

Testing the Effects of Marijuana Legalization on Crime and Other Drug Usage in Seattle and Denver

Benjamin Gaiser and Jeremy Russell

26 October 2016

Research Question:

Our research concerns the effects of marijuana legalization in two U.S. states. In 2012, Colorado and Washington legalized recreational marijuana use; and in 2014 Oregon and Alaska followed suit. This November, five other states (Arizona, California, Maine, Massachusetts and Nevada) will consider legalizing the recreational use of marijuana, while four others (Arkansas, Florida, Montana and North Dakota) will decide on medical marijuana initiatives. Opponents of legalization claim legalization leads to an increase in marijuana and other drug use, “increases crime, diminishes traffic safety, harms public health, and lowers teen educational achievement,” while advocates “think legalization reduces crime, raises tax revenue, lowers criminal justice expenditures, improves public health, bolsters traffic safety, and stimulates the economy” (Dills, Goffard, and Miron 2016). As researchers have pointed out though, until now these claims have largely gone unexamined. This recent study concludes that evidence for either side’s arguments is lacking, and “the absence of significant adverse consequences is especially striking given the sometimes dire predictions made by legalization opponents” (Dills, Goffard, and Miron 2016). We would like to test the hypothesis that legalization does not significantly increase crime or other drug usage. We will look more closely at the two state capitals Seattle and Denver to test this.

Literature Review:

Given the general lack of reliable, empirical research on the topic in relation to Washington and Colorado especially, we draw on the results of the Cato Institute’s report as it is both recent and highly comparative in nature. Thus, we hope to contribute to the growing body of research on marijuana legalization and policy outcomes. Most research seems to run in a more medical vein. Authors writing for the RAND Corporation argue that it is too soon to adequately address the repercussions of legalization; or more accurately, that since more data is needed, policy makers must acknowledge the need to work flexibly with issues at hand since what evidence we have is remarkably varying based on which country, state or metro region we analyze (Caulkins et al. 2015). Another study focuses on the knowledge shared between parents and adolescents from lower-income families and the need for public health campaigns to raise awareness after legalization in Washington state (Mason et al. 2015). Researchers found that legalization had a minimal effect on attitudes regarding marijuana; but that after legalization, those who had previously used marijuana before legalization viewed marijuana more favorably than non-users. Our contribution will be to look at initial data to inform stakeholders in this nascent field of policy.

Data and Research Methodology: We use two main data sources: the first is the website for the ‘Washington Initiative 502’ the initiative to legalize recreational use; and the second is a .csv file from the city of Denver’s Open Data Catalog. The former lists the names and locations of producers/processors in the state and of retailers including YTD sales and tax revenue. Since the 502data site is scripted in Java, we use the phantomjs() function in the Harrison (2016) package, which does not work on a Mac. For Denver’s data, we downloaded the .csv file and used the Wickham, Hester, and Francois (2016) package to load the data.

References

- Caulkins, Jonathan P, Beau Kilmer, Mark AR Kleiman, Robert J MacCoun, Gregory Midgette, Pat Oglesby, Rosalie Liccardo Pacula, and Peter H Reuter. 2015. "Options and Issues Regarding Marijuana Legalization." *Santa Monica, CA: The RAND Corporation Retrieved from [Http://www. Rand. Org/content/dam/rand/pubs/perspectives/PE100/PE149/RAND_PE149. Pdf](http://www.Rand.Org/content/dam/rand/pubs/perspectives/PE100/PE149/RAND_PE149.Pdf) (Archived by WebCite at [Http://www. Webcitation. Org/6Z3moG28A](http://www. Webcitation. Org/6Z3moG28A)).*
- Dills, Angela, Sietse Goffard, and Jeffrey Miron. 2016. "Dose of Reality: The Effect of State Marijuana Legalizations." *Cato Institute Policy Analysis*, no. 799.
- Harrison, John. 2016. *RSelenium: R Bindings for Selenium WebDriver*. <https://CRAN.R-project.org/package=RSelenium>.
- Mason, W Alex, Koren Hanson, Charles B Fleming, Jay L Ringle, and Kevin P Haggerty. 2015. "Washington State Recreational Marijuana Legalization: Parent and Adolescent Perceptions, Knowledge, and Discussions in a Sample of Low-Income Families." *Substance Use & Misuse* 50 (5). Taylor & Francis: 541–45.
- Wickham, Hadley, Jim Hester, and Romain Francois. 2016. *Readr: Read Tabular Data*. [https://CRAN. R-project.org/package=readr](https://CRAN.R-project.org/package=readr).