



NATIONAL INSTITUTE OF JUSTICE

Data Resources Program

Valuation of Specific Crime Rates in the United States, 1980 and 1990

William Alan Bartley

ICPSR 3161

User Guide



Inter university Consortium for Political and Social Research

VALUATION OF SPECIFIC CRIME RATES IN THE UNITED STATES,
1980 AND 1990

(ICPSR 3161)

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BIBLIOGRAPHIC CITATION

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REQUEST FOR INFORMATION ON USE OF ICPSR RESOURCES

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SUMMARY

This project was designed to isolate the effects that individual crimes have on wage rates and housing prices, as gauged by individuals' and households' decisionmaking preferences changing over time. Additionally, this project sought to compute a dollar value that individuals would bear in their wages and housing costs to reduce the rates of specific crimes. The study used multiple decades of information obtained from counties across the United States to create a panel dataset. This approach was designed to compensate for the problem of collinearity by tracking how housing and occupation choices within particular locations changed over the decade considering all amenities or disamenities, including specific crime rates. Census data were obtained for this project from the Integrated Public Use Microdata Series (IPUMS) constructed by Ruggles and Sobek (1997). Crime data were obtained from the Federal Bureau of Investigation's Uniform Crime Reports (UCR). Other data were collected from the American Chamber of Commerce Researchers Association, County and City Data Book, National Oceanic and Atmospheric Administration, and Environmental Protection Agency. Independent variables for the Wages Data (Part 1) include years of education, school enrollment, sex, ability to speak English well, race, veteran status, employment status, and occupation and industry. Independent variables for the Housing Data (Part 2) include number of bedrooms, number of other rooms, building age, whether unit was a condominium or detached single-family house, acreage, and whether the unit had a kitchen, plumbing, public sewers, and water service. Both files include the following variables as separating factors: census geographic division, cost-of-living index, percentage unemployed, percentage vacant housing, labor force employed in manufacturing, living near a coastline, living or working in the central city, per capita local taxes, per capita intergovernmental revenue, per capita property taxes, population density, and commute time to work. Lastly, the following variables measured amenities or disamenities: average precipitation, temperature, windspeed, sunshine, humidity, teacher-pupil ratio, number of Superfund sites, total suspended particulate in air, and rates of murder, rape, robbery, aggravated assault, burglary, larceny, auto theft, violent crimes, and property crimes.

GENERAL STUDY OVERVIEW

STUDY IDENTIFICATION

VALUATION OF SPECIFIC CRIME RATES IN THE UNITED STATES, 1980 AND 1990

William Alan Bartley

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Award No. 99-IJ-CX-0006

KEY WORDS

crime rates, decisionmaking, fear of crime

PURPOSE OF THE STUDY

This study aimed to evaluate the explicit costs of crime to society. There have been two previous approaches to this problem. First, hedonic models sought to isolate the value individuals placed on specific amenities or disamenities, such as weather, air pollution, and crime rates, as seen in the wages they required and the prices they paid for housing. The second approach evaluated costs by combining the actual out-of-pocket expenses associated with crime with the imputed costs from the pain, suffering, and fear of crime. This data collection combined these two methods to obtain a market-based estimate for specific crimes. In particular, this project was designed to isolate the effects that individual crimes have on wage rates (Part 1) and housing prices (Part 2), as gauged by individuals' and households' decisionmaking preferences changing over time. Additionally this project sought to compute a dollar value that individuals would bear in their wages and housing costs to reduce the rates of specific crimes.

METHODS

STUDY DESIGN

The study used multiple decades of information obtained from counties across the United States to create a panel dataset. This approach was designed to compensate for the problem of collinearity by

tracking how housing and occupation choices within particular locations changed over the decade considering all amenities or disamenities, including specific crime rates. Census data were obtained for this project from the Integrated Public Use Microdata Series (IPUMS) constructed by Ruggles and Sobek (1997). To improve upon previous research, this data collection utilized Sample B Census data, which include information from more urban areas and also include urban areas that cross state lines. Crime data were obtained from the Federal Bureau of Investigation's Uniform Crime Reports (UCR). Other data were collected from the American Chamber of Commerce Researchers Association, County and City Data Book, National Oceanic and Atmospheric Administration, and Environmental Protection Agency.

SOURCES OF INFORMATION

Census data were obtained for this project from the Integrated Public Use Microdata Series (IPUMS) constructed by Ruggles and Sobek (1997). Crime data originated from the Uniform Crime Reports (UCR) issued by the Federal Bureau of Investigation. The cost-of-living index was obtained from the American Chamber of Commerce Researchers Association (ACCRA), which accumulates and publishes this information quarterly for major metropolitan areas. The County and City Data Book, which is published every five years, was used to derive variables for the area manufacturing, unemployment, and vacancy percentages, as well as the finance variables for local taxes, property taxes, and intergovernmental revenue, and population density and teacher-pupil ratio. Climate data were obtained from a publication of the National Oceanic and Atmospheric Administration for six weather variables. Lastly, the Environmental Protection Agency provided data for Superfund sites and total suspended particulate in air.

SAMPLE

This study started with a 1-in-200 nationally representative sample provided by IPUMS. Observations were eliminated if there were missing data for any of the variables used in this study or if IPUMS changed a response due to logical inconsistency.

RESPONSE RATES

Not applicable.

DATE(S) OF DATA COLLECTION

1999

SUMMARY OF CONTENTS

DESCRIPTION OF VARIABLES

Independent variables for the Wages Data (Part 1) include years of education, school enrollment, sex, ability to speak English well, race, veteran status, employment status, and occupation and industry. Independent variables for the Housing Data (Part 2) include number of bedrooms, number of other rooms, building age, whether unit was a condominium or detached single-family house, acreage, and whether the unit had a kitchen, plumbing, public sewers, and water service. Both files include the following variables as separating factors: census geographic division, cost-of-living index, percentage unemployed, percentage vacant housing, labor force employed in manufacturing, living near a coastline, living or working in the central city, per capita local taxes, per capita intergovernmental revenue, per capita property taxes, population density, and commute time to work. Lastly, the following variables measured amenities or disamenities: average precipitation, temperature, windspeed, sunshine, humidity, teacher-pupil ratio, number of Superfund sites, total suspended particulate in air, and rates of murder, rape, robbery, aggravated assault, burglary, larceny, auto theft, violent crimes, and property crimes.

PRESENCE OF COMMON SCALES

None.

UNIT OF OBSERVATION

Part 1: Individuals. Part 2: Households.

EXTENT OF PROCESSING

Missing data codes were standardized by ICPSR. ICPSR also checked for undocumented codes, produced a codebook, generated SAS and SPSS data definition statements, and reformatted the data and documentation.

EXTENT OF COLLECTION

This data collection consists of two data files, a user guide and codebook in separate PDF files, and SAS and SPSS data definition statements.

DATA COLLECTION NOTES

The user guide and codebook are provided by ICPSR as Portable Document Format (PDF) files. The PDF file format was developed by Adobe Systems Incorporated and can be accessed using PDF reader software, such as the Adobe Acrobat Reader. Information on how to obtain a copy of the Acrobat Reader is provided on the ICPSR Web site.

FILE SPECIFICATIONS

PART NUMBER: 1
PART NAME: Wages Data
FILE STRUCTURE: rectangular
CASE COUNT: 102,745
VARIABLE COUNT: 113
RECORD LENGTH: 532
RECORDS PER CASE: 1

PART NUMBER: 2
PART NAME: Housing Data
FILE STRUCTURE: rectangular
CASE COUNT: 40,141
VARIABLE COUNT: 93
RECORD LENGTH: 497
RECORDS PER CASE: 1

RELATED PUBLICATIONS

Bartley, William Alan. "A Valuation of Specific Crime Rates" (Final Report). NCJ 188070. Washington, DC: United States Department of Justice. National Institute of Justice, 2000.

Bartley, William Alan. "A Valuation of Specific Crime Rates" (Summary). NCJ 187771. Washington, DC: United States Department of Justice. National Institute of Justice, 2000.

FINAL REPORTS AND OTHER PUBLICATIONS

The National Criminal Justice Reference Service (NCJRS) was established in 1972 by the National Institute of Justice (NIJ), of the U.S. Department of Justice, to provide research findings to criminal justice professionals and researchers. NCJRS operates specialized clearinghouses that are staffed by information specialists who supply a range of reference, referral, and distribution services. Final reports and other publications describing research conducted on a variety of criminal justice topics are available. Publications can be obtained from NCJRS at NIJ/NCJRS, Box 6000, Rockville, MD, 20849-6000, 800-851-3420 or 301-519-5500. TTY Service for the Hearing Impaired is 877-712-9279 (toll-free) or 301-947-8374 (local). The URL for the NCJRS homepage is:

<http://www.ncjrs.org>

DATA RESOURCES PROGRAM ON THE INTERNET

The National Institute of Justice Data Resources Program (DRP) makes datasets from NIJ-funded research and evaluation projects available to the research community and sponsors research and training activities devoted to secondary data analysis. Datasets are archived by the National Archive of Criminal Justice Data (NACJD) at the Inter-university Consortium for Political and Social Research (ICPSR) at the University of Michigan.

The NACJD maintains a World Wide Web site with instructions for transferring files and sending messages. Criminal justice data funded by the Department of Justice are available via the Internet at this site at no charge to the user. NACJD may be contacted at NACJD/ICPSR, P.O. Box 1248, Ann Arbor, MI, 48106-1248, 800-999-0960 or 734-998-9825. The URL for the NACJD homepage is:

<http://www.icpsr.umich.edu/NACJD>

DATA COMPLETENESS REPORT

This report corresponds to the data file: DA3161.P1

Table 1: Distribution of Variables by Percentage of Missing Values*

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Variable Name and Label                                Percent of Cases with
(Total cases=102745)                                Missing Values
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77.9% (88 of 113 variables) have 0% Missing Values

8.0% (9 of 113 variables) have > 0% - 1% Missing Values

10.6% (12 of 113 variables) have > 1% - 3% Missing Values

1.8% (2 of 113 variables) have > 3% - 5% Missing Values

0.0% (0 of 113 variables) have > 5% - 10% Missing Values

0.0% (0 of 113 variables) have > 10% - 20% Missing Values

1.8% (2 of 113 variables) have > 20% - 40% Missing Values

COLIX      COST OF LIVING INDEX (AACRA)                25.3%
LCOLIX     NATURAL LOG COLIX                          25.3%
=====

```

*Variables individually listed only if greater than 5% missing values.
 Data does not contain skip patterns or skip patterns are not reflected
 in the data as coded.

DATA COMPLETENESS REPORT

This report corresponds to the data file: DA3161.P2

Table 2: Distribution of Variables by Percentage of Missing Values*

Variable Name and Label (Total cases=40141)	Percent of Cases with Missing Values

72.0% (67 of 93 variables) have 0% Missing Values	
7.5% (7 of 93 variables) have > 0% - 1% Missing Values	
12.9% (12 of 93 variables) have > 1% - 3% Missing Values	
4.3% (4 of 93 variables) have > 3% - 5% Missing Values	
0.0% (0 of 93 variables) have > 5% - 10% Missing Values	
1.1% (1 of 93 variables) have > 10% - 20% Missing Values	
CENCITY RESPONDENT LIVES OR WORKS CENTRAL CITY	14.6%
2.2% (2 of 93 variables) have > 20% - 40% Missing Values	
COLIX COST OF LIVING INDEX (AACRA)	27.2%
LCOLIX NATURAL LOG COLIX	27.2%
=====	

*Variables individually listed only if greater than 5% missing values.
Data does not contain skip patterns or skip patterns are not reflected
in the data as coded.