

Determinants of violent crime in US: evidence from state level data

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Research question

What variables affect violent crime in the United States? Do these variables determine or just influence violent crime?

Introduction

- **Violent crime includes murder, rape, and assault.**
- **Violent crime levels are constantly changing in the United States**

There are many different theories as to what variables affect crime, Dill et al. (2010) felt that drug prohibition is positively related to violent crime. Others such as Cho (1973) found that racial and ethnic composition, education, income, and density of house populations are greatly correlated with violent crime rates. Levitt (2004) on the other hand credited increased incarceration, more police, the decline of crack and legalized abortion with decreasing violent crime.

- **Violent crime has many impacts on society and the economy including:**

- Lost wages for victim and the offender.
- Increased spending towards police and corrections.
- Victims medical bills which must be paid.
- Creates pain and anguish.
- Lowers quality of life.
- Lowers value of homes in high violence areas.

Methods

- This data was gathered at statepolicyindex.com. Information was also collected from the University of Buffalo, Texas State University, the Federal Bureau of Investigations uniform crime reports , the University of Arizona, Harvard, the Russell Sage foundation, and inequalitydata.org

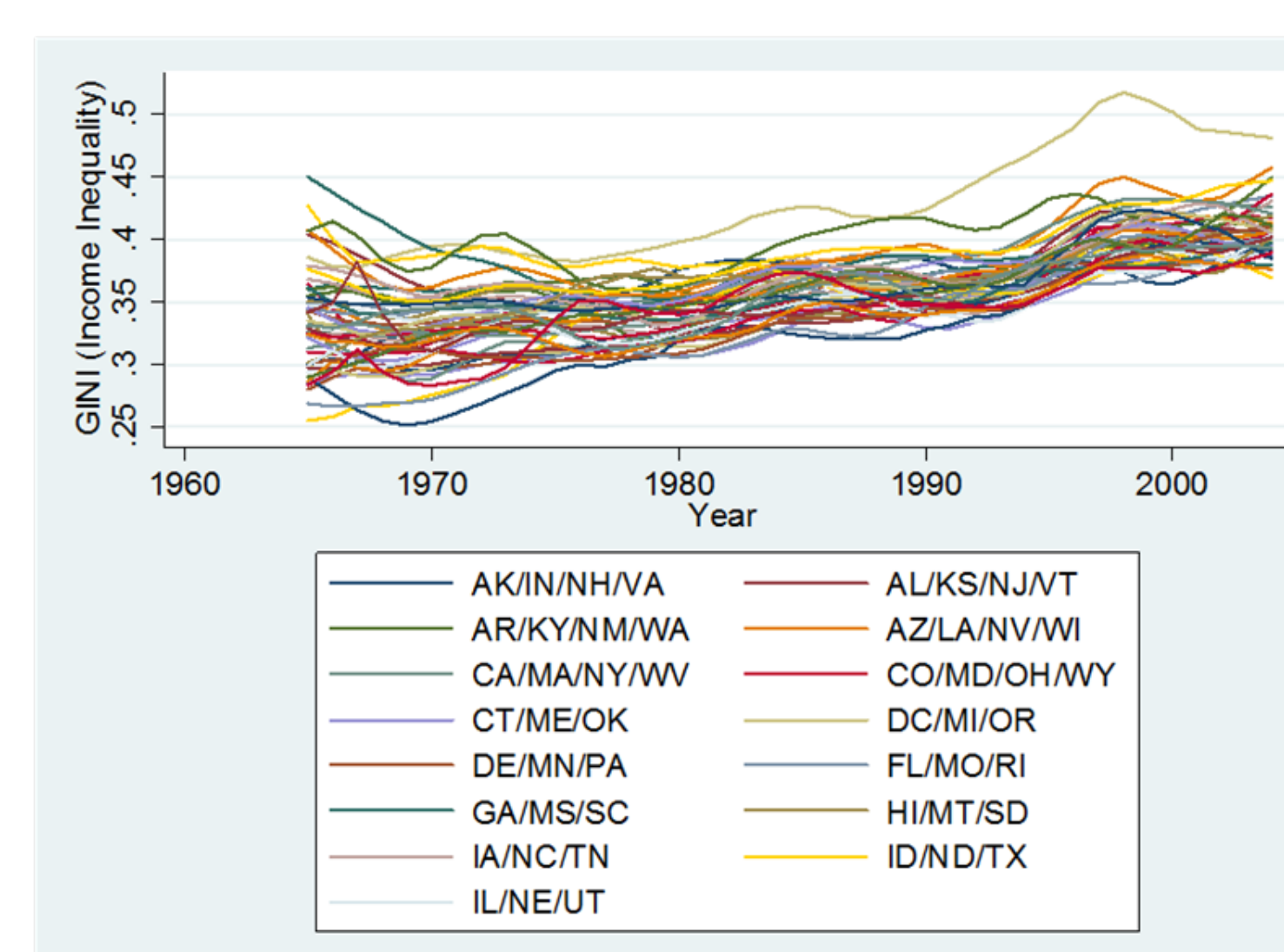
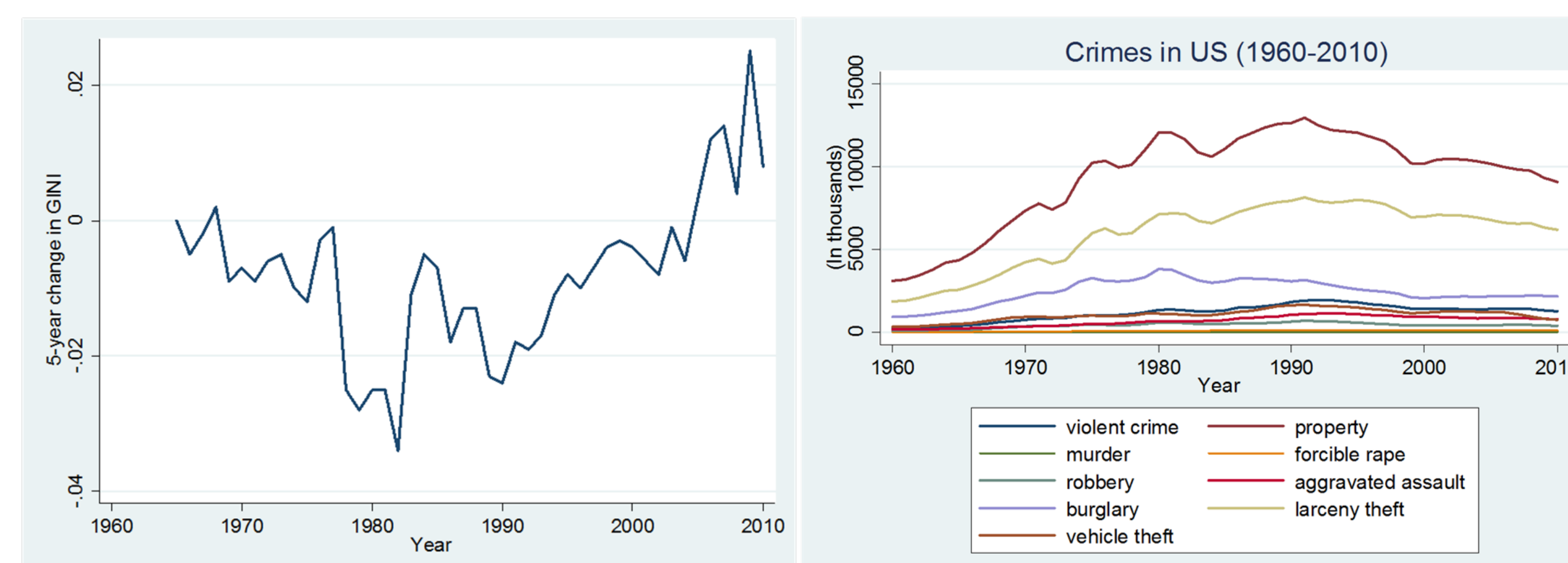
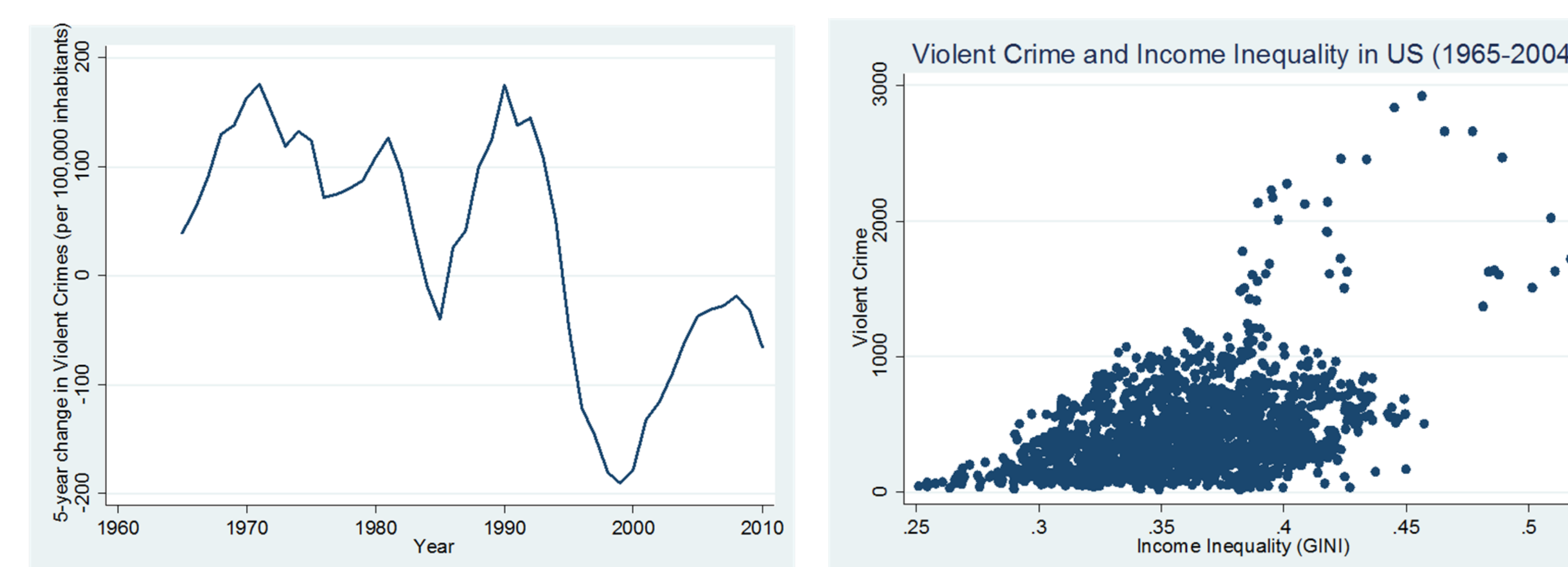
- Fixed effect regression

Variables	Obs.	Mean	Std. Dev.
Violent Crime (per 100,000 people)	1150	473.1	245.68
Inequality (GINI)	1150	0.37	0.0264
Police Expenditure (in millions of dollar)	1150	985.5	1566.6
Correction Expenditure (million)	1150	544.4	931.47
Education Expenditure (million)	1150	6446	8386.6
Unemployment Compensation (million)	1150	66.94	74.892
Housing and Community Development (million)	1150	346.5	642.93
Library Expenditure (million)	1150	90.62	126.09
Total Expenditure (million)	1150	22084	31392
Population Density	1150	169.1	235.42
Per Capita Income	1150	19533	7084.9

Regression equation

$$\ln Violent = \beta_0 + \beta_1 GINI + \beta_2 Police + \beta_3 PopDen + \beta_4 Com.Dev + \beta_5 Unempl.Comp + \beta_6 Lib + \beta_7 Income + \beta_8 Corr. + \epsilon_t$$

Background



Results

Basic Model

Table 1 Violent crime and income inequality in U.S (1965-2004)

VARIABLES	Fixed Effect Model
GINI	5.80*** (0.288)
Constant	3.74*** (0.105)
N	2,040
R ²	0.19
Adj. R ²	
Number of groups	
Robust standard errors in parentheses *** p<0.001, ** p<0.01, * p<0.05	

When income inequality increases by one unit, violence will increase by 330 units.

VARIABLES	(1) Fixed Effect Model
Income Inequality	1.2815*** (0.2964)
Police Expenditure	-0.0130*** (0.003)
Housing & Com. Dev.	-0.0001*** (0.0000)
unemployment Comp.	0.0398* (0.0144)
Library Exp.	-0.0101 (0.01353)
Population Density	-0.0014* (0.0005)
Correction Exp.	0.0159** (0.0031)
Per capita Income	3.34e-06 (0.000)
Constant	5.59*** (0.158)
Observations	1,150
R-squared	0.91
Adj. R-squared	0.91

Conclusion

- Without knowing what variables influence violent crime levels, resources are wasted and policies are ineffective.
- Violent crime is influenced by income inequality. Additional variables that influence violence levels include state and local government spending on police and public safety, community development, and population density.
- Knowing what variables affect violence levels will hopefully allow for more effective policies to be put into place. It will also likely help Americans save money due to a decrease on taxes for police and corrections. Americans will also likely increase their wealth when the value of their homes rise.
- Shapiro and Hassett (2012) stated a 10% reduction in violent crime would save Americans around \$20 billion a year.