

Abstract

Marijuana has become one of the most used taboo substances in the United States in the past few decades. Recent literature, as well as literature dating back to the early 2000s, have looked at how marijuana legalization and decriminalization can impact crime rates. However, there is little empirical evidence connecting marijuana legislation to crime rates. This paper uses state-level crime data from the FBI and the National Census Bureau to examine the effect of marijuana legalization and decriminalization on both violent and property crime rates. We use a fixed effects model in order to estimate the effect of marijuana legalization and decriminalization on states' crime rates over time. We find that legalization has a positive effect on property crime over time in a state, and that legalization increases both violent and property crime rates across states.

Objectives

To determine whether or not there is a correlation between marijuana legislation and violent or property crimes

Methods

$$Crmrte_{st} = \beta_0 + \beta_1 Legal + \beta_2 Decrim + \beta_3 Density + \beta_4 X_{st} + u$$

Where $crmrte_{st}$ is the number of crimes per 100,000 people in state s in year t . **Legal** and **Decrim** are dummy variables, equal to 1 if marijuana is legalized or decriminalized in the state. **Density** describes each state's population density (total population ÷ area of the state in square miles). The vector **X_{st}** controls for a variety of state-level characteristics including population shares of age, ethnicity, race, and sex.

Results

Variable	Observations	Mean	Std. Dev.	Min	Max
Violent	480	357.8	129.9	102.6	842.8
Property	480	2525.57	631.25	1180.6	3928.7
Decriminalization	480	.265	.442	0	1
Legalization	480	.085	.28	0	1
Population Density	480	172.4	207.97	5.77	1032.5
Population Share Male	480	.493	.007	.482	.515
Population Share Black	480	.108	.095	.003	.38
Population Share Hispanic	480	.116	.104	.011	.493
Population Share Asian & Pacific Islander	480	.034	.027	.006	.152
Population Share Some Other Race	480	.074	.045	.019	.249
Population Share Over 18 Years	480	.771	.02	.685	.818
Population Share Between 15 and 19 Years	480	.068	.004	.057	.08
Population Share Between 20 and 24 Years	480	.069	.005	.055	.099
Population Share Over 65 Years	480	.151	.02	.09	.213

	(1)	(2)	(3)	(4)
Decriminalization	-40.68 (13.66)***	-274.73 (59.66)***	-.088 (10.14)	-87.98 (51.57)*
Legalization	49.88 (21.86)**	418.66 (95.48)***	-5.181 (14.516)	57.57 (76.59)
Population Density	.031515 (.00885)***	.0034328 (.038647)	-4.051 (1.207)***	-20.83 (4.14)***
Share of Population White	-2571.5 (318.3)***	-8432 (1389.7)***		
Share of Population Black	1757.95 (300170)***	-6812.6 (1310.6)***	-1176.98 (1176.89)	2652 (3705.9)
Share of Population Hispanic	-62.78 (112.9)	-1009.66 (493)**	-792.4 (1789.04)	7235.19 (7810.9)
Share of Population Indian	-81.4 (171.2)	238.25 (747.4)		
Share of Population Asian	-4149.3 (461.2)***	-10736 (2013.9)***		
Share of Population Pacific Islander	1654.9 (457.75)***	-360.59 (1998.7)		
Share of Population Other Race			71.195 (1292.06)	2757.44 (9462.6)
Share of Population Two or More Races	-75.4 (536)	-5489 (2340.95)**	-1241.95 (854.8)	-623.8 (3519.2)
	-2127.8 (503.2)***	-4651.5 (2196.975)**		

Conclusion

- This paper uses a fixed effects model to estimate the effect of marijuana legalization and decriminalization policies on violent and property crime rates. The results indicate that the decriminalization of marijuana decreases the quantity of property crimes by 88 crimes per 100,000 people. We are unable to draw any other conclusions as none of the other variables carried any statistical significance.
- Future research including income information as well as education information could be beneficial in minimizing error related to population characteristics. We simply did not have the time nor resources to find and include education and income data in our regression analysis. Using information dating back to a further time period would also be worthwhile to explore as more years included in the study would help give a more comprehensive picture of how crime rates have changed over time.
- Policy implications of the results of this study could lead to an increase in the decriminalization of marijuana as we see a positive correlation with the decrease in property crimes.

References