer.

3. Summary: Police Resources and the Crime Rate. Thus far we have shown that each of the ten cities increased their level of police expenditures, when adjusted for population and inflation, and that nine of the ten cities (all but Indianapolis) reported a mean annual increase in the ratio of police officers to population. Furthermore, when we controlled for the previous level of resource commitment and examined the effect of crime on resource allocation, we generally found that this relationship was both positive and statistically significant, suggesting that cities indeed were responding to increases in the rate of serious crime. The question that remains, therefore, is how substantial was this response? In other words, have resources kept pace, fallen behind, or actually exceeded the rise in reported crime?

Increases in police resources look quite different when we

TABLE 3.3

POLICE OFFICERS PER 1000 POPULATION:
MEAN ANNUAL CHANGE AND THE EFFECT OF THE PART I CRIME RATE,
1948-1978

CITY	MEAN ANNUAL CHANGE ^a	PART I CRIME RATE ^b
ATLANTA	.070*	.0053*
BOSTON	.045**	-.0018**
HOUSTON	.023**	.0051**
INDIANAPOLIS	-.007	-.0052**
MINNEAPOLIS	.026**	.0054**
NEWARK	.064**	.0027
OAKLAND	.030**	.0013**
PHILADELPHIA	.071**	.0105
PHOENIX	.032**	.0037**
SAN JOSE	.034**	.0023**

* p < .05

** p < .01

a. Values reported in this column are unstandardized regression coefficients. They were obtained by regressing the variable upon time (measured in years).

b. Values reported in this column are unstandardized regression coefficients. They were obtained by regressing the variable (time t) upon its lagged value (time t-1) and the Part I Crime rate (time t).

compare them to the incidence of reported crime. In 1948 there were 3.22 police officers for every violent crime and .11 police officers for every property crime, on the average, among the 396 baseline cities. Thirty-one years later, the number of policemen per violent crime had dropped to .5 and for property crimes to .03. Thus, in relation to the crime problem as measured by recorded offenses, police officers dropped to one-sixth of their 1948 strength for violent crimes and one-quarter for property crimes. Clearly, the rise in the number of police officers did not keep pace with the rise in crime. Similarly, police expenditures also did not keep pace with the rising crime rate. In constant 1967 dollars, police expenditures fell from 15 cents to six cents per violent crime while expenditures per property crimes fell from .6 cents to .4 cents between 1948 and 1978.

Another way of examining whether or not police resources kept pace with crime is to examine the mean annual percentage change, 1948-1978, in the crime rate, standardized per capita police expenditures, and police officers per 1,000 population. Figure 3.3 presents this data for each of the ten case study cities. The figure highlights a number of important points. First, the figure suggests that the ability of a city's police resources to keep pace with increases in the crime rate is largely a function of the rate of increase of reported crime. Expenditures exceeded the crime rate in cities where the crime rate increased relatively slowly. Thus, in all four of the cities with a mean annual percentage increase in the crime rate of less than five per cent (Indianapolis, Philadelphia, Phoenix, and San Jose) the mean annual percentage change in standardized per capita police expenditures rose faster than crime. Figure 3.3 clearly illustrates that in every city the crime rate far outpaced the mean annual percentage rate of change in the number of police officers per 1,000 population. In sum, our analysis of police resources indicates that while cities have allocated additional funds for police protection and manpower, these increases have been outpaced by the soaring rate of serious crime.

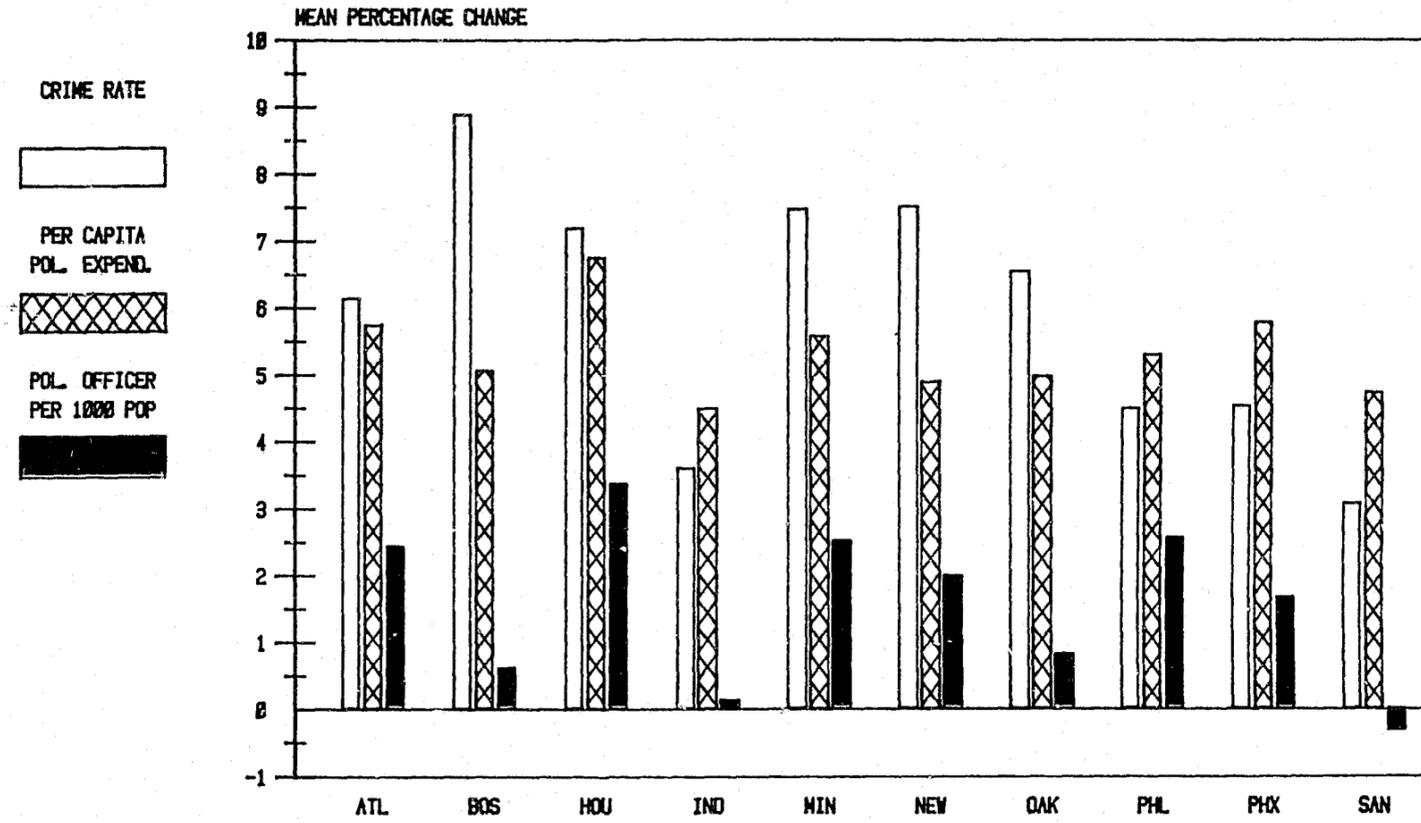
D. Police Activities

Much of the research on urban policing and crime has focused on the community's investment in police protection--that is, the amount of funds allocated for the police and the size of its police force. While these are important indicators of a community's commitment to the crime problem, they are still several steps removed from effective policy action. For example, communities could choose to allocate their funds for new facilities and equipment or alternatively for higher salaries and benefits to existing officers. Similarly, additional police officers could be assigned to planning, record keeping, or other non-crime

FIGURE 3.3

MEAN ANNUAL PERCENTAGE CHANGE IN THE CRIME RATE,
STANDARDIZED PER CAPITA POLICE EXPENDITURES AND
POLICE OFFICERS PER 1000 POPULATION, 1948-1978

59



fighting responsibilities. In this section we specifically focus on the translation of police resources into police activities. Our central concern in this section is what it is police actually do and how increases in the crime rate affect these activity patterns. We examine four indicators of police activity--the arrest-offense ratio, the number of arrests per police officer, the number of moving violations per police officer, and police focus on violent crime.

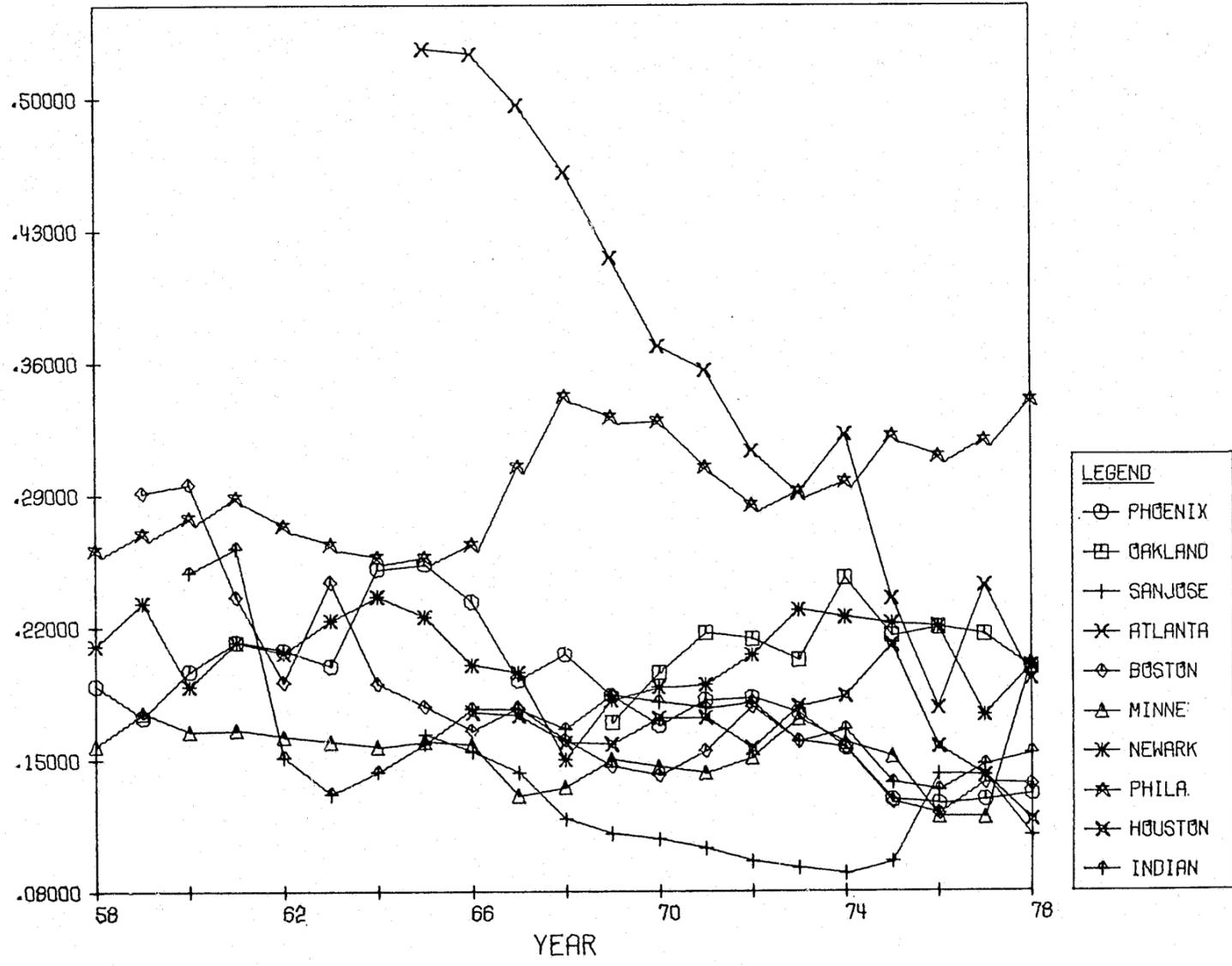
1. Arrest-Offense Ratio. The arrest-offense ratio, which is computed by dividing the annual total number of Part I arrests by the annual total of Part I offenses is one measure of police activities. However, because in many instances one arrest may solve several crimes or alternatively more than one arrest may be necessary to apprehend all who committed a particular offense, this ratio is more a representation of the intensity of police activities than an indicator of the success of the police in solving the problem of crime.

Figure 3.4 plots the arrest-offense ratio for the ten cities for the period 1958-1978. Data prior to 1958 are not plotted because we have limited data on the number of arrests in our ten cities prior to 1958. The figure illustrates that except for Atlanta and Philadelphia, the magnitude of the arrest-offense ratio has been relatively stable in our cities. Atlanta, however, shows a steady and dramatic decline in its arrest-offense ratio, dropping from .53 in 1965 to .19 in 1978, nearly a two-thirds decline. Certainly the very substantial infusion of federal funds into Atlanta for law enforcement did not prevent a sharp decline in its arrest-offense ratio. Philadelphia, on the other hand, reports a rather modest increase in its arrest-offense ratio. That city shows a rather interesting pattern between 1966 and 1972 in which the arrest-offense ratio rose sharply between 1966 and 1968 and then declined steadily over the next four years. Since 1972, however, the ratio of arrests to offenses has risen, increasing from .28 in 1972 to .34 in 1978. In addition, Philadelphia is the only city for which the arrest-offense ratio was greater than .25 for the entire 21 year period. Philadelphia, though, is widely reputed to have one of the worst records of any of our cities as a recorder of offenses, so that these changes may be due as much to the denominator as the numerator.

In seven of the remaining eight cities the arrest-offense ratio shows a substantial amount of year-to-year variation. For example, in the six cities for which we have data for most of the 21 year period, the arrest-offense ratio time series changed direction nine times in Indianapolis, eight times in Phoenix, seven times in Newark, six times in Minneapolis, and five times in both Boston and Philadelphia. In only two cities (Atlanta and San Jose) was the phase length of the time series (that is, the number of years between turning points in the series) greater than five years. As we mentioned earlier, in Atlanta the arrest-offense ratio declined steadily between 1965

FIGURE 3.4
ARREST-OFFENSE RATIO, 1958-1978

19



- LEGEND
- PHOENIX
 - OAKLAND
 - ⊕ SAN JOSE
 - × ATLANTA
 - ◇ BOSTON
 - △ MINNE'
 - * NEWARK
 - ★ PHILA.
 - ✱ HOUSTON
 - ⬢ INDIAN

and 1973, falling from .53 to .29. Similarly, in San Jose, the arrest-offense ratio declined or remained the same between 1965 and 1974, dropping from .16 to .09. The range of variation, however, has been quite small, generally ranging from about .14 to .24, suggesting perhaps, that the level of police activities, as measured by this indicator, has remained fairly constant. For example, if one excludes the extreme values in Oakland (a high of .25 in 1974 and a low of .17 in 1969) the arrest-offense ratio varies from .20 to .22 for the ten years for which we have arrest data for Oakland. The range of values is also quite small in Boston (.14 to .19), Minneapolis (.13 to .20), Newark (.15 to .23), and San Jose (.09 to .16).

The trend of this time series, reported in the first column of Table 3.4, shows a decline in the arrest-offense ratio for six of the ten cities (all but Indianapolis, Oakland, Philadelphia, and Phoenix). However, the trend is statistically significant in only five cities (Atlanta, Boston, Indianapolis, Philadelphia, and Phoenix) of which only Philadelphia and Phoenix show an increase. In sum, the data suggest that while crime was on the rise during this period, police activities, as measured by the ratio of arrests to offenses, remained relatively constant or actually declined. While the trend coefficients show an increase in four cities, this increase is fairly modest. In Indianapolis, the city with the largest mean annual increase in the arrest-offense ratio (.0055), the arrest-offense ratio over the entire 19 year period between 1960 and 1978 only increased by .10 arrests per offense, on the average.

In the second column of Table 3.4, coefficients measuring the impact of the crime rate upon changes in the arrest-offense ratio for Part I crimes are reported. In every city but Philadelphia, the relationship between the Part I crime rate and annual changes in the arrest-offense ratio is negative. However, this relationship is statistically significant at or above the .05 level in only five cities (Atlanta, Boston, Indianapolis, Newark, and Phoenix). In all but three cities (Indianapolis, Oakland, and Phoenix) the signs of the unstandardized regression coefficients reported in columns one and two match. This suggests that for a majority of the cities studied, the police actually fell behind in their fight against crime as measured by this indicator. In Atlanta, for instance, the arrest-offense ratio declined by .03, on the average, for each annual increase of 10 units in the crime rate, net of any trend in past levels of this ratio.

2. Arrests Per Police Officer. The number of arrests per police officer is another measure of the intensity of police activities. While the arrest-offense ratio standardizes the number of arrests by the level of reported crime, the arrests per police officer measure adjusts a city's level of arrests by the number of sworn police officers. Figure 3.5 plots the data on the ratio of arrests to police officers for the ten cities

TABLE 3.4

ARREST-OFFENSE RATIO:
MEAN ANNUAL CHANGE AND THE EFFECT OF THE PART I CRIME RATE,
1958-1978

CITY	MEAN ANNUAL CHANGE ^a	PART I CRIME RATE ^b
ATLANTA (1965-78)	-.0277**	-.0030**
BOSTON (1959-78)	-.0072**	-.0004**
HOUSTON (1966-78)	-.0017	-.0008
INDIANAPOLIS (1960-78)	.0055**	-.0019*
MINNEAPOLIS (1958-78)	-.0007	-.0003
NEWARK (1958-78)	-.0006	-.0004*
OAKLAND (1969-78)	.0028	-.0015
PHILADELPHIA (1958-78)	.0045**	.0002
PHOENIX (1958-78)	.0028*	-.0005**
SAN JOSE (1965-78)	-.0025	-.0018

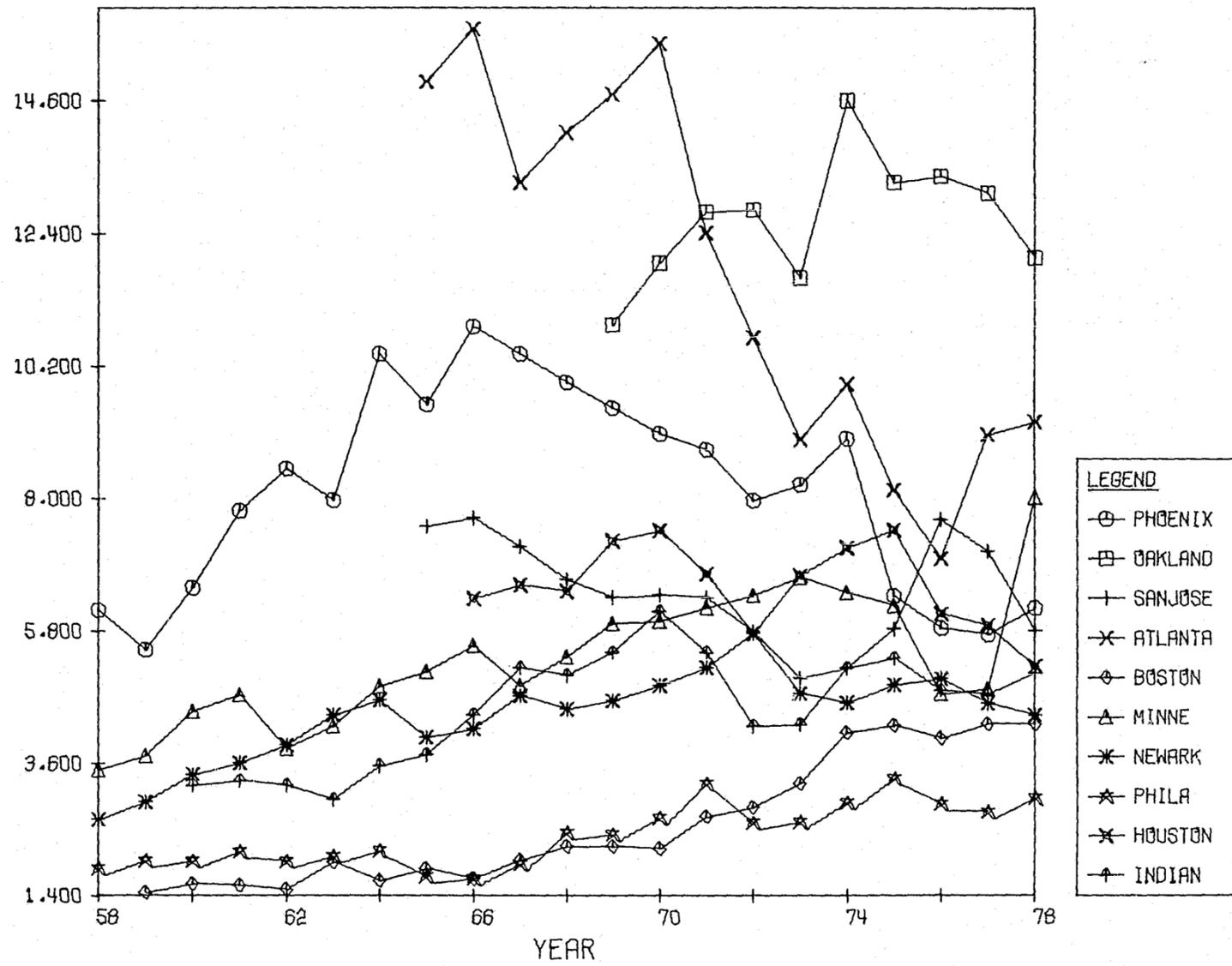
* p < .05
** p < .01

a. Values reported in this column are unstandardized regression coefficients. They were obtained by regressing the variable upon time (measured in years).

b. Values reported in this column are unstandardized regression coefficients. They were obtained by regressing the variable (time t) upon its lagged value (time t-1) and the Part I Crime rate (time t).

FIGURE 3.5

ARRESTS PER POLICE OFFICER, 1958-1978



for the period 1958-1978. The figure generally points out that those cities with an initially high ratio of arrests per police officer (that is, greater than 5.00) declined during this period whereas those cities with a relatively low initial ratio of arrests per police officer (that is, less than 5.00) increased on this measure. Only one city, Minneapolis, moved from one group (low) to another (high) during this period. The figure also points out the considerable variation among our cities on this measure. The ratio ranges from a high of more than ten arrests annually per police officer in Atlanta (for most of the period) and Oakland to a low of less than three arrests per police officer in Boston and Philadelphia. What is perhaps most striking from this figure, however, is how rare an occurrence an arrest for a serious crime actually is. For example, Oakland's police officers, the most "productive" in our ten cities according to this measure, made only slightly more than one part I arrest per police officer per month.

Figure 3.5 also points out a considerable amount of variation within the cities. For example, in four cities, the fluctuation of this time series is quite frequent: Boston and Philadelphia both have ten turning points in their series, which is roughly equivalent to a change in direction about once every two years. However, in both cities the range of variation is quite small. Minneapolis (with nine turning points in 31 years), Indianapolis (with nine in 19 years), and Phoenix (with eight in 23 years) also show considerable year-to-year variation in the number of arrests per police officer.

Earlier, we noted a distinct clustering of cities with high spending per capita on their police and relatively high ratios of officers to people. We characterized these three cities (Boston, Newark, and Philadelphia) as having "labor intensive departments." These cities once again cluster together, as Figure 3.5 shows, remaining fairly consistently the three cities with the lowest ratio of arrests per police officer. Thus, these labor intensive departments appear to spend more, have relatively more officers, but these officers individually account for fewer arrests than their counterparts in other departments.

Table 3.5 displays the mean annual change in arrests per police officer and the effect of the crime rate on the number of arrests per police officer for the ten cities. Examination of the trend coefficients (column one) shows that the mean annual change, on the average, in the number of arrests per police officer was increasing in six of the ten cities. Statistically significant trends were found in four cities (Atlanta, Indianapolis, Minneapolis, and Philadelphia) of which all but Atlanta increased on this measure.

Regression coefficients reported in the second column of the table show the effect of the crime rate on changes in the

TABLE 3.5

ARRESTS PER POLICE OFFICER:
MEAN ANNUAL CHANGE AND THE EFFECT OF THE PART I CRIME RATE,
1958-1978

CITY	MEAN ANNUAL CHANGE ^a	PART I CRIME RATE ^b
ATLANTA (1965-78)	-.638**	-.048
BOSTON (1959-78)	.026	.016**
HOUSTON (1966-78)	-.064	-.024
INDIANAPOLIS (1960-78)	.044*	.041*
MINNEAPOLIS (1958-78)	.139**	.034**
NEWARK (1958-78)	.009	.010
OAKLAND (1969-78)	.155	.038
PHILADELPHIA (1958-78)	.069**	.048**
PHOENIX (1958-78)	-.034	-.014
SAN JOSE (1965-78)	-.090	-.035

* p < .05

** p < .01

a. Values reported in this column are unstandardized regression coefficients. They were obtained by regressing the variable upon time (measured in years).

b. Values reported in this column are unstandardized regression coefficients. They were obtained by regressing the variable (time t) upon its lagged value (time t-1) and the Part I Crime rate (time t).

number of arrests per police officer. Once again, six of the ten cities show a positive relationship between these two measures. Statistically significant positive relationships are observed for Boston, Indianapolis, Minneapolis, and Philadelphia. These data suggest that police in Philadelphia and Indianapolis were most responsive to changes in the crime rate as a one-hundred unit increase in the crime rate is associated with approximately five additional arrests per police officer in Philadelphia and four additional arrests per police officer in Indianapolis, net of any previous trend in the level of arrests per police officer. A similar increase in the crime rate in Boston is associated with slightly less than two additional arrests per police officer. The size of these coefficients emphasize how rare an event an arrest for a Part I crime is and secondly, the relatively large increase in reported crime necessary for the police to respond.

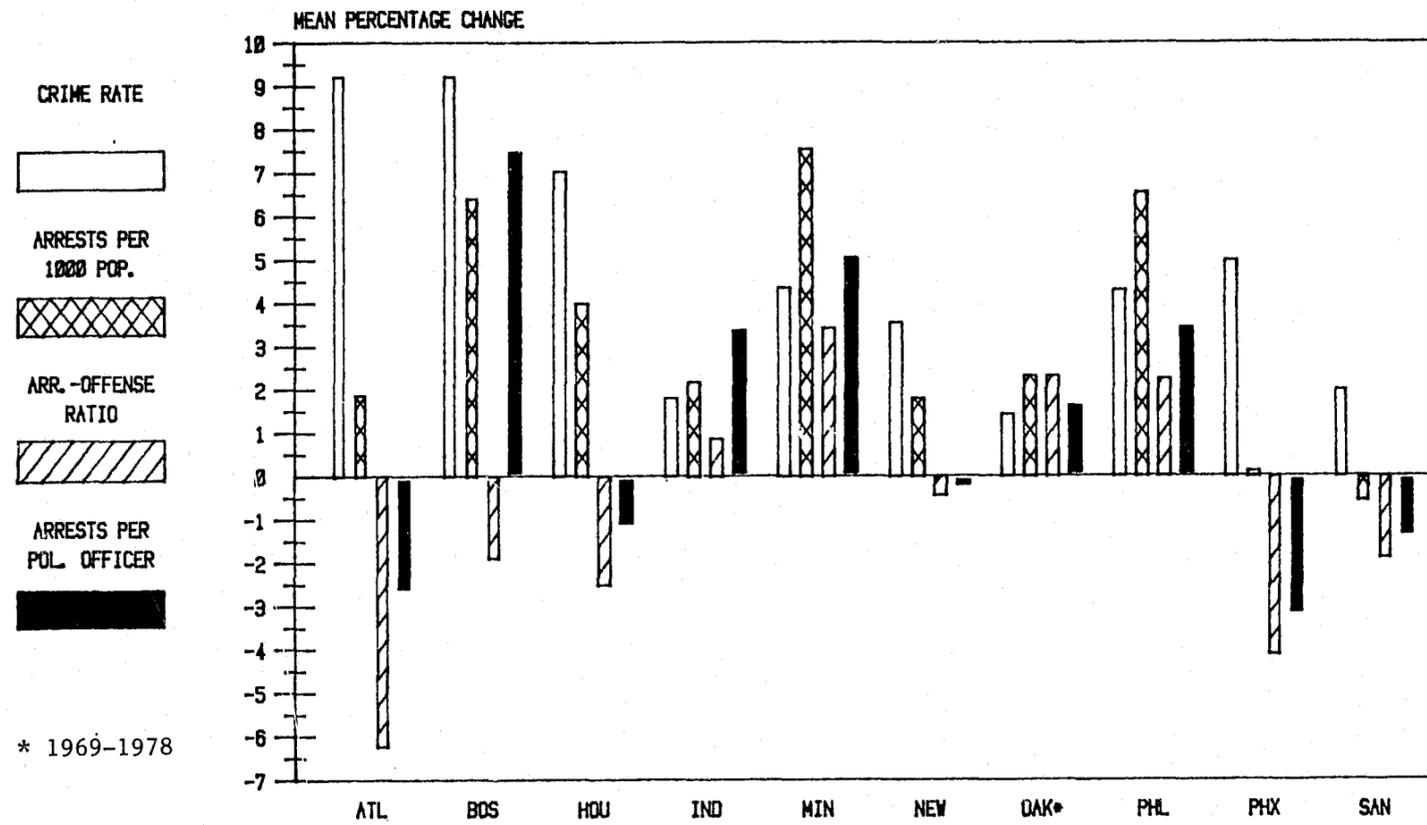
3. Summary: Arrest Patterns and the Crime Rate. Thus far the examination of arrest patterns in the ten case study cities have shown that arrests have remained relatively constant, increased marginally, or actually declined. Yet, the period we are investigating is one in which the crime rate rose substantially in all of our cities. Figure 3.6 presents data comparing the extent to which cities' arresting patterns kept pace with increases in the crime rate during the period 1965-1978. The mean annual percentage change for four measures -- the crime rate, arrests per 1,000 population, the arrest-offense ratio, and arrests per police officer -- are displayed in the figure. As the figure shows, in nearly every city the crime rate increased much more sharply than arrests, no matter how one measures them -- that is, adjusted for population, the level of reported crime, or the number of police officers. The data do show that the rate of increase in the number of arrests per 1,000 population was increasing in every city but San Jose, indicating that the police were making more arrests but not enough to keep up with the rise in reported crime. In San Jose, the police were also making more arrests but at a rate slower than the rate of population growth. Five cities (Boston, Indianapolis, Minneapolis, Oakland, and Philadelphia) show arrest patterns that have kept pace with the rise of reported crime or actually exceeded it. In Indianapolis and Minneapolis both the number of arrests per 1,000 population and the number of arrests per police officer increased at an annual percentage rate greater than the crime rate and the increase in the arrest-offense ratio was nearly as great as the mean annual percentage change in the crime rate. Oakland is the only city in which the mean annual percentage change for each of the three arrest variables exceeds the mean annual percentage change in the crime rate.

In Philadelphia, the mean annual percentage change in the number of arrests per 1,000 population (6.54 percent) exceeded the rate of increase in the crime rate (4.24 percent). The mean percentage increases in the ratio of arrests to offenses

FIGURE 3.6

MEAN ANNUAL PERCENTAGE CHANGE IN THE CRIME RATE,
ARRESTS PER 1000 POPULATION, ARREST-OFFENSE RATIO,
AND ARRESTS PER POLICE OFFICER, 1965-1978

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number of arrests per police officer. Once again, six of the ten cities show a positive relationship between these two measures. Statistically significant positive relationships are observed for Boston, Indianapolis, Minneapolis, and Philadelphia. These data suggest that police in Philadelphia and Indianapolis were most responsive to changes in the crime rate as a one-hundred unit increase in the crime rate is associated with approximately five additional arrests per police officer in Philadelphia and four additional arrests per police officer in Indianapolis, net of any previous trend in the level of arrests per police officer. A similar increase in the crime rate in Boston is associated with slightly less than two additional arrests per police officer. The size of these coefficients emphasize how rare an event an arrest for a Part I crime is and secondly, the relatively large increase in reported crime necessary for the police to respond.

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(2.21 percent) and arrests to police officers (3.42 percent) were nearly as great as the rise in the crime rate (4.29 percent). Finally, in Boston, the rate of change in the number of arrests per 1,000 population lagged slightly behind the rate of change for the crime rate between 1965 and 1978.

In summary, the two cities in which increases in arrests either exceeded or closely followed increases in the crime rate (Minneapolis and Philadelphia), are cities noted for their politically influential police departments. In four cities (Atlanta, Houston, Phoenix, and San Jose), of which all but Atlanta are relatively well-off communities, arrests lagged considerably behind increases in the crime rate.

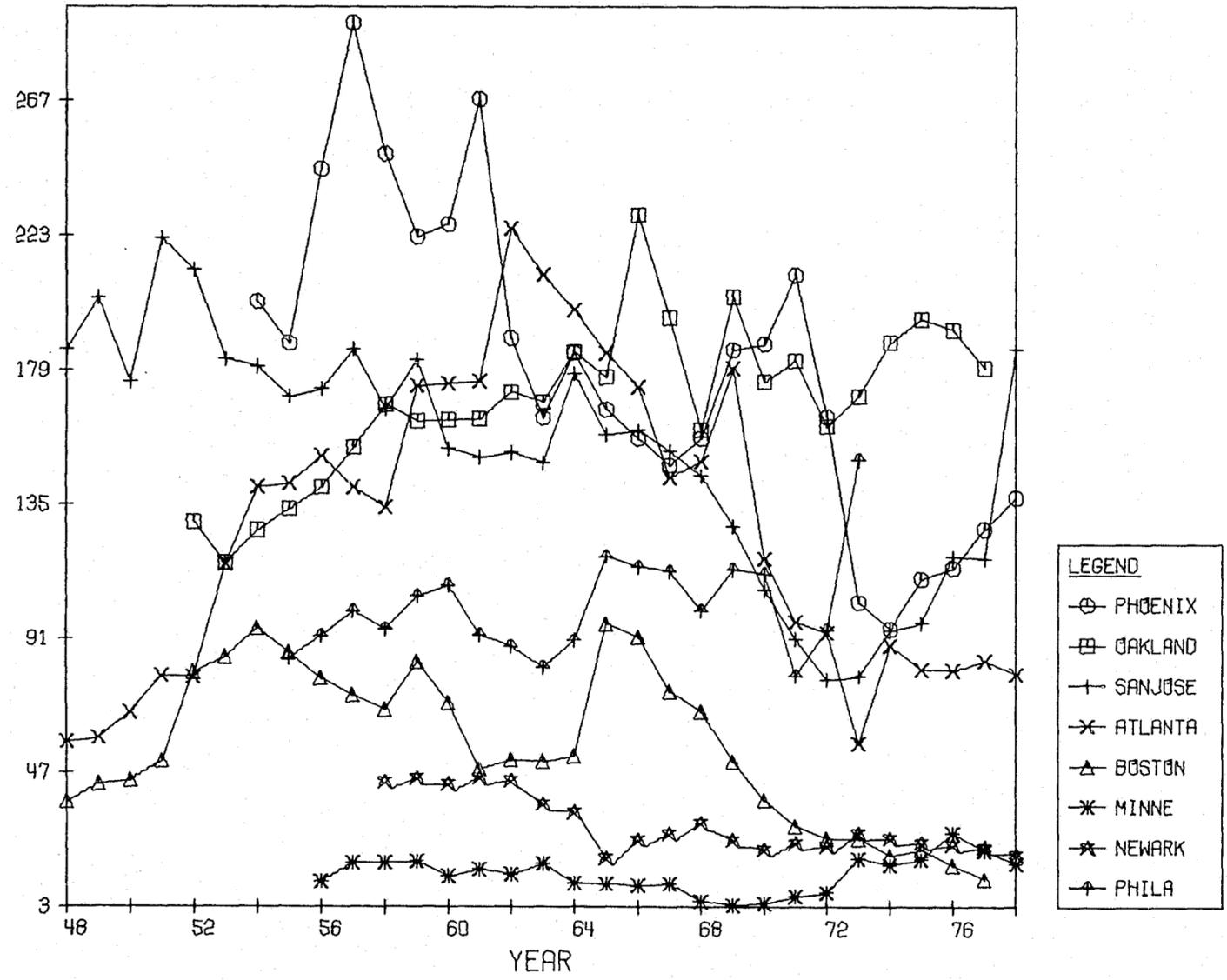
4. Focus of Police Activities: Traffic Enforcement Versus Crime Fighting. One possible explanation for the inability of arrests to keep pace with offenses is that the police were emphasizing other activities, most notably traffic enforcement. In this section we present data on the number of moving violations per police officer for each of the eight cities for which we have this data.

Figure 3.7 plots the data on the number of moving violations per police officer during the period 1948-1978. The graph illustrates a considerable range of variation, both within cities over time and across cities. For example, in San Jose the number of moving violations per police officer declined from 1964 to 1972 and then rose steadily to a level of more than 185 moving violations per police officer in 1978, which was nearly equal to the city's high of 222.03 reached in 1951. Moving violations per police officer in Atlanta and Minneapolis declined substantially throughout most of the period, although in Atlanta the number of moving violations per police officer rose steadily between 1948 and 1962, increasing from 57.19 in 1948 to 225.32 in 1962. Between 1965 and 1977 the number of moving violations per police officer steadily declined in Minneapolis, dropping from 95.88 to 12.14.

Overall, those cities that had a relatively high rate of moving violations per police officer (that is greater than 100) tended to stay that way, although at a somewhat lower level, whereas those cities that comprise the lower group (that is, less than 100) also tended to stay in that category although at about the same or a somewhat lower level. In addition, it is important to point out that those cities that had a relatively high level of arrests per police officer throughout the study period (that is, Oakland and Phoenix) were also cities in which the number of moving violations per police officer were high. Similarly, those cities with a low ratio of arrests per police officer (Boston, Newark, and Philadelphia) were also cities that ranked lowest on our measure of moving violations per police officer. In sum, departments with high ratios of arrests per police officer were also the same departments with high ratios of moving violations per police officer and

FIGURE 3.7

MOVING VIOLATIONS PER POLICE OFFICER, 1948-1978



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departments that ranked low on the arrest activity measure also ranked low on traffic enforcement. While this initially would suggest the absence of a tradeoff between fighting crime and traffic enforcement, examination of correlation coefficients between the number of arrests per police officer and the number of moving violations per police officer within each city lends support to the notion of departmental tradeoffs. Of the eight cities for which we have data on the number of moving violations per police officer, only two cities--Atlanta ($r=.86$) and San Jose ($r=.54$) show a substantial positive relationship between these two measures. In four cities the relationship is negative with Philadelphia ($r=-.54$) and Minneapolis ($r=-.38$) showing statistically significant negative relationships.

Examination of the trend coefficients (column one, Table 3.6) shows that moving violations per police officer declined in three of the eight cities (Atlanta, Minneapolis, and Phoenix) but this decline was not statistically significantly different from zero. Oakland and Philadelphia were the only cities to show a statistically significant upward trend in the number of moving violations per police officer. In Oakland, the increase was 2.41 moving violations per police officer per year, on the average, which translates into an increase of 62.66 moving violations per police officer during the 26 years for which we have data on the number of moving violations in Oakland. In Philadelphia, the increase was much more modest -- .75 moving violations per officer per year or approximately 16 additional moving violations per police officer over the 21 year period 1958-1978 for which we have data for Philadelphia.

The effect of the crime rate on changes in the number of moving violations per police officer is reported in the second column of Table 3.6. In six of the eight cities (all but Indianapolis and Oakland) the relationship between the two measures is negative indicating that independent of any trend in past levels of moving violations per police officer, changes in the crime rate and the number of moving violations per police officer were moving in opposite directions. This finding lends further support to the notion of a tradeoff between crime fighting and traffic enforcement. In four of these six cities statistically significant negative associations are reported. In Phoenix and San Jose, for instance, a ten unit increase in the crime rate is associated with approximately 10 fewer moving violations per police officer, on the average, independent of any prior trends in the number of moving violations per police officer. It is important to note that these are two of the more aggressive cities in terms of this measure and also two cities in which crime rates soared most precipitously. These results suggest that as crime soared, the police turned their attention away from traffic enforcement and towards crime fighting.

TABLE 3.6

MOVING VIOLATIONS PER POLICE OFFICER:
MEAN ANNUAL CHANGE AND THE EFFECT OF THE PART I CRIME RATE,
1948-1978

CITY	MEAN ANNUAL CHANGE ^a	PART I CRIME RATE ^b
ATLANTA (1948-78)	-0.21	-.248*
INDIANAPOLIS (1955-73)	1.26	.205
MINNEAPOLIS (1948-77)	-0.33	-.256**
NEWARK (1956-78)	0.19	-.026
OAKLAND (1958-77)	2.41**	.110
PHILADELPHIA (1958-78)	0.75**	-.139
PHOENIX (1954-78)	-1.54	-.957**
SAN JOSE (1948-78)	0.03	-.981*

* p < .05

** p < .01

a. Values reported in this column are unstandardized regression coefficients. They were obtained by regressing the variable upon time (measured in years).

b. Values reported in this column are unstandardized regression coefficients. They were obtained by regressing the variable (time t) upon its lagged value (time t-1) and the Part I Crime rate (time t).

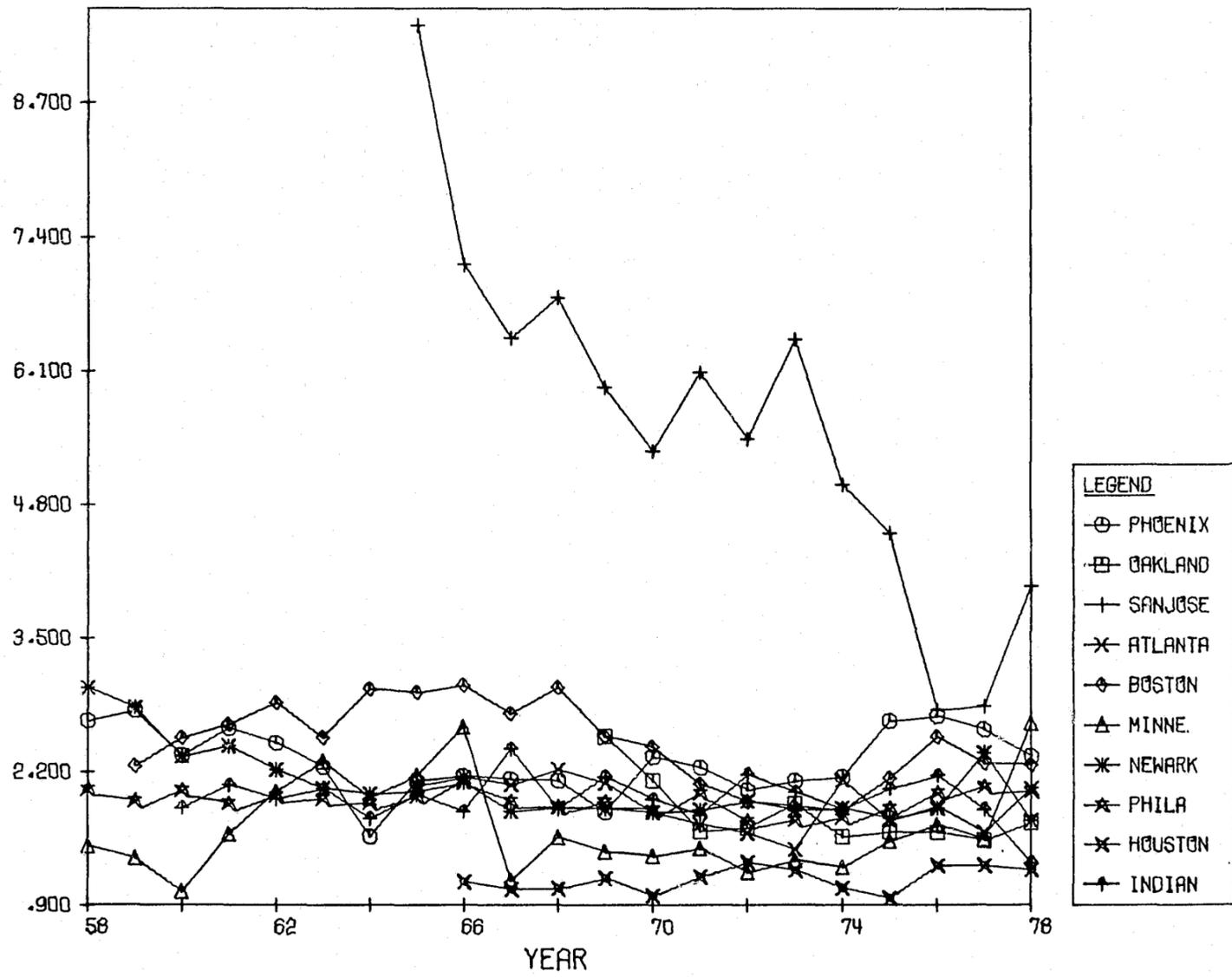
5. Police Focus On Violent Crime. In this section we examine the focus of police activities specifically related to crime fighting. Given that police departments have limited resources and that police departments cannot respond to every dimension of the crime problem, we seek to explore in this section what the tradeoffs are, if any, between police focus on property crime and violent crime. Our measure of police focus on violent crime consists of the ratio of the proportion of Part I arrests that are for violent crimes (violent arrests/total arrests) to the proportion of Part I offenses that are for violent crimes (violent offenses/total offenses). Thus, when the proportion of arrests that are violent exceed the proportion of offenses that are violent this ratio will be greater than 1.00, indicating that the police devote more attention to violent crime than its reported occurrence would warrant.

Figure 3.8 displays the police focus on violent crime ratio for the period 1958-1978 for the ten cities. Overall, the pattern suggests that except for San Jose, which had an exceptionally large police focus on violent crime that has dramatically declined, most cities continued to devote about as much attention to violent crime in the 1970s as they did in earlier years. Furthermore, it is important to point out that this ratio exceeds one (indicating that violent arrests comprise a larger percentage of total arrests than violent offenses do of total offenses) for all our cities except Houston, although in the latter three years (1976-1978) the ratio in Houston is also greater than 1.00. However, police focus on violent crime should not be too surprising given that it is easier for the police to make violent arrests than property arrests. For example, witness the relatively high clearance rate for murder as opposed to the relatively low rates for burglary or theft. In short, police generally have more information to work with in solving violent crimes than they do with property crimes.

Despite the dramatic decline in this ratio in San Jose (from 9.44 in 1965 to 2.79 in 1976), San Jose's mean ratio of police focus on violent crime is more than twice that of the city with the second highest mean ratio (Boston, 2.53). Overall, four cities -- Boston (2.53), Newark (2.07), Phoenix (2.30), and San Jose (5.58) -- report a mean annual ratio greater than 2.00 for the period for which we have arrest data. In Boston the ratio was greater than two in all but three years (1972-1974) of the 20 years for which we have data. Similarly, in Phoenix the ratio was greater than two in all but two years (1964 and 1969), and in San Jose the ratio never dipped below 2.79. However, in Newark, the mean ratio of 2.07 is largely the result of a relatively strong focus on violent crime prior to 1966. Between 1958 and 1966 the police focus on violent crime ratio fell below two only once (1.98 in 1964). However, since 1966, the ratio has only exceeded two once (2.38 in 1974). Houston (1.15), Minneapolis (1.65), Oakland (1.78), and

FIGURE 3.8

POLICE FOCUS ON VIOLENT CRIME, 1958-1978



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Indianapolis (1.96) are the three cities with the lowest overall mean scores for the police focus on violent crime.

Table 3.7 reports the mean annual change and the effect of the crime rate for our measure of police focus on violent crime. Examination of the trend coefficients (column one) points out that police focus on violent crime declined in five of the ten cities (Atlanta, Indianapolis, Oakland, Philadelphia, and San Jose). However, only three of these cities (Atlanta, Oakland, and San Jose) show statistically significant declines on this measure. The second column of Table 3.7 shows that the relationship between the crime rate and changes in police focus on violent crime was negative in seven of the ten cities (all but Houston, Oakland, and Phoenix). This finding indicates that independent of any trend in past levels of police focus on violent crime, changes in the crime rate and police focus on violent crime are inversely related. However, in only one city (San Jose) does the measure appear to be relatively sensitive to changes in the crime rate. There, a 100 unit increase in the crime rate (that is, 100 additional offenses per 1,000 population) is associated with a decline of 1.5 on the police focus on violent crime ratio, net of any prior trends. In the remaining nine cities the regression coefficients point out that a 1,000 unit increase in the crime rate would be necessary to evoke a response in the dependent variable. This suggests that the police focus on violent crime ratio has remained fairly constant over the period of study.

E. Characteristics of Police Officers

There has been, perhaps, no more enduring and emotional debate about the police than that regarding professionalization. Our intentions in this section are to provide a brief overview of the changing nature of the characteristics of police officers, with an emphasis on their entrance requirements, length of initial police training, and remuneration.

1. Recruitment of Patrol Officers. Table 3.8 shows the entrance requirements for patrol officers for nine of the ten cities (all but Houston) during the period 1948-1978. Generally, those requirements in effect in 1948 continued in 1978. Six of the nine cities added psychological testing to their entrance requirements, Indianapolis being the first (1953) and Newark and San Jose the last (1971). Philadelphia added an oral examination to its requirements in 1964 and Oakland, a city which had no formal entrance requirements prior to 1964, instituted written, oral, and physical examinations in that year. In sum, all nine cities required a written and physical examination, six (all but Boston, Newark, and Phoenix) required an oral examination, and five (all but Atlanta,

TABLE 3.7

POLICE FOCUS ON VIOLENT CRIME:
MEAN ANNUAL CHANGE AND THE EFFECT OF THE PART I CRIME RATE,
1958-1978

CITY	MEAN ANNUAL CHANGE ^a	PART I CRIME RATE ^b
ATLANTA (1965-78)	-.028*	-.0037
BOSTON (1959-78)	.028**	-.0029
HOUSTON (1966-78)	.013	.0037
INDIANAPOLIS (1960-78)	-.008	-.0031
MINNEAPOLIS (1958-78)	.002	-.0010
NEWARK (1958-78)	.060**	-.0031
OAKLAND (1969-78)	-.073**	.0018
PHILADELPHIA (1958-78)	-.004	-.0012
PHOENIX (1958-78)	.051**	.0015
SAN JOSE (1965-78)	-.371**	-.0154

* p < .05

** p < .01

a. Values reported in this column are unstandardized regression coefficients. They were obtained by regressing the variable upon time (measured in years).

b. Values reported in this column are unstandardized regression coefficients. They were obtained by regressing the variable (time t) upon its lagged value (time t-1) and the Part I Crime rate (time t).

TABLE 3.8

ENTRANCE REQUIREMENTS FOR PATROL OFFICERS, 1948-1978

City	Written examination	Oral examination	Physical examination	Psychological examination
Atlanta	1948-78	1948-78	1948-78	none
Boston	1948-78	none	1948-78	none
Indianapolis	1948-78	1948-78	1948-78	1953-78
Minneapolis	1948-78	1948-78	1948-78	1969-78
Newark	1948-78	none	1948-78	1971-78
Oakland	1964-78	1964-78	1964-78	none
Philadelphia	1948-78	1964-78	1948-78	none
Phoenix	1948-78	none	1948-78	1964-78
San Jose	1948-78	1948-78	1948-78	1971-78

Boston, Oakland, and Philadelphia) required psychological testing.

The educational requirements of patrol officers have remained relatively stable throughout the 31 year period. Five cities did not change this requirement at all. Atlanta, which required no formal education for patrol officers in 1948 continued to do so in 1978. Boston, Indianapolis, Oakland, and Phoenix, have all required police officers to have at least a high school diploma. Of the remaining four, the trend has been towards more education. In 1959 Newark increased its educational requirement from a tenth grade education to that of a high school diploma. One year earlier, San Jose had instituted the requirement that all police recruits have at least two years of college. Although Minneapolis eliminated formal educational requirements in 1973, they were reinstated in 1977, and now require police officer candidates to have some college training. Philadelphia was the only city to lower educational requirements for a sustained period. In 1964, the department eliminated its educational requirement (high school education) in an effort to increase the number of minority police officers in the department.

In sum, the evidence suggests that the entrance requirements for patrol officers has not changed dramatically during the 31 year period of study. Cities continue to administer the same kinds of tests in 1978 as they did in 1948. A few cities have added psychological testing. What we do not know, however, is whether or not these tests have become more or less rigorous. In terms of the educational requirements of police officers, they too have not dramatically changed. Indeed, if one considers the overall trend towards more education during this period in the general population, then the relative educational requirements of patrol officers has actually decreased. Furthermore, only four cities (Atlanta, Boston, Indianapolis, and Oakland) have instituted pay incentives for additional education, and these have only begun within the last decade.

Table 3.9 presents the data on the number of weeks of initial police training for each of the cities for selected years during the 31 year period of study. As the table illustrates, the length of initial training has increased substantially. Overall, the length of the initial training period is about four times longer in 1978 than it was in 1948. Furthermore, all nine of the cities for which we have data now provide a formalized initial training period whereas in 1948 three cities (Minneapolis, Philadelphia, and San Jose) had no formal initial police training at all. Philadelphia and Phoenix show a steady and substantial increase in the length of their training periods whereas the training period in Atlanta, Boston, and Newark has been relatively stable throughout the 31 year period.

TABLE 3.9
NUMBER OF WEEKS OF INITIAL POLICE TRAINING, 1948-1978

City	1948	1954	1960	1966	1972	1978
Atlanta	8.0	8.0	5.0	6.0	7.0	na
Boston	5.0	5.0	8.0	13.0	13.0	13.0
Indianapolis	8.0	8.0	16.0	16.0	16.0	26.0
Minneapolis	----	----	12.0	18.0	18.0	18.0
Newark	7.0	3.0	12.0	14.0	15.0	13.0
Oakland	8.3	6.0	----	12.0	18.5	21.2
Philadelphia	----	2.0	6.0	9.0	12.0	19.0
Phoenix	2.0	5.0	5.0	8.0	12.0	17.1
San Jose	----	----	----	5.0	8.0	10.5
TOTAL	4.3	4.1	7.1	11.6	13.3	17.2

2. Police Pay. During much of the period it was argued that improving the pay of police officers would contribute to hiring better qualified officers. Unions and other police organizations also emerged to demand higher police pay. Figures 3.9 and 3.10 plot the minimum and maximum salaries for police officers in each of the nine cities (all but Indianapolis) for which we have this data. As Figure 3.9 shows, Oakland's entering police officers were paid the most in every year except one (1951) and Atlanta's police officers were paid the least in each year. Over the entire 31 year period, the average entering salary, in constant dollars, doubled in most cities. Inbetween the upper and lower limits there is considerable variation among the cities in the salaries paid entering police officers. The figure points out that the 1960s were the period in which police salaries increased most rapidly and that after 1970 salaries leveled off and actually declined. Houston is the only one of our nine cities in which entering police officer salaries were higher in 1978 than they were in 1970.

Examination of maximum salaries for police officers (see Figure 3.10) indicates that salaries have been highest in Oakland, San Jose, and Minneapolis throughout the 31 year period while salaries in Atlanta have been the lowest. The figure also suggests that there is a greater degree of comparability in maximum salary schedules for police officers among our nine cities as their graph lines are more closely clustered throughout most of the study period. As with salaries for entering police officers, maximum salaries for police officers also leveled off and subsequently declined, although that decline began about two years later (1972) than the one recorded for entering police officers. Once again, Houston was the only city in which maximum police officers' salaries were greater in 1978 than in 1972.

Finally, Figure 3.11 plots the standardized salaries for police chiefs. The data indicate a number of step-level changes in each of the cities which, generally correspond with the hiring of a new police chief. The figure points out that the period 1966-1970 was one in which police chief salaries in nearly every city recorded a substantial step level change. Newark, however, was the only city in which the police chief's salary did not rise significantly during this period. In fact, the salary for the police chief rose substantially only once in Newark (1955) and has remained fairly stable since then.

As with the decline in salaries for police officers, police chief salaries have also failed to keep pace with inflation in the 1970s. The decline has been most pronounced in Atlanta, Boston, and San Jose. Police chief salaries declined by nearly one-third in Boston (1973-1978) and Atlanta (1971-1978) and by nearly 20 per cent in San Jose (1972-1978). Houston was the only city of the nine in which its police chief received a higher salary, in standardized dollars, in 1978

FIGURE 3.9

ENTERING PATROLMAN SALARY, 1948-1978

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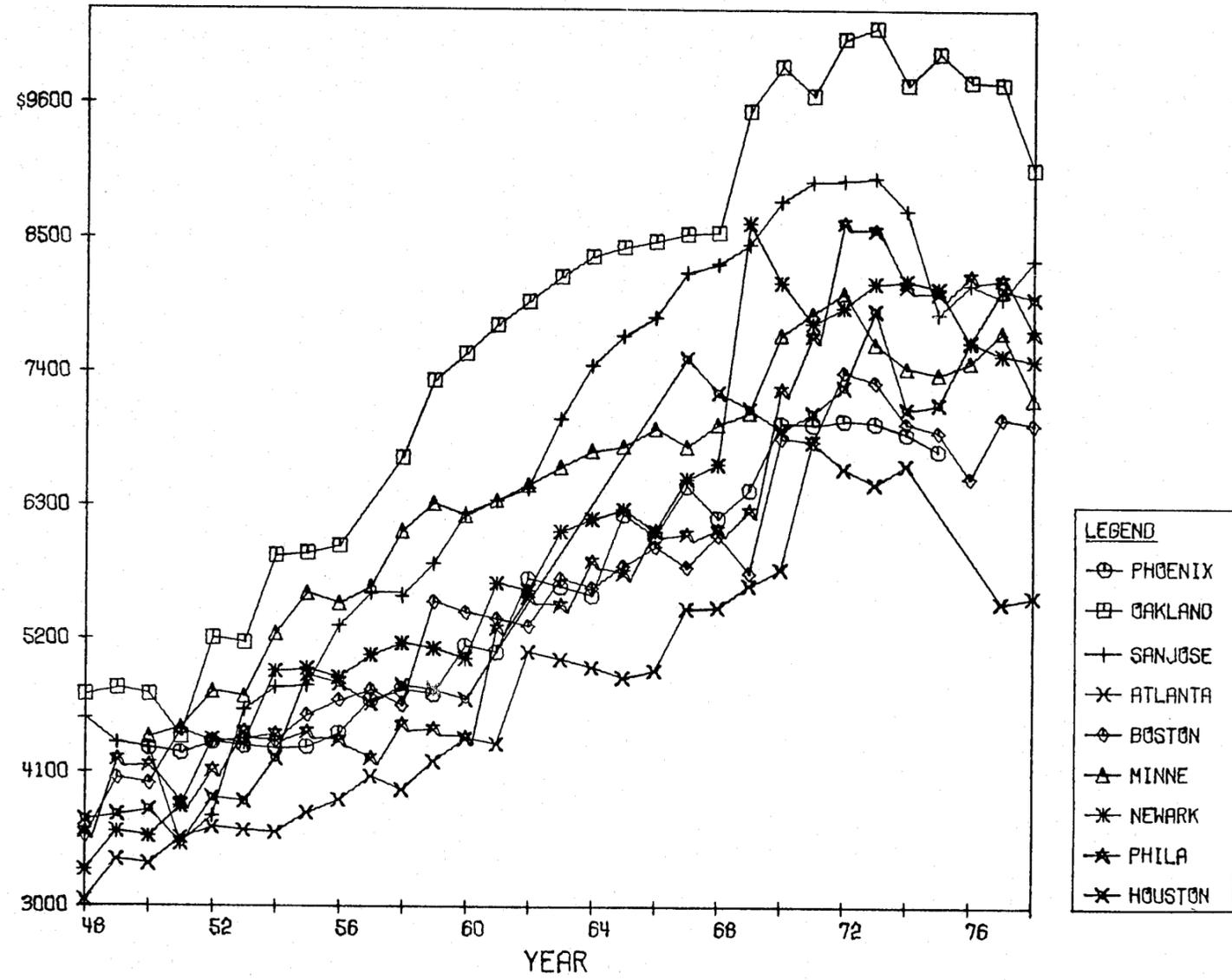


FIGURE 3.10

MAXIMUM PATROLMAN SALARY, 1948-1978

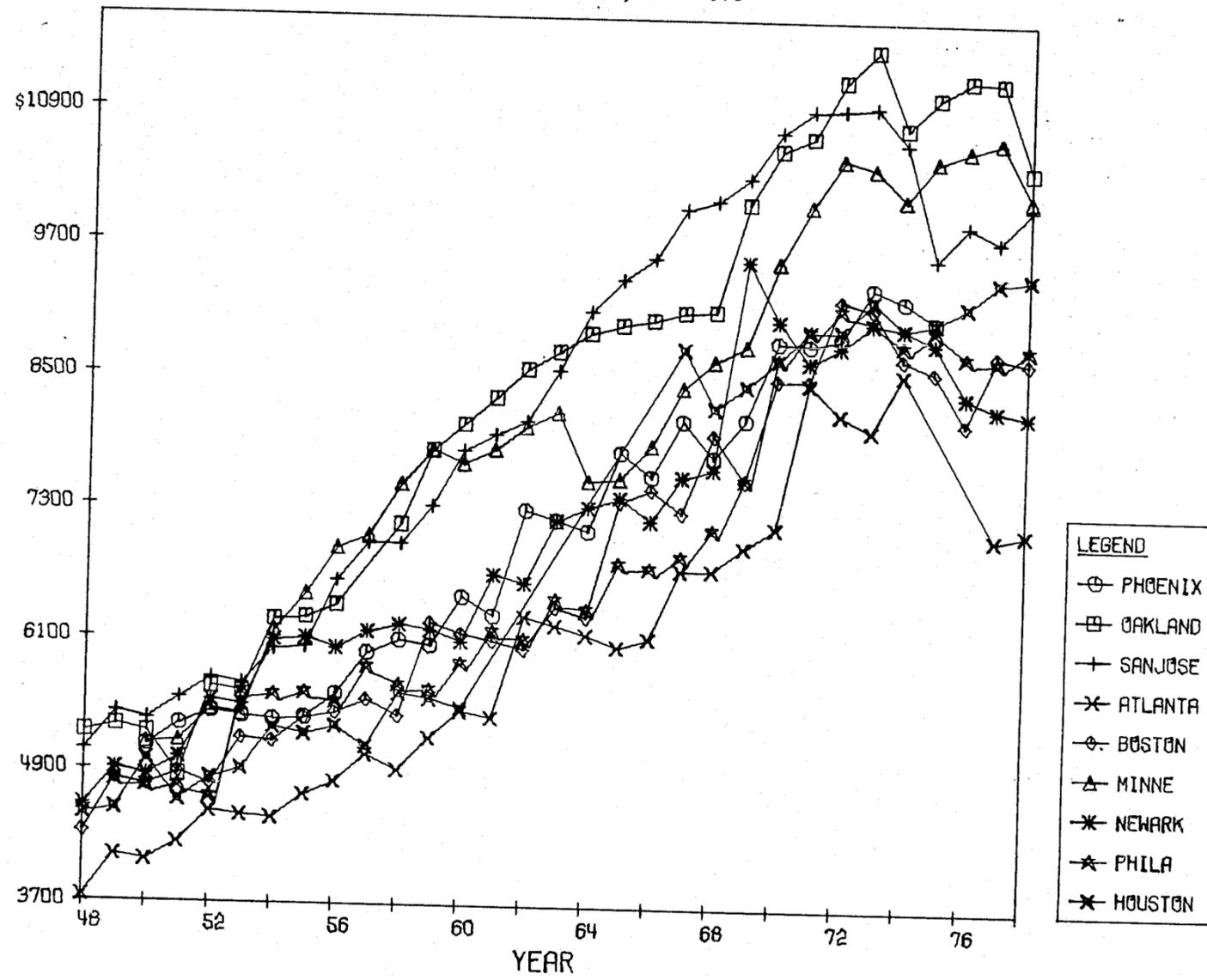
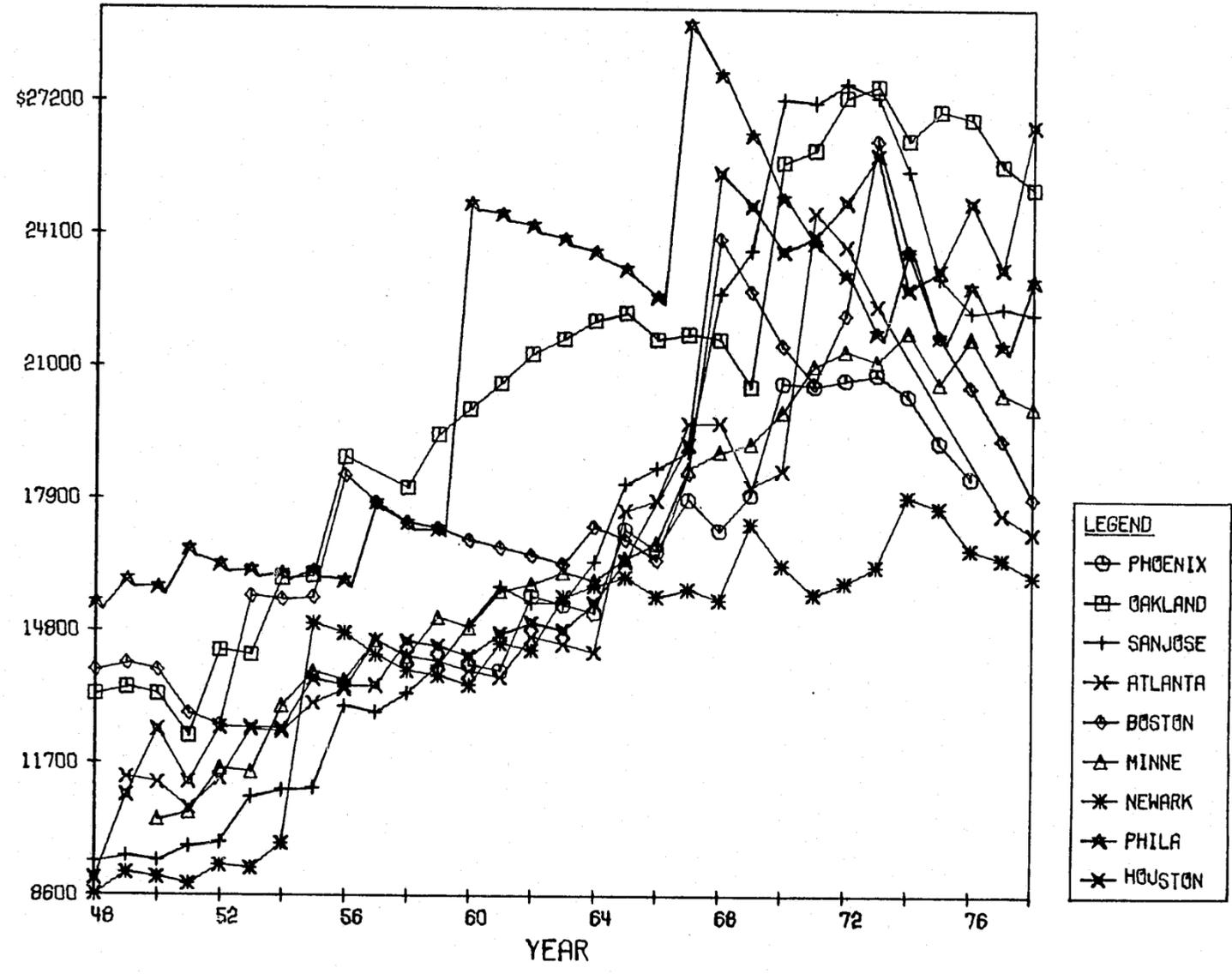


FIGURE 3.11
POLICE CHIEF SALARY, 1948-1978



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(about 12 per cent more) than in 1970.

Table 3.10 reports the results of our analysis of the effects of the Part I crime rate on police salaries for the seven cities for which our data on police salaries is most complete. As the table indicates, statistically significant relationships were found in only three cities--Minneapolis, Newark, and Philadelphia. In Philadelphia, a ten unit increase in the Part I crime rate is associated with an increase of approximately 400 dollars in the salaries of entering patrolmen, net of any trend in prior levels of entering patrolmen salaries. A similar increase in the Part I crime rate in Newark is associated with only an additional 135 dollars in entering patrolmen's salaries. Two cities (Phoenix and San Jose) show negative coefficients, indicating that changes in the crime rate and entering patrolmen's salaries were moving in opposite directions. However, coefficients in these cities were not statistically significant. The effect of the Part I crime rate on maximum patrolmen's salaries is positive in six of the seven cities (all but San Jose) but statistically significant in only two (Minneapolis and Newark). Finally, the third column of Table 3.10 reports the effects of the Part I crime rate on police chief salaries. Although these coefficients are positive in all six of the cities for which we have data, the relationship is statistically significant in only one city (Minneapolis). In that city a ten unit increase in the crime rate is associated with approximately an additional 400 dollars annually in the police chief's salary, net of any prior trend in the level of the police chief's salary.

In sum, the data on police salaries indicate that while salaries have risen considerably during the 31 year period of study, a large part of the increase occurred in the 1960s. In the 1970s police salaries have actually declined when adjusted for inflation. Only one city, Houston, had higher police salaries, in constant dollars, in 1978 than in 1970. The effect of the Part I crime rate on police salaries was found to be positive in a majority of the cities analyzed although statistically significant relationships were found in only three cities.

F. Conclusions

Our analysis of urban policing in ten large American cities during the post World War II era has highlighted a number of important changes. First is what may be called the problem-resource gap. As we have pointed out on a number of occasions in this chapter and in others, crime has risen substantially in the 31 year period we have chosen to study. However, despite the infusion of funds into local police departments, the rate of increase in the crime rate has far

TABLE 3.10

THE EFFECT OF THE PART I CRIME RATE ON POLICE SALARIES
SELECTED CITIES, 1948-1978

CITY	ENTERING PATROLMAN SALARY	MAXIMUM PATROLMAN SALARY	CHIEF'S SALARY
ATLANTA (1950-74)	2.31	4.22	10.55
BOSTON (1948-78)	3.09	0.52	0.21
MINNEAPOLIS (1950-78)	3.01	11.68*	39.68*
NEWARK (1948-78)	13.50*	12.24*	10.40
PHILADELPHIA (1954-78)	40.20*	33.89	3.74
PHOENIX (1950-75)	- 1.26	2.07	NA
SAN JOSE (1948-78)	-14.49	- 9.40	64.42

* < .05

Values reported are unstandardized regression coefficients. They were obtained by regressing the variable (time t) upon its lagged value (time t-1) and the Part I Crime rate (time t).

outpaced increases in police expenditures and police officers.

A second key finding is the amount of slack in the police system, that is, the gap between resources and activities. Despite the considerable investments in policing during the post war era, the activities of police departments-- for example, Part I arrests and moving violations -- have not increased appreciably. In fact, in several cities the number of arrests per police officer and the number of moving violations per police officer have actually declined. In addition, when we examined the effect of the Part I crime rate on police activity by controlling for prior levels of police activity we found that the relationship between the two was negative in a number of cities, suggesting that the police were not able to keep pace with the rising crime rate.

One of the most striking and consistent findings to emerge from this analysis of policing in these ten cities is the clustering of departments we describe as "labor intensive." These include three declining Northeastern cities, Boston, Newark, and Philadelphia. These cities have four traits in common. First, they consistently have the highest level of police expenditures in standardized dollars; second, they consistently have the highest ratio of police officers to population, a ratio which was in every year approximately twice that of other cities in the study; third, in almost every year for which we had data, these cities had the lowest level of arrests per police officer; and fourth, in almost all the study years, these cities had the lowest ratio of moving violations per police officer. These are substantial differences which persist over the entire period of our analysis. Each of these cities seems to have chosen to make large investments in its police department over the years, and yet also has chosen to permit individual police officers considerably more slack in the demands made on them.

A third general conclusion to emerge from our study is that those cities in which policing is highly politicized (that is, cities in which the police department is very active in local politics), generally tended to be those cities that increased manpower the most and also were those cities in which increases in police activities either exceeded or closely followed rises in the crime rate.

Our analysis frequently suggested interesting differences between the levels and rates of change of particular indicators. For example, in regard to the issue of tradeoffs between traffic enforcement and crime fighting we found that departments that had a high level of arrests per police officer were also those departments that had a high level of moving violations per police officer, whereas departments that were low on one measure also tended to rank low on the other. However, when we examined the trend coefficients for these two indicators we found that while three cities increased on both

measures (Newark, Oakland, and Philadelphia), three cities (Atlanta, Minneapolis, and Phoenix) increased on one measure (arrests per police officer) while decreasing on the other (moving violations per police officer), suggesting perhaps, that crime fighting was favored over traffic enforcement. San Jose, on the other hand, showed an increase in traffic enforcement and a decline in the number of arrests per police officer.

An additional problem of rate and level concerns the arrest activities of the police departments studied here. As we pointed out previously, the three Northeastern cities had the lowest levels of arrests per police officer. However, when we examined the arrest patterns of police departments by comparing them to increases in the crime rate, we found that two of these cities (Boston and Philadelphia) were cities in which the mean percentage increase in arrests either exceeded or closely kept pace with increases in the crime rate.

In summary, everywhere crime grew and in every city resources increased. A comparison of those resources with demands on police departments, however, suggests that they have not typically kept pace with demands and also that activity levels have also frequently fallen behind the exploding demands on the police during the 1948-1978 period. In the next chapter we will see whether a similar pattern characterizes other institutions of the criminal justice system.

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Chapter IV

KEEPING UP WITH CRIME: RESPONSES TO CRIME BY LOCAL CRIMINAL JUSTICE AGENCIES

A. Introduction

The central concern of this chapter is the common picture of three local criminal justice agencies -- the local prosecutor, courts, and jails -- provided in much of the recent literature on the criminal justice system. Courts, according to most accounts, have been victimized by crime. We are told the rising crime rates of the last two decades have subjected courts to a tidal wave of cases, forcing judges to abandon time-honored procedures and causing enormous backlogs in their dockets. Rising crime rates have also victimized prosecutors and correctional institutions. Motivated by court docket backlogs, understaffed local prosecutors are said to have engaged in more extensive plea bargaining in order to dispose of the increasingly large volume of cases forwarded by local police departments. The reality and urgency of severe overcrowding in local jails have also been vividly described by scholars and journalists. Indeed, the picture of the local criminal justice system is by now a familiar one. As political scientist David Neubauer states (1979: 14):

Particularly in the nation's largest cities, the rising crime rate is swelling the dockets of the criminal courts, thus taxing already inadequate facilities. Jails are overcrowded. Delay is a major problem.

Much of the above commentary rests upon the assumption that these problems stem from the inadequate financing and staffing of local criminal justice agencies. Specifically, increases in manpower and other resources are viewed as not having kept pace with the dramatic growth in crime rates and the subsequent demands placed on prosecutors, courts, and correctional institutions during the last several decades. As the National Advisory Commission on Criminal Justice Standards and Goals asserted (1973: 1):

The court system in the United States is in serious difficulty. There are too many defendants for the existing system to handle effectively and efficiently. Backlogs are enormous, work loads are increasing. The entire court system is under-financed.

In a similar vein, George Cole has written (1975. 21):

Too often law-enforcement, courts, and corrections personnel have not been given the resources to fulfill the constitutional obligation of establishing justice and insuring domestic tranquility.

The previous descriptions of the local criminal justice system contain both fact and fallacy. Heumann (1978), Feeley (1979), and others have already put to rest the notion that plea bargaining is peculiarly the result of the recent increase in court cases. In this chapter, we wish to examine the principal premises of the prevailing view of the courts, prosecutors, and jails -- that the manifest problems of backlog, overcrowding, and overload are a result of insufficient staffing, financing, and general neglect. Based on the preceding discussion, we expect our data to show that the criminal justice system will appear increasingly overburdened in our ten cities. Resources relative to demand should grow smaller and their growth should be unrelated, or perhaps negatively related, to changes in the crime rate and the number of arrests.

B. The Organization of Courts, Prosecutors, and Corrections

Prosecutors courts, and corrections operate in a quite different organizational framework than the police. These elements of the criminal justice system are highly fragmented along three distinct dimensions geography, fiscal responsibility, and function. We need to take into account the general framework in which these agencies operate before we proceed to the details of our analysis.

Whereas police primarily operate within city boundaries, other elements of the criminal justice system are organized along city, county, district, and state lines. Responsibility for prosecution of offenders is usually divided between city and county prosecutors with the former pressing charges against violations of city ordinances and sometimes other minor offenses. County prosecutors concern themselves with more important violations, which include, however, a host of what are in fact misdemeanors rather than felonies and are reflected in Part II of the FBI crime statistics. While city prosecutors usually are appointed city officials, county prosecutors are almost everywhere elected after campaigns which often attract considerable attention because of the prosecutor's prominence in the crime fighting arena. Elections for prosecutor often take place at a different time than the municipal elections which select mayors and city councils.

Courts operate in both city jurisdictions and in larger

county and district areas. They are generally coterminous with the geographical jurisdictions of the prosecutors. Judges are generally not selected by contested partisan elections; when elections are used to select judges, they often occur at different times than city elections. Correctional facilities are maintained by the city and/or county and by the state. County facilities are normally administered by the sheriff who is usually an elected official. State prisons are part of a state department administered by an official responsible to the governor.

Fiscal responsibility is fragmented in the same way. For the most part, financing the operation of prosecutors, courts, and correctional facilities is shared by county and state authorities. The precise share each pays varies from state to state and has changed over time. In most instances, however, prosecutorial activities are mostly funded by counties as are county jails. Counties and states share in funding courts, while state prisons are entirely the responsibility of the state. Cities are an insignificant funding source for these operations, paying only for city attorneys and city jails.

Functions of these agencies are also fragmented. Prosecution (as well as defense), adjudication, and incarceration are functions operated by separate and usually independent agencies. No single person is in charge of these functions for the area in which a city is located; no one seeks to coordinate their activities on a daily basis. Moreover, each of these agencies tends to be divided into segments which deal with minor offenses and parts which deal with major ones. Thus, city attorneys, municipal (or justice of the peace) courts, and city jails tend to deal with city ordinance violations and some minor misdemeanor offenses. Major misdemeanor and felony offenses are usually the province of county prosecutors, county or district level judges, and county jails and state prisons.

The fragmentation of the local criminal justice system discussed above clearly applies to the ten cities examined in this chapter. This is illustrated well by the structural configuration of the local court system extant in our ten cities for much of the post World War II period. In many, a municipal court system exercised principal responsibility for ordinance, traffic, and many misdemeanor offenses while juvenile offenders were generally processed in a separate juvenile court. A county-level court was usually vested with jurisdiction over more serious criminal cases. For example, Boston was served by the Municipal Court of Boston, the Juvenile Court, and the District and Superior Courts of Suffolk County during most of the post World War II period. Similarly, Houston's court system consisted of the Houston Municipal Court, the Harris County District Courts and Courts of Law, and separate juvenile courts for both the city of Houston and Harris County. Similar fragmentation is present with respect

to the correctional institutions serving our cities. For example, during most of the post World War II period, Minneapolis was served by both the City of Minneapolis Workhouse and the County Jail of Hennepin County. However, by the mid 1970s, Minneapolis (like a majority of other cities examined here) had transferred most correctional responsibility to the county.

This extraordinary fragmentation of the local criminal justice system in our ten cities makes it difficult to trace the effects of city crime on the operation of the criminal justice process even though offenses originating in the city constitute the bulk of all cases handled by these institutions. Moreover, the lines of political responsibility and accountability are blurred by this fragmentation.

The following analysis will impose a systematic perspective on the fragmented criminal justice process in our ten cities. While consisting of separate and often independent agencies, it is important to note that the components of the local criminal justice system are all subject to identical or parallel input flows and are connected to each other by their work flow. Thus, we will examine indicators of the system's input as measured by crime rates and the volume of arrests. We will also focus on some of the resources they command, especially expenditures and personnel. In addition, we will examine the system's work flow and output in each city in terms of the number of cases closed and defendants processed. Given the dramatic growth of crime rates and arrests during a large part of the post World War II period, we will examine the relationships between the growth of crime rates and arrests, on the one hand, and our indicators of criminal justice agency resources and output, on the other. We will also ask whether or not criminal justice agency manpower kept pace with increasing demands. Finally, we will explore the effect of increased levels of crime and arrests upon turnover in key criminal justice agency personnel.

C. Data and Indicators

A wide variety of statistical and descriptive data concerning urban courts, prosecutors, and correctional institutions were collected on an annual basis for the period, 1948 to 1978, for all ten of the cities included in the larger study. Our data include information on the personnel and organization of urban courts, prosecutors and jails as well as the budgets and manpower of these agencies. In addition, the data contain a variety of general measures of activity, work load and output of both courts and correctional institutions, such as the number of cases processed, jail populations and related measures. The data also include a wide variety of descriptive information on changes in the structure of these

agencies and specific individuals such as district attorneys and heads of local jails. Thus, these data provide a substantial number of potential indicators of responses of the local criminal justice system to changes in urban crime during the post World War II period in our ten cities.

In order to examine the relationships between changes in the level of urban crime and various aspects of changes in the courts, jails, and offices of local prosecutors, two sets of indicators were utilized. First, we selected two indicators of change in the environment of these criminal justice agencies related to the growth of urban crime. One is the number of Part I offenses known to the police per 1,000 population. By comparing changes in overall crime rates to changes in resources, manpower, and activity within the three types of local criminal justice agencies under study, we can obtain initial evidence about responses by local governments to the growth of crime during the 1948 to 1978 period.

However, a more direct measure of the demands placed upon these agencies can also be utilized. The work of prosecutors, courts, and correctional institutions, of course, does not commence until an arrest has been made. As a second measure of the demands on the criminal justice system, therefore, we use the annual number of arrests for Part I offenses. While crime rates serve as a general measure of demands placed on criminal justice agencies, the number of arrests more directly represents the actual volume of input into the judicial system and, as a result, the levels of demands placed upon judges, court personnel, prosecutors, and correctional institutions. In the following sections, we will utilize the total number of arrests for Part I offenses as an aggregate indicator of the volume of arrests. While it would have been desirable to use both Part I and Part II crime and arrest figures, Part II arrest data were not available for many of the cities under study. Moreover, many of our criminal justice agency variables apply principally to those parts of the criminal justice system that deal primarily with Part I offenses (i.e., felony judges). In general, the probable strength of the relationship between Part I and Part II variables over time will allow some generalization based on our Part I indicators alone. Data for Part I arrests and crime rates were collected on an annual basis for each of the ten cities.

While many potential indicators of changes in resources and activity within the courts, prosecutors' offices and correctional institutions could be used, nine quantitative indicators and one qualitative variable will be utilized in the following analysis. For the courts, these indicators include the number of felony judges, the number of court support personnel, the number of defendants processed, and the number of cases closed. The number of defendants processed refers to the annual number of individuals processed by the local court system. Cases closed refers to the total number of individual

cases closed in a particular year. Consequently, the number of cases closed is likely to exceed the number of defendants processed. Cases closed include cases pending from previous years as well as several cases involving the same individual. For local prosecutors, we shall focus on the number of full-time assistant district attorneys and the beginning salaries for district attorneys. We shall also examine the turnover in district attorneys. For correctional institutions, we will examine changes in local jail populations, the budgets for local jails, and budgets for probation activities. In general, these specific indicators were selected on the basis of their ability to broadly represent personnel, resource and activity levels within the agencies of the local criminal justice system under study. Although several additional measures would have been desirable, considerations of comparability across cities, data accuracy, and data availability across all ten cities limited the selection of basic indicators (1). Data for all statistical indicators were sought on an annual basis for the period 1948 to 1978 in all ten cities.

Several major problems exist with respect to these data. A substantial amount of data for several of these indicators was not available for some of the years in a number of cities. In addition, because of the variability in the structure of courts and correctional institutions and data availability, many of the measures do not achieve full comparability across cities. For example, the measure of court support personnel may apply to only the major felony court and the major division of the city's municipal court in one city. In another city, however, the support personnel variable may be more comprehensive, including traffic and juvenile court support personnel as well as lower and major trial court personnel. The years for which court support personnel data are available also varies across cities. As a result, extreme caution is necessary in making direct comparisons across cities.

In addition to the caution concerning data availability, measurement and cross-city comparability, it is important to note that the following analysis is subject to a number of methodological problems. The central difficulty revolves around the level of analysis used in the present chapter. This problem derives from the basic features of the structure of the local criminal justice system such as the fragmentation of agencies and functions as well as overlapping jurisdictions, among others. While the basic thrust of our inquiry is focused at the city level, data for a variety of our measures applies to the county and not the city level of analysis. For example, the number of felony court judges, district attorney information, and much of the data on correctional institutions pertains to the entire county and not to the city alone. However, all of the data on crime rates and the volume of arrests pertain to the city alone. As a consequence, we potentially introduce a moderate amount of error into our

statistical analysis in which city level measures are correlated with variables measured at the county level. In cities such as Philadelphia, where city and county are coterminous, these difficulties are trivial. However, in other cities, the level of resources per unit of demand (as measured by arrests) is overestimated, even though the vast majority of all criminal cases originate in the central city and are represented in our analysis. This bias is less significant in analyzing changes in support than in levels of support; the former is the major focus of our analysis.

D. Methods

In the following sections we will examine the direct relationships between changes in crime rates and the volume of arrests, on the one hand, and our indicators of changes in resources and activity within the courts, correctional institutions and prosecutors' offices, on the other. In order to assess the relationships between these two sets of variables over time, basic time series regression analysis is employed. By controlling for past levels of the dependent variable, we may gauge the effect of increases in crime rates and arrests upon changes in criminal justice agency resources, personnel, and activity levels independent of any secular movement or incremental growth in these measures. We do this by regressing each criminal justice agency variable upon each of the crime rate and arrest variables, controlling for the previous levels of the criminal justice variable. We have not reported regression coefficients for the lag dependent variables because the relationship between the dependent variable and its lag normally approaches one and is inevitably statistically significant. This occurs because current levels of expenditures, manpower and policy output usually differ only marginally from past levels over time. Reporting coefficients for the lagged dependent variable would, therefore, become redundant and would detract from our focus on the effects of crime rates and arrests upon our criminal justice agency variables. Relationships involving probabilities of less than .05 are judged to be statistically significant.

In addition to the time series analysis, we will compare increases in crime rates and the volume of arrests to turnover in district attorneys in order to determine if increased work loads and demands placed upon the criminal justice system produced higher rates of turnover in chief prosecutors. To complement the time series analysis, we also calculated the ratio of key criminal justice agency personnel -- the number of felony judges, assistant district attorneys, and court support personnel -- to arrests over the 31 year period. By examining this ratio over time, we may uncover evidence concerning the degree to which criminal justice agencies kept pace with increased demands upon the system. If the general picture of

increasing demands, excessive work loads, and understaffing in the local criminal justice system is correct, we would expect this ratio to fall over time.

E. Prosecutors and the Growth of Urban Crime

We begin by examining the hypothesis that the growth of crime has overwhelmed the resources of prosecutors. We do this by looking at the relationships between crime rates and arrests and the manpower and resources of the local prosecutor's office in our ten cities during the post World War II period. Specifically, we will examine the relationships between crime rates and arrests, on the one hand, and two key indicators of prosecutorial resources -- the number of full-time assistant district attorneys (hereafter D.A.'s) and the starting salary of assistant D.A.'s, on the other. We will also discuss the effect of increases in crime rates and arrests upon turnover in the position of chief prosecutor in each of our ten cities.

Examining the actual number of full-time assistant D.A.'s across time in our ten cities, we find that a strong upward trend exists for much of the post World War II period. For example, in Phoenix, the number of assistant D.A.'s grew from 16 to 43 between 1960 and 1970. In San Jose, the number increased from 15 in 1960 to 52 in 1970. In general, a similar pattern holds for eight of the nine cities for which prosecutor data are available. The exception is Boston where the growth is much smaller. The number of assistant D.A.'s in Boston grew from 24 in 1960 to 27 in 1970, and to 33 in 1975.

With respect to the beginning salary of an assistant D.A. (in current dollars), an upward trend can be observed in each city although the size of the increase varies from one place to the next. For example, the growth is moderate in Boston where beginning salaries grew from 8,000 dollars to 9,000 dollars between 1965 and 1970, and to 11,500 dollars by 1975. However, in Houston, starting salaries exploded from 4,800 dollars in 1965 to 12,322 in 1970, and to 14,805 in 1975. A similar pattern is observed in both San Jose and Philadelphia. With respect to the growth of both the number and starting salary of assistant D.A.'s, the central question is how closely these resources rose in response to increases in crime rates and arrests.

Table 4.1 displays the results of our analysis of the effects of Part I crime rates and arrests upon the number of assistant D.A.'s and beginning salaries of assistant D.A.'s. The first two columns of the table report the coefficients which measure the effect of Part I offenses per 1,000 population. Given that the coefficients were obtained controlling for the lagged value of the prosecutor variable, these coefficients may be interpreted as the effect of an

TABLE 4.1

THE EFFECT OF PART I OFFENSES AND ARRESTS ON PROSECUTOR'S RESOURCES, 1948 - 1978^a

CITY	PART I OFFENSES PER 1000 POP		PART I ARRESTS	
	ASSISTANT D.A.'s	BEGINNING SALARY	ASSISTANT D.A.'s	BEGINNING SALARY
ATLANTA	.26 *	5332.0 *	.00	-11.90
BOSTON	.20 *	3724.8 *	-.002 *	38.28 *
HOUSTON	.72 *	--	.02	--
INDIANAPOLIS	--	--	--	--
MINNEAPOLIS	.08	3342.8	.00	30.12
NEWARK	.29 *	134.79	.001 *	-7.28
OAKLAND	.31 *	6.25	--	--
PHILADELPHIA	.90 *	3725.62	.002 *	17.42 *
PHOENIX	-.04	-218.25	.004	17.27
SAN JOSE	1.05 *	609.34	.01 *	33.68

^a Coefficients reported in the table are unstandardized regression coefficients. They were obtained by regressing the prosecutor resource variable (time t) upon its lagged value (time t-1) and the Part I crime variable (time t).

* p < .05

additional crime in the annual average Part I offense rate upon annual changes in the number (or starting salaries) of assistant D.A.'s, independent of any trends in past levels of the number (or starting salaries) of assistant D.A.'s.

One of the most striking aspects of the first two columns of Table 4.1 is the number of positive associations. This is particularly true of the relationship of Part I offenses and the number of assistant D.A.'s. In seven of the nine cities for which data are available, significant, positive associations are found. In Atlanta, for example, an annual increase of one serious crime per 1,000 population is associated with an annual increase of .26 more full-time assistant D.A.'s, net of any trends in past levels of assistant D.A.'s. Given Atlanta's population, this translates into .26 more assistant D.A.'s for an annual increase of 436 Part I crimes, net of past levels of the number of assistant D.A.'s. In other words, roughly 1300 more serious crimes are associated with an increase of one assistant D.A. Coefficients of similar magnitude are obtained in a majority of the remaining cities with the largest (1.05) being observed in San Jose.

While the effect of Part I crimes upon beginning salaries is positive in all but one city (Phoenix), in only two of the remaining seven cities are statistically significant coefficients observed. This occurs in the cases of Boston and Atlanta. With respect to this finding, it is important to note that beginning salaries may be less responsive to large increases in crime rates than the raw number of personnel required to deal with increased work loads. In addition, the actual data on these two indicators reveal a more consistently upward growth in the number of assistant D.A.'s than in levels of beginning salaries. When viewed in constant (1967) dollars, beginning salaries in a majority of our cities reveal little upward movement.

In the third and fourth columns of Table 4.1, coefficients measuring the impact of increased numbers of arrests upon prosecutor variables are reported. Like the effect of additional serious crimes, the relationship between annual increases in arrests for Part I crimes and the number and starting salary of assistant D.A.'s are positive in a majority of our cities. However, a majority of coefficients are not statistically significant. In fact, a negative, significant coefficient is obtained in Boston with respect to the effect of Part I arrests upon the number of assistant D.A.'s. This indicates that, independent of any trend in past levels of the number of assistant D.A.'s, changes in the number of arrests and assistant D.A.'s were moving in opposite directions. In general, the size of the coefficients points to the fact that a substantial increase in arrests is needed to "produce" an additional full-time assistant D.A. Based on these regression coefficients, we can see that it would have taken an annual increase of 100, 500, and 1,000 arrests in San Jose,

Philadelphia, and Newark, respectively, to "produce" an additional assistant D.A. With respect to beginning salaries, statistically significant coefficients reveal that an increase of one additional arrest is associated with an increase of 17 to 30 dollars in starting salary, depending on which city one is focusing upon.

It is important to note that arrest data are available for only a portion of the 31 year period in many cities. Consequently, coefficients involving arrest variables were generally calculated on the basis of fewer cases than those involving Part I offenses. In general, this may lead to fewer statistically significant relationships (2).

Perhaps the most important finding to emerge from Table 4.1 concerns the direction and overall strength of the relationships between Part I crimes and arrests and the two prosecutor variables. In a substantial majority of cities, these associations are positive, indicating that resources devoted to prosecutors did indeed grow in direct relationship to the growth in official crime rates and the volume of arrests. Moreover, roughly one-half of these relationships are statistically significant at the conventional .05 level of significance. Clearly, these findings suggest some qualification of the common view of neglect and lack of responsiveness to the resource needs of this particular component of the criminal justice system. The question that remains, however, concerns how well the resources of local prosecutors actually kept pace with the level of increasing demands placed upon them.

1. The Ratio of Assistant District Attorneys to Part I Arrests. One way to address the question of whether or not local prosecutors' resources kept pace with increasing demands is to examine over time the ratio of manpower to some indicator of work load. To explore this question, we computed the ratio of full-time assistant D.A.'s per thousands of Part I arrests. Figure 4.1 displays this ratio for four cities since 1960 and for eight cities since 1964. For the eight cities for which data are available since 1963, the figure displays the movement in four year averages for each city and an eight city average. Surprisingly, we find that this ratio has not declined over time in a majority of our cities. As the figure reveals, the eight city mean has drifted slowly upward since 1963 -- a time period encompassing the largest growth in numbers of Part I arrests during the post World War II period. Examination of the individual paths cut by our eight cities illustrates that the ratio of assistant D.A.'s to thousands of arrests was roughly constant or moderately increasing in a majority of cities.

Table 4.2 reports the trend coefficients for the ratios of assistant D.A.'s to thousands of Part I arrests. These

FIGURE 4.1: THE TREND IN THE RATIO OF ASSISTANT D.A.'S TO PART I ARRESTS

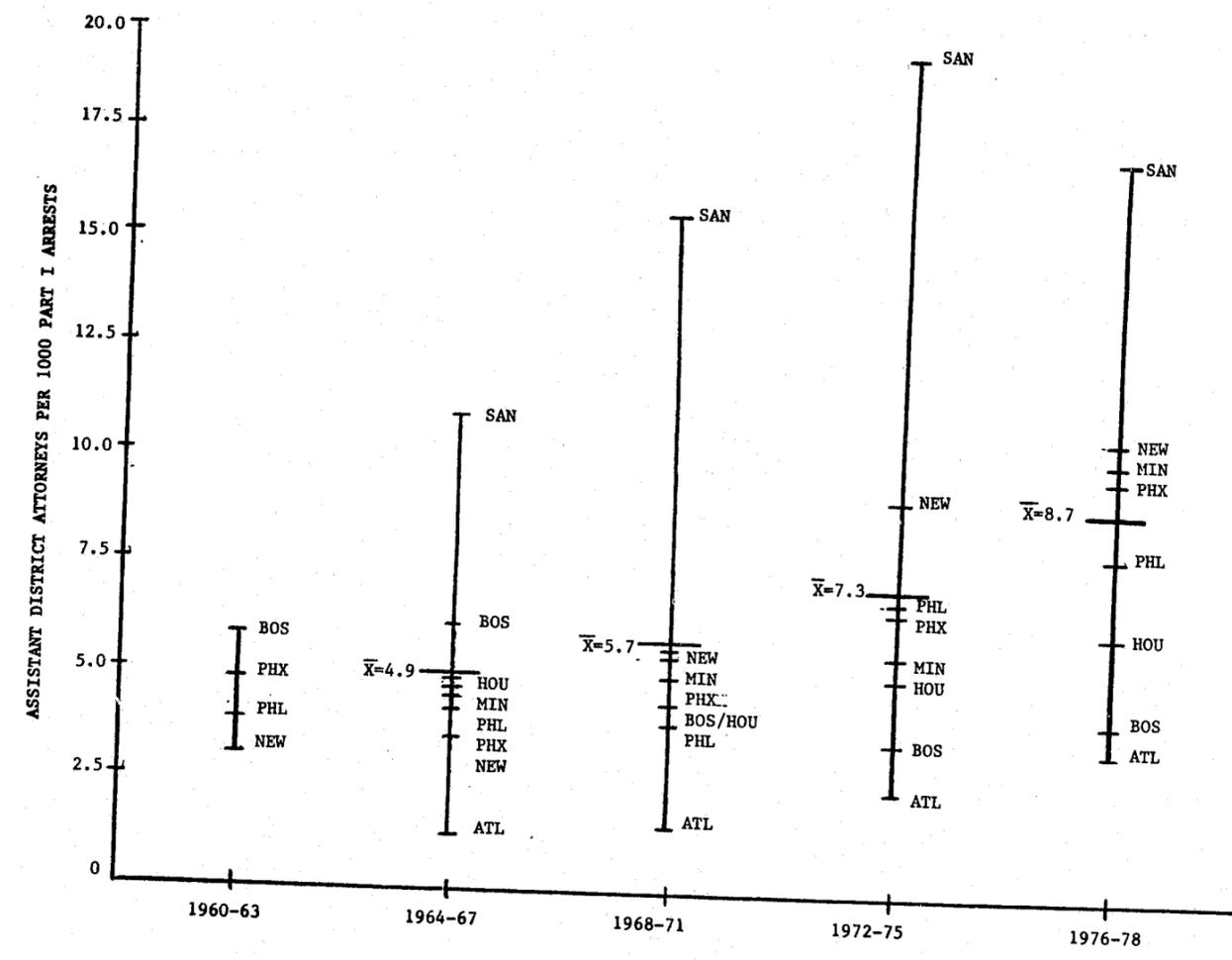


TABLE 4.2

TRENDS IN THE RATIO OF FULL-TIME ASSISTANT D.A.'S
TO THOUSANDS OF PART I ARRESTS, 1948 - 1978

CITY	TREND COEFFICIENT ^a
ATLANTA	.1 *
BOSTON	-.2 *
HOUSTON	.1 *
INDIANAPOLIS	--
MINNEAPOLIS	.2 *
NEWARK	.00
OAKLAND	.1 *
PHILADELPHIA	.2 *
PHOENIX	.1 *
SAN JOSE	.3 *

^a Coefficients reported in the table are unstandardized regression coefficients. The coefficients were obtained by regressing district attorneys per 1000 Part I arrests upon time.

* $p < .05$

coefficients reinforce the impression given by the trends in Figure 4.1. In seven of the nine cities for which data are available, positive statistically significant coefficients are obtained. In one city -- Boston, a negative trend is observed as would be expected given the results reported in Table 4.1. In general, the coefficients indicate that average annual increases ranged from .1 additional assistant D.A. per 1,000 arrests in Atlanta, Houston, and Phoenix, to 1.00 additional D.A.'s per 1,000 arrests in Phoenix. Clearly, the results reported for a majority of our cities call for some rethinking of the common picture of declining manpower relative to demand discussed above. Not only did the the ratio of manpower of local prosecutors to demand fail to decline during the last two decades, but the ratio actually increased in most of the cities under study.

2. The Turnover of Chief Prosecutors. In our introductory discussion, we suggested that increases in crime rates and arrests might lead to higher rates of turnover in key criminal justice system personnel. We examined this proposition with respect to the turnover of chief district attorneys during the pre and post 1960 periods. On the basis of the significantly higher crime rates and arrests of the 1960s and 1970s, we hypothesized that the turnover of chief prosecutors would be substantially greater during the post 1960 period given the political and organizational pressures related to the performance of the criminal justice system. As a result, we expect to find more new chief district attorneys serving between the early 1960s and late 1970s than during the pre 1960 period.

However, there is no evidence of any substantial increase in the turnover of district attorneys during the post 1960 period. In fact, in virtually every city discussed in this chapter, the number of new district attorneys serving from 1948 to 1960 is exactly or very nearly the same as the number holding office between 1960 and 1978. This is the case despite the fact that the latter period exhibits substantially higher crime rates and numbers of arrests than the earlier period. While this evidence is only suggestive, it indicates that the growth of demands placed upon the criminal justice system did not lead to substantially higher rates of turnover in key positions.

F. The Local Courts: Trends in Resources and Output

We can conduct a parallel analysis of the impact of crime rates and the volume of arrests on four variables related to the local court system in our ten cities. The first two of these concern key personnel of the local courts -- the number of felony judges and the number of court support personnel.

After an examination of the relationship between these two variables and the growth of Part I crime rates and arrests, we will investigate the relationship between Part I indicators and two measures of local court output -- the number of cases closed and the number of defendants processed. The association between the latter two variables and Part I arrests should give us a rough idea of whether or not the court system was keeping pace with the increased work loads engendered by greater numbers of arrests. In general, we expect to find weak relationships between court manpower variables, on the one hand, and Part I crime rates and arrests, on the other. We also should find that the ratio of court personnel variables to thousands of Part I arrests declined throughout much of the post World War II period. With respect to output indicators, we hypothesize that the number of cases closed and defendants processed will lag well behind the growth in arrests.

If one inspects the actual data for court support personnel and felony judges in our ten cities for the 31 year period, it is clear that the number of court personnel grew moderately in most cities. For example, the number of felony judges increased from 14 in 1960 to 19 in 1970 in Minneapolis while the number expanded from 16 to 24 for the same period in Newark. In Houston, the number of felony judges increased from four to six between 1960 and 1970, and climbed to nine by 1978. In several of our cities, the growth in the number of felony judges takes the actual form of a step level increase. For example, the number of such judges grew moderately through 1967 in Philadelphia, but nearly doubled between 1968 and 1970 and increased by another 50 per cent between 1971 and 1972. Frequently, such increases may be traced to state-wide legislative action designed to improve or expand resources of the local courts.

Comparisons across cities with respect to court support personnel are more difficult. Given that our data for this aspect of local court resources covers varying proportions of the local court system across several fairly different court systems, one can only examine trends within cities across time. For some cities, we have been able to retrieve data for all major trial courts and the major juvenile court. In other cities, data are only available for one major trial court. Consequently, direct across city comparison is limited. Keeping this qualification in mind, it is interesting to note that the number of court support personnel also climbed upward at a moderate pace in a majority of cities during much of the post World War II period. In Oakland, for example, the total number of support personnel in both municipal and superior courts grew from 117 in 1960 to 171 in 1970. In Boston, the total number of support personnel for all major trial courts and juvenile courts grew from 446 to 633 during the same period. A similar pattern of growth is present in a substantial majority of the cities for which data are available.

Table 4.3 displays the results of our analysis of the effects of Part I crimes and arrests upon local court manpower indicators. The first and second columns of the table report the unstandardized regression coefficients for the relationships between Part I crimes per 1,000 population and the two manpower variables. As the table reveals, a large majority of these coefficients are significant and in the positive direction. This is true for the effect of Part I crimes on both the number of felony judges and support personnel. For example, we can see that an annual increase of one Part I crime per 1,000 population is associated with an increase of .36 felony judges in Philadelphia, net of any effect of past levels of felony judges. The same increase in Part I crime in Newark is associated with an annual increase of .21 felony judges. Given Newark's population, an annual increase of 1,500 more Part I crimes can be directly related to an annual increase of one additional felony judge. Continuing to use Newark as an example, one can see that an annual increase of 6,000 Part I crimes would "produce" an increase of four felony judges. With respect to court support personnel, an annual increase of one more serious crime per 1,000 people is associated with an increase of roughly 1.6 more support personnel in Houston and 2.6 more support personnel in Newark. These effects are independent of any secular trend in past levels of the court manpower variable.

The third and fourth columns of Table 4.3 display the effects of total Part I arrests upon court support personnel and felony judges. Contrary to the effect of Part I crimes, only a small minority of all possible relationships are statistically significant. For those coefficients which are significant, we can see that it would take 1,000 more Part I arrests to "produce" an annual increase of one additional felony judge in Philadelphia and Minneapolis. With respect to court support personnel, an annual increase of 50 Part I arrests is associated with an increase of one court support person in Newark. The remaining coefficients indicate largely trivial and statistically insignificant relationships with respect to the impact of Part I arrests in a majority of our cities.

Two reasons may be given for this noticeably strong effect of Part I crimes upon court manpower indicators and the noticeably weak impact of Part I arrests. First, one can point out that regression coefficients measuring the impact of Part I arrests are calculated with fewer cases in a majority of cities. As suggested in preceding sections, this leads to the greater probability of not obtaining statistical significance at the conventional .05 level. However, one can also suggest that the growth of Part I crimes known to the police may actually serve as the most central indicator of "the crime problem" to policy makers at both the local and state levels. That is, legislation creating additional felony judgeships or authorizing greater numbers of support staff or staff positions

TABLE 4.3
THE EFFECT OF PART I OFFENSES AND ARRESTS
ON COURT RESOURCES, 1948 - 1978 ^a

CITY	PART I OFFENSE PER 1000 POP		PART I ARRESTS	
	FELONY JUDGES	COURT SUPPORT PERSONNEL	FELONY JUDGES	COURT SUPPORT PERSONNEL
ATLANTA	.06 *	--	.00	--
BOSTON	--	.17	--	.00
HOUSTON	.08 *	1.59 *	.00	.00
INDIANAPOLIS	.01	.50	.00	.00
MINNEAPOLIS	.07 *	.90 *	.001 *	.004
NEWARK	.21 *	2.56 *	.00	.02 *
OAKLAND	.05 *	.16 *	--	--
PHILADELPHIA	.36	-9.93	.001 *	-.36
PHOENIX	--	.15	--	.01
SAN JOSE	.03 *	1.08 *	.00	.002

^a Coefficients reported in the table are unstandardized regression coefficients. These coefficients were obtained by regressing the court manpower variables (time t) upon their lagged values (time t-1) and the Part I variable (time t).

* p < .05

may be influenced more by increases in crime rates than actual burdens engendered by higher levels of arrests at various points in the criminal justice system. Thus, one could argue that legislative and policy action outside the immediate confines of the local criminal justice system may be more responsive to official reports of crime and subsequent political pressures than the extent of work load increases within the system.

1. The Ratio of Court Personnel to Part I Arrests. In order to examine the degree to which court manpower actually kept pace with increased work loads over the post World War II period, we calculated the ratios of felony judges and support personnel to thousands of Part I arrests. Table 4.4 reports the unstandardized regression coefficients obtained by regressing these ratios upon time. Interpretable as average annual changes for the 31 year period, we can see from these coefficients that a substantial decline in manpower relative to work load did not occur in a majority of our cities. In fact, a larger number of statistically significant coefficients are positive than negative. For example, in both Philadelphia and San Jose, the ratio of felony judges per 1,000 arrests grew at an annual rate of .1 felony judge per 1,000 arrests. For the entire 31 year period, this means that there were three more felony judges per 1,000 Part I arrests, net of the actual growth in Part I arrests. With respect to court support personnel, we can see that in Phoenix and San Jose there was an average annual growth of one court support person per 1,000 Part I arrests. The predicted negative trend in these ratios occurs only in Boston with regard to court support personnel and in Houston and Minneapolis with respect to the number of felony judges.

Figure 4.2 graphically displays the secular movement of the ratio of felony judges per 1,000 Part I arrests (3). Given that our court support personnel variable includes data for different sets of courts from one city to the next, we will only examine the felony judge ratio across cities. As Figure 4.2 reveals, the seven city average of felony judges per 1,000 Part I arrests moves moderately upwards after 1963. Like the results of the analysis presented in Table 4.4, the ratios for San Jose and Philadelphia trend upward for the last 15 years -- a period of noticeable growth in Part I arrests. The ratio in Atlanta also exhibits some upward movement, especially since 1971. Minneapolis and Houston both display some decline in the ratio while Indianapolis and Newark maintain a relatively constant level of felony judges per 1,000 Part I arrests.

2. Trends in Local Court Output. Up to this point, we have examined the degree to which court manpower actually increased in direct response to increases in crime rate and arrests. We have also examined whether or not the manpower needs of the local courts have declined relative to actual work

TABLE 4.4

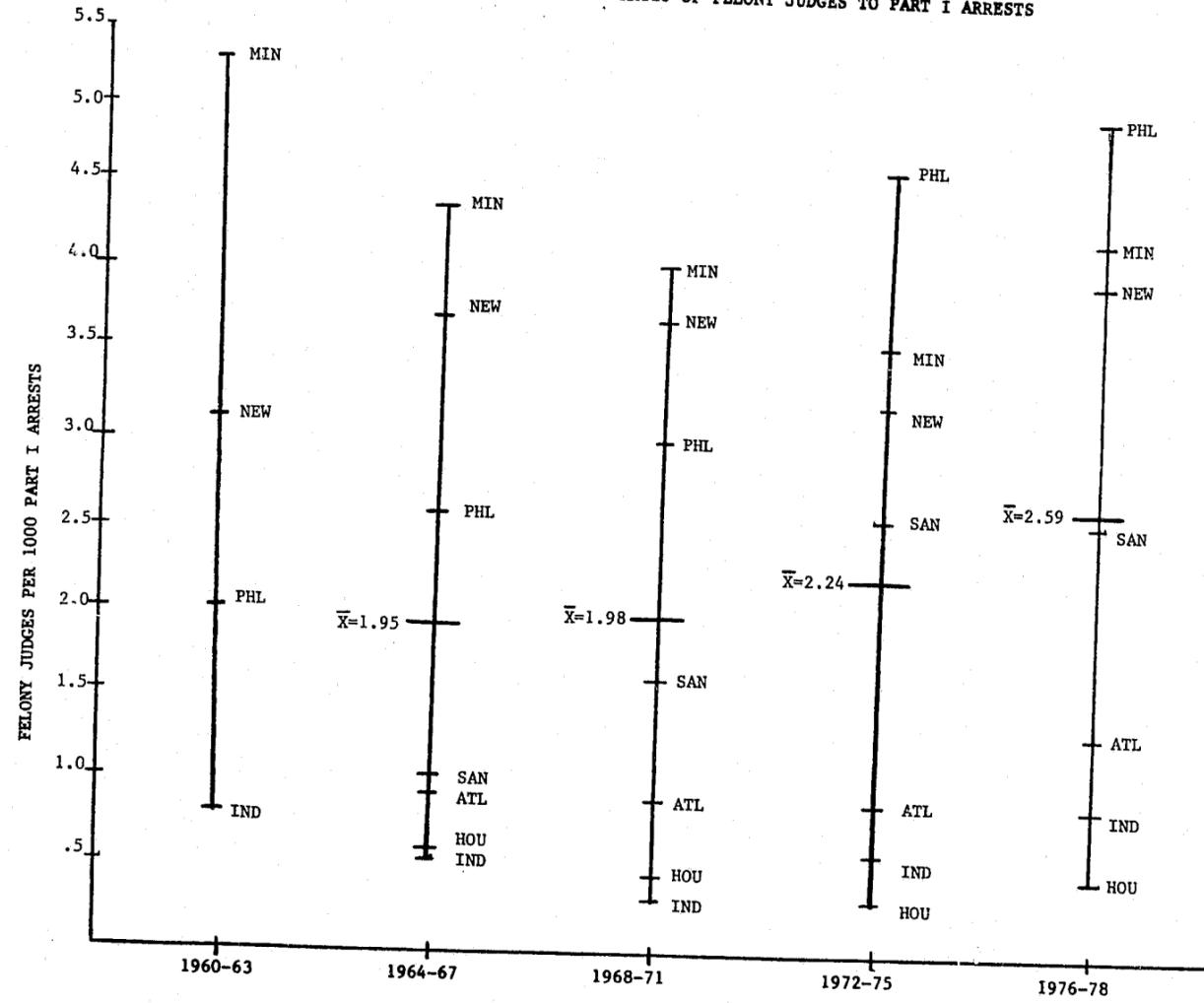
TRENDS IN THE RATIO OF COURT MANPOWER TO THOUSANDS OF PART I ARRESTS, 1948 - 1978 ^a

CITY	FELONY JUDGES	COURT SUPPORT PERSONNEL
ATLANTA	.01 *	--
BOSTON	--	-3.0 *
HOUSTON	.01 *	.00
INDIANAPOLIS	.00	.00
MINNEAPOLIS	-.2 *	.00
NEWARK	.0	.00
OAKLAND	--	--
PHILADELPHIA	.1 *	1.0
PHOENIX	--	1.0 *
SAN JOSE	.1 *	1.0 *

^a Coefficients reported in the table are unstandardized regression coefficients. These coefficients were obtained by regressing the court manpower variable on time.

* $p < .05$

FIGURE 4.2: THE TREND IN THE RATIO OF FELONY JUDGES TO PART I ARRESTS



loads as measured by the volume of arrests. One important question yet to be addressed concerns whether or not local court output significantly increased as crime rates and arrests rose. In addition, we have yet to investigate the relationship between additional units of input (such as arrests) and additional units of output (such as defendants processed).

In order to address these unanswered questions, the relationships between Part I crime rates and arrests, on the one hand, and the number of cases closed and defendants processed, on the other, were examined. Table 4.5 reports the results of this analysis. As the table reveals, a large majority of the associations between Part I indicators and court output variables are statistically significant and positive, net of any trend in past levels of the court output variables. This finding indicates that the output of the local courts did indeed expand significantly as crime rates and arrests increased. This is especially true for the relationships involving Part I crimes per 1,000 population. For example, in the case of Boston, we can see that for an annual increase of 700 Part I crimes, 12.4 more defendants were processed. With respect to Philadelphia, an annual increase of 1,700 more Part I crimes is associated with 35.14 defendants processed.

At this point, it is important to not only consider whether significant increases in output occurred as a result of increases in crime rates and arrests, but whether or not these increases in output can be seen as roughly keeping pace with the volume of input into the local court system. Perhaps the best way to address this question is to examine the last column of Table 4.5. The coefficients reported in this column represent the number of additional defendants processed in felony courts in a year per each new arrest for a Part I offense, net of the trend in past levels of defendants processed. If the local court system was keeping pace with the volume of new inputs, this coefficient would approach 1.00. Moreover, if the common picture of increasing court backlog and delay is correct, we should find the size of these coefficients to be substantially less than one.

As the table reveals, all five coefficients for cities in which data are available are much closer to 0 than 1.00. In Philadelphia, the coefficient is nearly 0 and completely insignificant in a statistical sense. Coefficients in Boston and Houston are somewhat larger and approach statistical significance at the .05 level. The effects of an additional arrest are similar in size in Atlanta and Newark and actually obtain statistical significance. For example, in Atlanta, one additional arrest is associated with only .21 more defendants processed. In both Boston and Houston, the figure is .16 defendants processed. In sum, it is clear that an additional arrest can be associated with only a small fraction of one additional defendant processed.

TABLE 4.5

THE EFFECT OF PART I OFFENSES AND ARRESTS ON
COURT OUTPUT INDICATORS, 1948 - 1978 ^a

CITY	PART I OFFENSES PER 1000 POP		PART I ARRESTS	
	CASES CLOSED	DEFENDENTS PROCESSED	CASES CLOSED	DEFENDENTS PROCESSED
ATLANTA	18.11 *	11.49 *	.02	.21
BOSTON	--	12.40 *	--	.16
HOUSTON	--	2.23	--	.16
INDIANAPOLIS	--	--	--	--
MINNEAPOLIS	6.24 *	--	.08 *	--
NEWARK	16.29 *	8.70 *	.14 *	.14 *
OAKLAND	3.46	8.76 *	--	--
PHILADELPHIA	23.27	35.14 *	.07	-.05
PHOENIX	--	--	--	--
SAN JOSE	--	--	--	--

^a Coefficients reported in the table are unstandardized regression coefficients. They were obtained by regressing the court output variable (time t) on its lagged value (time t-1) and the Part I variable (time t).

* $p < .05$

Overall, the results of our analysis of the local courts lead to a mixed picture of the impact of increasing crime rates and arrests. The prediction of serious neglect and the decline of resources relative to demand holds in only a small number of our cities. Indeed, we have seen that a significant expansion of both key personnel and output occurred in direct relationship to increases in crime rates and arrests in a majority of cases. Moreover, we have seen that the actual ratio of personnel to arrests has remained constant or increased in a majority of cities. However, the analysis of increases in arrests and defendants processed illustrates that the output of the local court system did not keep pace with the increasing volume of inputs. In general, our data are completely consistent with the common picture of backlogs and delay in the local court system. We can only suggest that this problem is apparently not the consequence of gross neglect or inadequate staffing but may be the result of other developments such as the need for greater amounts of time and resources for each new case as a consequence of Supreme Court decisions regarding defendants rights. However, we have no direct evidence about such alternative explanations and they must remain speculations.

G. Trends in Jail Populations and Correctional Expenditures

In this section, we shall examine the impact of Part I crime rates and arrests upon two aspects of local correctional institutions. First, we will explore the relationship between increases in Part I crime rates and arrests, on the one hand, and changes in average daily jail populations, on the other. Given the common picture of severe overcrowding and deplorable conditions in many of the nation's local jails, it is important to examine the extent to which jail populations increased in direct relationship to crime rates and arrests. If such relationships are not strong, additional factors can be sought to help explain the sources of this widespread problem. After an analysis of the relationships between our Part I crime variables and average daily jail populations, we will turn to a similar analysis of impacts of increases in Part I crimes and arrests on expenditures for correction functions. With respect to our expenditure analysis, we will examine the effect of increases in Part I crimes per 1,000 population and Part I arrests on probation budgets and local jail budgets.

Interestingly, local jails have provided substantial controversy in local politics in several of our cities during the post World War II period. For example, in Philadelphia, a 1970 jail riot at Holmesburg Prison resulted in the stabbing of the prison warden and an assistant. Subsequently, the struggle to build new youth and adult correctional facilities rose to prominence in local politics. In both Boston and Houston, inmate initiated suits concerning living conditions and

treatment in local correctional facilities led to federal court intervention in the local criminal justice system. In fact, federal intervention in Houston was extensive, resulting in substantial new jail construction and a revamping of major parts of the local criminal justice system.

Unlike trends in local prosecutor and courts' variables, the over time movement of average daily jail populations varies substantially from one city to the next. For example, moderate negative trends can be observed for both Boston and Philadelphia during much of the last two decades. In cities such as Indianapolis, strong upward growth in jail populations can be observed through the early 1970s, followed by several years of decline. In other localities such as Minneapolis and Newark, average daily jail populations did not vary much at all from the early 1960s to the late 1970s.

The uneven pattern in many cities -- trends that initially seem to bear little relationship to crime rates and arrests -- might be attributable to the variety of diversionary programs initiated in many of our cities at different time points over the last two decades as well as to related factors such as the transfer of large groups of prisoners to state facilities. Indeed, programs such as pretrial release, innovative bail-bond procedures and the developing policy of not jailing drunkards and vagrants may explain much of the disparity in jail population trends across time and from place to place.

Table 4.6 reports the coefficients measuring the impact of Part I crimes and arrests upon the annual average daily jail population in eight of our ten cities. These coefficients indicate statistically significant relationships between Part I variables and jail populations in a majority of cases. However, as suggested above, the relationships for Boston and Philadelphia are negative. This points to the conclusion that, net of past trends in average daily jail populations, changes in the number of jail inmates moved in a direction opposite the trend in numbers of arrests in these two cities. With respect to Indianapolis and San Jose, the coefficients indicate that a significant increase in average daily jail populations occurred in response to increases in Part I crimes and arrests. In Indianapolis, an annual increase of 600 Part I crimes is associated with an increase of roughly 321 more inmates. The comparable measure for an additional arrest is 2.16. The fact that this coefficient is greater than 1.00 can be explained by reference to the fact that Part II arrests (and crimes) also contributed substantially to average daily jail populations. The strength of the relationship reiterates the likelihood that Part I and Part II crimes and arrests are significantly correlated at the aggregate level from year to year. Overall, the results reported in Table 4.6 seem to suggest that many factors in addition to increases in crime rates and arrests contributed to trends in local jail populations in a majority of our cities. Factors such as diversionary programs and

TABLE 4.6
THE EFFECT OF PART I OFFENSES AND ARRESTS ON
AVERAGE DAILY JAIL POPULATIONS, 1948 - 1978 ^a

CITY	PART I OFFENSES	PART I ARRESTS
ATLANTA	--	--
BOSTON	-4.42 *	-.04 *
HOUSTON	--	--
INDIANAPOLIS	321.56 *	2.16 *
MINNEAPOLIS	3.93 *	.05
NEWARK	1.33 *	.03
OAKLAND	.67	--
PHILADELPHIA	-14.36 *	-.03 *
PHOENIX	.40	.008
SAN JOSE	11.95 *	.23 *

^a Coefficients reported in the table are unstandardized regression coefficients. They were obtained by regressing jail population (time t) on its lagged value (time t-1) and the Part I variable (time t).

* p < .05

prison transfers, mentioned above, can be cited as plausible causes of the weak direct relationships observed in many of our cities in Table 4.6.

Table 4.7 reports the results of our analysis of the impacts of Part I offenses and arrests on correctional expenditures. All expenditure figures are in (1967) constant dollars. As the table reveals, the impact of both Part I crimes and arrests on probation budgets is positive and statistically significant in a majority of cities for which data are available. For example, an annual increase of 636 additional Part I crimes is associated with an increase of over 600,000 dollars in the probation budget of Atlanta. For Phoenix, an annual increase of 410 additional serious crimes "produced" an additional one million dollars of probation expenditure. With respect to jail budgets, fewer significant coefficients are observed. While all but one of the coefficients are positive, only two are statistically significant. These occur with respect to the effect of Part I crimes in Boston and Part I arrests in Newark.

Overall, the predominant direction of these relationships and the statistical significance of Part I offenses indicates that correctional expenditures did grow in direct relationship to increases in crime rates and arrests. However, it is also clear from available information on jail overcrowding and living conditions that serious problems persisted. As noted above, controversy over local jail conditions raged into the 1970s in several of our cities. In sum, one can suggest that while resources devoted to correctional operations increased in response to rising crime rates and arrests, the size of the increases fell substantially short of existing needs.

H. Summary and Conclusion

In the preceding sections, we have examined the trends in ratios of key criminal justice personnel to total Part I arrests and the impact of increasing levels of crime and arrests upon various measures of criminal justice system resources, manpower, activity levels, and output. In this endeavor, we have been limited by both data availability and problems related to the geographic and functional fragmentation of the local criminal justice system. With respect to the latter difficulty, we have faced restrictions concerning the confidence we may place in our findings given that we have combined and correlated city and county level indicators. However, given the dominant role that our ten cities play with respect to demands made on county level criminal justice agencies, we believe that whatever error exists in our analysis is not severe enough to limit several cautious conclusions.

With respect to the use of Part I crime rates and arrests

TABLE 4.7

THE EFFECT OF PART I OFFENSES AND ARRESTS ON
CORRECTIONAL EXPENDITURES, 1948 - 1978 ^a

CITY	PART I OFFENSES PER 1000 POP		PART I ARRESTS	
	PROBATION BUDGET	JAIL BUDGET	PROBATION BUDGET	JAIL BUDGET
ATLANTA	657,262.0 *	--	6846.0 *	--
BOSTON	2,333,946.0	1,629,964.0 *	44,698.0 *	17,785.0
HOUSTON	--	--	--	--
INDIANAPOLIS	152,243.0	--	275.0	--
MINNEAPOLIS	148,607.0	-1881.0	1489.0	2933.0
NEWARK	458,606.0	607,947.0	7928.0	9123.0 *
OAKLAND	4,166,619.0 *	--	--	--
PHILADELPHIA	6,587,623.0 *	670,292.0	12,392.0	37,067.0
PHOENIX	1,374,007.0 *	--	101,796.0 *	--
SAN JOSE	1,051,873.0 *	--	49,449.0 *	--

^a Coefficients reported in the table are unstandardized regression coefficients. They were obtained by regressing the correctional variable (time t) on its lagged value (time t+1) and the Part I variable (time t). All expenditure variables are in real (1967) dollars.

* p < .05

alone, it should be noted that many of our variables pertain to resources and manpower (i.e., felony judges) most salient to those parts of the criminal justice system that deal substantially with Part I crimes. Moreover, the probable strength of over time relationships between Part I and Part II crimes and arrests allows some generalization with respect to effects of Part I indicators on criminal justice agency resources and output.

The first finding to emerge from our data analysis in preceding sections concerns the strength of the relationships between rising crime rates and arrests, on the one hand, and changes in measures of criminal justice agency resources, manpower and output, on the other. In our introductory discussion, we hypothesized that there should be little association between these two sets of variables, given the picture of the criminal justice system painted in recent literature. However, we have found that this is generally not true. In a majority of cities, a positive and significant association was observed for a substantial number of the relationships between Part I indicators and criminal justice agency variables. Examining these effects across cities, we can see that in Newark and Philadelphia, nearly all of the possible relationships were statistically significant and in the positive direction. In Atlanta, a large number of the relationships were positive and significant as well. In general, these results indicate that a significant degree of response to increasing crime rates and arrests was made in many localities in terms of the resources, personnel, and output of the local criminal justice system.

Another potentially useful finding to emerge from our analysis concerns the differential impact of official crime rates and arrests upon criminal justice system indicators. As our analysis in preceding sections reveals, the impact of Part I crimes was consistently more significant than the effect of Part I arrests. This may simply be due to the smaller number of cases that coefficients involving arrests are based on. Secondly, one could note that for many of our resource variables, official crime rates may be more relevant. That is, state or city level policy action that expands personnel or budgets may be more influenced by official crime rates and the pressures they generate than by actual levels of work loads at various points within the local criminal justice system.

Perhaps the most surprising finding to emerge from our analysis concerns the trends in the ratios of key personnel per 1,000 Part I arrests. As we noted in our introductory discussion, many have suggested this ratio has been on a downward secular spiral for at least two decades. However, we have not found this to be the case. An overwhelming majority of these ratios are more or less constant or increasing during much of the post World War II period. In sum, these data suggest that local and state governments have indeed increased

the manpower of their criminal justice systems at a rate similar to or exceeding the increase in arrests. While many of the observations concerning troubles facing the local criminal justice system are obviously accurate, these problems do not entirely stem from a decline in manpower relative to demand as some have suggested.

Despite our qualification of many of the common assumptions and depictions of the local criminal justice system, an important aspect of our analysis does reflect the reality of increasing backlog and delay in the criminal justice system. As our analysis of the effects of Part I crime rates and arrests on defendants processed reveals, changes in the number of defendants processed did not keep pace with the volume of arrests in any of our ten cities. The regression coefficients for this relationship reveals that significantly fewer than one defendant was processed in response to an additional arrest. This finding suggests that while the local criminal justice system increased its output in response to greater numbers of arrests, the system as a whole did not keep pace with the growth of demands placed on it by increasing levels of urban crime.

While our results point toward a general pattern of relationships that holds in a majority of the cities under study, a significantly greater amount of data on aspects of the local criminal justice system for a larger number of cities is required before any firm generalizations concerning the impact of the growth of urban crime can be made. At this point, we can only conclude that a significant change in manpower and resources appears to have taken place with respect to prosecutors, courts, and, to a lesser extent, correctional institutions in an effort to adapt to increasing levels of urban crime.

NOTES

(1) For example, it would have been desirable to use total expenditures for local court activities and a variety of specific measures concerning manpower within each of the agencies (i.e., local jail guards). However, data for many of these variables were not available for substantial portions of the period under study for many of our cities.

(2) In general, statistical significance is increasingly more difficult to obtain as the number of cases declines. Given that our arrest data frequently apply to only a fraction of the 31 year period while crime rates are generally complete for all years, statistically significant coefficients should generally be less frequent for relationships involving arrests.

(3) We use only the post 1960 period because of data availability constraints. Data for felony judges (or arrests) were simply not available for much of the pre 1960 period in several of our cities.

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Crime and Governmental Responses: Conclusion

In the previous chapters, we have shown how crime is a problem with national roots although it attracts principally local responses from government. Here we do not wish to reiterate those findings but rather to explore some of their implications.

A. Crime as a National Problem

When we say that crime is a national problem, we do not imply that it encompasses activities which typically cross state lines. Indeed, that is not the case. Most offenses are decidedly local. Most criminals are archetypical locals who usually victimize their own neighborhood and rarely stray outside their city or state. Thus, the typical burglars, thieves, rapists, muggers, or robbers commit their crimes within their home city and their offenses seem to have no implications beyond that (Jacob, 1980: 24-25). Their actions are, however, part of a larger national pattern of which they are entirely unaware. At the same time as more people commit crimes in one city, more do so in almost all other cities across the nation. As in the model competitive economy, millions of private actions constitute a recognizable national pattern.

The reasons for the national characteristics of that pattern are not at all clear. Changing population patterns, life styles, and the availability of valuable goods appear to be related to the rise of crime in the United States. They operate in subtle ways. Changing population patterns lead people to move from central city to suburbs and perhaps back to the central city within one lifetime. Others move from one section of the country to another. Thus, within three years (1975-1978) one-third of all Americans had moved from one housing unit to another (U.S. Census, 1979: p. 40). Such mobility produces rootlessness, the very opposite of the close family and social ties which some suggest keeps crime low in Japan (Bayley, 1976). Neither neighborhood, work, nor family remain stable enough to dampen the rise of crime by exerting social pressure on offenders.

At the same time, large numbers of women have entered the labor force with a double effect. On the one hand, many homes are empty for long periods of the day with all adults at work. Empty homes in empty rows of houses and apartments invite burglary. Thus, daytime burglary has increased at the same time as the number of unguarded homes has risen (Cohen and Felson, 1979). The second effect of the entry of women into the labor force is that they must travel more often through

strange neighborhoods where they may be victimized. Instead of staying close to home, their work brings them through distant portions of the city.

A third global social trend we should note is the rising affluence of American society during the period we studied. Almost every home acquired a television set or two in addition to much other electronic gadgetry. Most such items were not only valuable but also were small, light, and readily portable -- ideal targets for theft.

All three trends, and others perhaps as well, appear to have contributed to the rise of crime in the United States. It is not clear that any level of government can alter these trends in a free society -- at least not in the short run. Economic conditions, of course, are influenced by federal decisions. Mobility and the growth of some cities and the decline of others are also affected by governmental policies, but they are products of a long chain of causation. People have left Newark, Boston, and Minneapolis partly because of policies which favor growth in the southwest, and west, but those policies themselves are in part the product of forces beyond the immediate control of Washington. They are even more clearly beyond the control of city halls. Thus, one conclusion we may draw is that the rise in crime is the result of largely private actions which have little immediate relation to crime but which add up to massive social movements which in the United States have not been the object of direct governmental control. In addition, while the common perception categorized crime as a local problem, in fact its rise was in significant ways a national phenomenon.

B. Governmental Responses to Crime

As we stated in the preface, we decided to focus on proximate rather than distal actions. Moreover, we did not attempt to trace every conceivable governmental response to crime in the ten cities which we studied intensively. In Chapters 3 and 4, however, we analyzed some core policy responses of city governments and other local units.

The pattern of governmental responses we found was complex. On the one hand, expenditures for law enforcement and the appointment of law enforcement personnel increased substantially. In most of our cities, the rise in expenditures and personnel was positively related to the rise in crime, indicating that local governmental political institutions responsible for such global policy decisions were perhaps responding to rising crime rates. On the other hand, these responses in most cases were insufficient -- crime rose more rapidly than expenditures and personnel in most instances. More important, the implementing activities generated by these

increases were relatively unresponsive to the rise in crime rates. Arrests per officer did not consistently increase (although officers were better trained and paid). The arrest/offense ratio did not usually rise. The police did not focus more on violent crime. The courts -- although better staffed -- fell further behind rather than catching up with their dockets. Thus, the agencies most proximate to the crime problems of their communities were least responsive to it; those more distal were more responsive. As we showed in Crime on Urban Agendas (Jacob and Lineberry, 1982), crime was indeed high on political agendas; electoral concern may have produced more responsiveness by these "distal" agencies.

We cannot state with certainty why implementing activities appeared to be relatively unresponsive to the rise of crime. One possible explanation is that increased expenditures and manpower confronted a diseconomy of scale. Such an explanation would assert an inability of larger departments or courts to utilize the added resources. Especially in the judiciary, such an explanation may have some validity as the task of juggling added dockets sometimes complicates the flow of cases.

Another explanation may lie in the existence of bottlenecks in the criminal justice system. Courts can only process those cases initiated by the police and the prisons handle only those offenders sent them by the courts. Moreover, a problem in the police communications network or in the assignment of patrol officers may have a multiplied effect on activities downstream in the criminal justice process. However, we possess no direct evidence about such bottlenecks and cannot evaluate this explanation.

We do have evidence, however, about a third plausible explanation: that the police and courts lacked a sure technology for transforming their additional resources into effective actions against crime. By contrast, in an earlier era, crime rates dropped or stabilized in England and the United States when the police became more effective organizations during the nineteenth century (Gatrell, 1980; Monkonen, 1981).

James Q. Wilson and Barbara Boland (1978) have asserted that aggressive patrolling might be related to lower robbery rates. Their finding was based on a cross-sectional analysis of 26 cities. Our research does not support their conclusions (Jacob and Rich, 1981). We took a different approach than Wilson and Boland. Rather than attempt to estimate the effect of policing on many cities in one year, we analyzed data from nine of our ten cities on which sufficient data were available over a large portion of our 31 year period. Using such a time sequence enables us to see more clearly whether changes in police behavior are followed by decreases in the robbery rate.

We found that they were not. First, we examined the relationship between traffic citations and the robbery rate and

found that the relationship varies enormously from city to city. This holds true whether we look at both measures for the same year or whether we look at last year's traffic citation rate and this year's robbery rate. For instance, in Minneapolis and Oakland the relationship is a modestly inverse one with a rise in one measure associated with a fall in the other. In Phoenix, however, both measures are directly related so that they rise and fall together. This variation from city to city led us to conclude that we could not use traffic violations as a measure of aggressiveness as related to the apprehension of robbers.

Next we examined the relationship between robbery offenses and robbery arrests as measured by the robbery arrest/offense ratio that Wilson and Boland used. Whether we used the same year for both measures or lagged them by one year, we found an inverse relationship in eight of our nine cities apparently supporting the Wilson and Boland analysis. However, we believe that this finding is the result of a statistical artifact, because the same variable, robbery offenses, lies on both sides of the regression equation. There is a considerable statistical literature on this problem which is not entirely in agreement as to when such an artifactual result occurs. At a minimum, however, there appears to be a consensus that it arises when the common variable is subject to considerable measurement error. That is clearly the case with the common variable that Wilson and Boland used, robberies known to the police. Therefore, we conclude that this strong inverse relationship is spurious.

When we correlated robbery arrests with the robbery rate, we found that in all but one city they were strongly and positively related to one another. This was true both when we correlated the two measures using the same year and when we lagged one or the other by one year. We interpreted this finding as showing that both measures were following a common trend. As robberies increased, so did robbery arrests, but we do not know which is cause and which is effect. We also examined another measure of police activity, the focus of the police on robbery as measured by the proportion of all Part I arrests for robbery. When lagged by one year, this measure is positively associated with the robbery rate in seven of the nine cities; it is inversely related to the robbery rate in Oakland and Phoenix. Thus we have a suggestion in the data that at least in some cities, when the police focus their energies on robbery arrests, they also turn up and/or record more robbery offenses.

Perhaps we would find more consistent effects if we could use monthly rather than annual data. A whole year may be too long a time period for this kind of analysis because police departments work with much shorter time frames -- weeks or months. However, monthly data were not available to us.

Our general conclusion, therefore, is that no evidence has yet been brought forward to demonstrate that more aggressive policing reduces the offense rate for one particular category of crime. Our time series analysis does not support Wilson and Boland's conclusions and also does not provide an alternative demonstration of the impact of policing. The data we have examined does not hint of the presence of techniques that can be used to stem the rise of crime.

Nevertheless, crime plays a prominent role in local politics (Jacob and Lineberry, 1982) and legislatures change criminal codes in an effort to appear responsive to the crime problem (Heinz, 1982). The futility of local crime control during our study period did not reduce its high place on urban policy agendas.

C. Policy Implications

We want to draw attention to three major sets of implications of our research. These are not the only ones we might discuss but they are perhaps the most important. They concern (1) the connection between crime as a problem and government responses to crime, (2) the relationship between resources and crime, and (3) the consequences of the nationalization of crime.

1. Connecting Links. As we have already indicated, the connections between crime as a problem and governmental responses are complex. Actions by politically accountable institutions such as city councils appear to be more directly related to rises in crime than actions by implementing agencies such as the police and courts. It is as if legislators believed that the provision of more resources in the form of appropriations and personnel would suffice to solve the problem. But implementing agencies -- lacking the technology to transform those resources into solutions -- failed to achieve the hoped-for objectives.

2. Resources and Crime. Two additional consequences, both related to resources devoted to criminal justice, flow from these observations. The first has to do with the ways in which federal or state funds are disbursed. The issue of the distribution of federal aid funds, both for criminal justice and other local activities, is now a matter of important national debate. "Sunbelt" and "frostbelt" areas dispute about which should and actually does have the larger claim on federal resources. Formulae are proposed to reward more needy cities or to reward cities in relation to criteria other than population. Some have advocated performance-based criteria for the allocation of federal assistance. None of these criteria seem sufficiently compelling to override a simple formula based upon population. Past performance is not a good guide to the

disbursement of funds. None of our ten cities seems to have done so well in the crime fighting arena that it would deserve extra funds. Moreover, our analysis of the incidence of crime suggests that crime has grown at about the same rate in small as well as in large cities, in the declining cities as well as in the growing ones, in those which have high proportions of poor inhabitants as well as those populated by the affluent. Thus, there is little in the demographics of official crime rate growth to guide the distribution of funds.

Our data have implications not only for the distribution of resources, but also raise important issues about the level of resources we have devoted to criminal justice institutions. The most widespread misunderstanding about the commitment of resources to criminal justice systems is that the resources of urban police departments have increased sharply in recent years, but that court systems have been starved for resources. When we compare resources devoted to criminal justice institutions in relation to measures of the problems they faced, these widespread impressions are simply wrong. Both the number of police officers and the amount of money spent on the police per recorded crime has dropped sharply over the period. This means each police officer now costs much more in salary and equipment than in 1948 (even in constant dollars). It suggests that while investment in policing has gone up, the results obtained have gone down or remained stable.

Certainly there is no evidence that merely spending more resources on policing is likely to make a major change in our crime problem. We do not know with certainty that more investment in policing would be a low return investment but recent experience suggests that conclusion, unless we find new ways to transform new money into effective action.

It is instructive to recall the drop in the official crime rates in England that occurred in the last half of the 19th century when an entirely new technology -- a centralized police force -- was developed to address the crime problem. The establishment of the police in England in the 19th century constituted a step-level increment in law enforcement resources. Other recent analyses also show a stabilizing crime rate in American cities when the police became effective organizations in the late 19th century (Monkonen, 1981: 85). We may well need a similar step-level change to reverse the growth of crime in 20th century America.

It may be tempting for others to suggest in the light of our analysis that an appropriate solution might be a national police force or more intrusive electronic devices to stem the upsurge of crime. No evidence from our studies support either measure. Indeed, it is more likely that in the absence of plausible solutions, the problem will suffer from benign neglect which may lead people to be more accepting of a relatively high level of crime. Individually, they may also

take more precautions with themselves and with their property. It is unlikely, however, that such individual private actions will overcome the national trends which seem to generate crime. Rather, such acts may modulate the trends and produce consequences which we cannot now predict.

Another element of misunderstanding about the resources addressed to law enforcement is the belief that courts have been neglected in the effort to reduce crime. Our analysis indicates that in many of our ten cities there was a systematic, positive relationship between the rise in arrest rates and resources provided these institutions. As with the police, that increment has not been translated into swifter justice. Additional investments in courts may require new procedures to utilize additional resources effectively.

3. Consequences of Nationalization. Other important policy implications stem from the nationalization of crime. Although Americans conventionally have thought of crime as a local problem demanding mostly local responses, all of our evidence points to its having become a national phenomena in at least two ways. First, our analysis of the growth of crime indicates that it has increased at about the same pace throughout the nation without respect to region, size of place, affluence of the community or other demographic traits. In addition, since 1968 and the establishment of the Law Enforcement Assistance Administration, ordinary crime has been a problem legitimately addressed by the national government and it has frequently occupied a place on campaign and policy-making agendas of national officials. However, Washington's contribution, while comprising billions of dollars, has nevertheless remained a very small portion of all law enforcement expenditures in the United States. Federal funds provide extras, bonuses so to speak, rather than the core resources. The organization of law enforcement still remains almost entirely local in nature with federal agencies like the FBI and LEAA playing very small roles.

A comparison with welfare programs may be instructive. Those became increasingly national in scope and administration with the realization -- born in the Great Depression of the 1930s -- that economic misfortune was beyond the control of local governments and that they did not possess sufficient resources to cope with the problems engendered by changes in the business cycle. Not only did policy-makers conclude then that resources at the community level were insufficient, they also concluded that the dynamics of the problem affected seemingly different communities in similar ways. We may well be at the beginning of such a development with respect to crime. This is not because most criminals have nationwide links or because they travel extensively across state lines, although a few undoubtedly do. It is because the underlying causes of crime appear to be nationwide in scope and because any new techniques for combatting crime may well require

resources beyond the capabilities of local governments.

D. Research Implications

Although, as historians measure such things, 31 years is a very brief period for study, we found it quite long enough to challenge our ability to ferret out data from these cities. That is a difficult task because local officials are not accustomed to archiving important information. Consequently, we found many gaps which could have been filled only by examining individual case files for thousands of cases in each city. Other gaps could not be filled at all. The deficiencies of official crime data, of course, are well known. Alongside these data, though, the adequacy of other information about the local criminal justice system is seriously deficient. Information about official crime rates are paragons of accuracy when compared, for example, with information about urban prosecutors, courts, and correctional institutions. This is as true of personnel data as of court cases.

Consequently, what is needed is a systematic effort to record and retrieve information in a small number of cities before it becomes lost. Given the nationalization of crime as a social phenomena, such a focus on a small number of cities would not seriously bias the results or lessen their importance for understanding the national phenomenon. A small number of "laboratory cities" could easily represent the range of American cities. In those cities, ongoing programs for collecting data continuing for many years will need to be instituted.

A future study might also adopt the county as an additional focus for analysis. The advantage of focusing on cities is that municipal governments are the most important political and governmental agents in the law enforcement fields. The advantages of counties are that their boundaries hardly ever change and that much more data is collected for them. Unfortunately, much crime related information is not yet reliably collected on a county basis, but that is a situation that may be remedied in the foreseeable future.

Another fruitful line of inquiry would examine specific types of crimes and the policies directed to combat them. We did not pursue that path because of our fear about the reliability of disaggregated data. It is easy for cities to shift incidents from one category to another (i.e., from burglary into theft or from rape into assault). Concentration on fewer cities would allow more careful examination of such reliability problems; continued concern with "laboratory" cities would go even further in alleviating the problem. Such a study of particular crime types would confront many new problems but might present a rather different picture of city efforts to combat crime.

The emergence of the field of policy evaluation and experimentation has been an important new addition to our research technology. Unfortunately, it is hampered by the limited quality and quantity of information about criminal justice systems. Sophisticated methodologies for evaluation and experimentation now exist, but their potential cannot be realized unless improvements are made in information collection. Sometimes these research efforts are criticized because the particular city studied is somehow not "typical" of other cities. Our findings about the generally similar trends from place to place should allay some of these criticisms. A much more serious limitation cannot be fully allayed without improvements in data quality. This is the problem of the very short time span in which some experiment or innovation is expected to "prove itself." No one expects that behavioral changes will follow policy changes overnight, and their effects may not be measurable for months or even years. Our evidence is now often too thin to provide the informational base on which to apply these powerful new methodologies in evaluation and experimentation research.

What is needed is a major overhaul of the research resources available to study criminal justice policy. Important new steps have been taken in the measurement of crime with the invention and implementation of victimization surveys. To us, at least, it is ironic that improved reporting, recording, and surveying techniques are now revolutionizing the measurement of the problem, but measures of policy response remain primitive at best. Arrest data are available only in scattered series over time; the reconstruction of police activity information is a difficult task even with intensive local investigation. Materials on local criminal justice institutions other than the police is often unavailable even for recent years.

The strategy of investment in certain laboratory cities would alleviate some of these problems. Certainly the ten cities studied here are a good place to begin, since they are diverse and yet not atypical of the range of variation found in American communities. Too often, perhaps, researchers have mistaken the problem of accessibility to local officials as the most serious barrier to information collection. Our experience was that local officials were typically eager to collaborate, but lacked systemic incentives to collect and record key information in ways which would be useful to the expansion of our knowledge about the criminal justice system.

It is, we suggest, extremely important as a matter of public policy as well as of knowledge accumulation to acquire better data in more systematic ways about the patterns by which cities have responded to the common problem of crime. It was toward that end that the Governmental Responses to Crime Project was directed.

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APPENDIX

PROJECT PAPERS AND PUBLICATIONS

Project Papers

1. THE EFFECTS OF THE POLICE ON CRIME.
A SECOND LOOK (revised edition)

Herbert Jacob and Michael J. Rich

Revised version of a paper presented at the 1980 Annual Meetings of the Law and Society Association, June 6-8, Madison, Wisconsin.
2. MAYORAL TRANSITIONS AND CRIME RATES: A STUDY OF TEN AMERICAN CITIES

Stephen C. Brooks and Robert L. Lineberry

Paper prepared for the 1980 Annual Meetings of the Law and Society Association, June 6-8, Madison, Wisconsin.
3. CRIME CONTROL DECISIONS AT THE LOCAL LEVEL:
MUNICIPAL CODE REFORMS IN TEN CITIES, 1948-1978

Anne M. Heinz

Paper prepared for delivery at the meetings of the Association for Criminal Justice Research -- Harvard Law School Conference on Sentencing Reform and Crime Control, October 7, 1980, Cambridge, Massachusetts.
4. POLICE AND NEWSPAPER PRESENTATIONS OF CRIME:
AN EXAMINATION OF NINE CITIES, 1948-1978

Herbert Jacob with the assistance of Jack Moran
Duane H. Swank

Paper prepared for delivery at the 1980 Annual Meetings of the American Society of Criminology, November 6, San Francisco, California.
5. CITIES AND CRIME

Herbert Jacob and Robert L. Lineberry

Paper prepared for the 1980 Annual Meetings of

the Social Science History Association, November 9, Rochester, New York.

6. CRIME, POLITICS, AND THE POLICY AGENDA:
AMERICAN CITIES, 1948-1978.

Robert L. Lineberry and Herbert Jacob with the assistance of Sarah-Kathryn McDonald

Paper prepared for delivery at the 1980 Annual Meetings of the Association for Public Policy and Management, October 23-25, Boston, Massachusetts.

7. POLITICAL RESPONSES TO URBAN CRIME

Janice A. Beecher, Robert L. Lineberry, and Michael J. Rich

Paper prepared for delivery at the 1980 Annual Meetings of the Midwest Political Science Association, April 16-18, Cincinnati, Ohio.

8. DOES CRIME REALLY PAY?: THE STATE, SOCIAL DISORDER, AND THE EXPANSION OF SOCIAL WELFARE IN THE POST WORLD WAR II UNITED STATES

Duane H. Swank

Paper prepared for delivery at the 1981 Annual Meetings of the American Political Science Association, September 3-6, New York, New York.

9. COURT RESOURCES AND CRIME IN NINE U. S. CITIES, 1948-1978

Herbert Jacob

Paper prepared for delivery at the 1981 Annual Meetings of the American Political Science Association, September 3-6, New York, New York.

10. CRIME, PUBLIC POLICY, AND PUBLIC EXPENDITURES

Herbert Jacob, Duane H. Swank and Robert L. Lineberry

Paper prepared for delivery at the 1982 Annual Meetings of the Southwestern Social Science Association, April, Tucson, Arizona.

Project Publications

1. THE EFFECTS OF THE POLICE ON CRIME:
A SECOND LOOK

Herbert Jacob and Michael J. Rich

Law and Society Review (Spring, 1981):
109-122.

2. POLITICIANS AND URBAN POLICY CHANGE: THE
CASE OF CRIME AND CITY POLITICS

Stephen C. Brooks and Robert L. Lineberry

In Terry N. Clark (ed.), Urban Policy Analysis
Beverly Hills: Sage Publications, forthcoming.

3. COMMUNITY POWER, THE URBAN AGENDA, AND CRIME
POLICY

Janice A. Beecher, Robert L. Lineberry, and
Michael J. Rich

In Social Science Quarterly (forthcoming,
December 1981).

4. THE POLITICS OF POLICE RESPONSES TO URBAN
CRIME

Janice A. Beecher, Robert L. Lineberry, and
Michael J. Rich

In Dan Lewis (ed.), Reactions to Crime
Beverly Hills: Sage Publications, 1981.

5. CRIME IN CITY POLITICS

Anne M. Heinz, Herbert Jacob, and Robert L.
Lineberry

New York, New York: Longman, forthcoming.

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