

Presidential Election, 2024 – Marijuana Policy

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About me

- From Lewistown, MT
- Undergrad in math and economics at MSU
- Ph.D. in economics from U of Washington
- Applied microeconomist: health economics and economic history

Past research on substance use and drug markets:

- The Montana Meth Project and teen meth use
- Per se drugged driving laws and traffic fatalities
- Wet laws, drinking establishments, and violent crime
- Marijuana legalization
 - Teen marijuana use
 - Suicides
 - Traffic fatalities
 - Alcohol consumption

Road map

- Marijuana legalization
 - Still top drug policy on minds of Americans
 - Where do the candidates stand?
 - What do we know about the public health effects?

Marijuana: Where Americans stand

“At a time when voters and politicians are historically divided, there is one issue that Americans largely agree upon: It’s time to legalize marijuana.”

– Paul Armentano, Deputy Director of NORML

- 20 years ago: $\approx 30\%$ of Americans supported legalization
- Today: $\approx 70\%$ of Americans support legalization

Source: Gallup poll

Marijuana: Where Americans stand

Rates of use

- In 1992, about 3% of the U.S. population reported “daily or near-daily” marijuana use
- In 2022, about 5-6% of U.S. population reported “daily or near-daily” marijuana



Marijuana vs. alcohol

- For the first time, the number of Americans who use marijuana daily surpassed the number who drink daily
- Americans now think that alcohol is...
 - more addictive than marijuana
 - more physically harmful than marijuana
 - more socially harmful than marijuana

Sources: Caulkins (2024) and American Addiction Centers (2024)

Marijuana legalization: Where the candidates stand

- A policy issue with substantial agreement
- On marijuana reform, the presidential candidates have mostly tracked changes in public opinion and voter preferences

Harris on marijuana legalization

- Aggressively prosecuted marijuana-related crimes while district attorney in San Francisco and as attorney general in California
- Later changed course
 - As a senator, co-sponsored legislation to end federal prohibition of marijuana
 - Called for nonviolent marijuana-related criminal offenses to be expunged when running for president in 2019
- Has gone further than President Biden by expressing support for full legalization
- Recently, during an interview with the sports and culture podcast “All the Smoke...



“...we have come to a point where we have to understand that we need to legalize it and stop criminalizing this behavior.”

Source: Bink (2024)

Trump on marijuana legalization

- During his last presidency, Attorney General Jeff Sessions lifted an Obama-era policy that kept federal authorities from cracking down on the marijuana trade in states where it was legal
- Yet, he recently, backed Biden's efforts to loosen federal restrictions and said he would vote 'yes' on an amendment to legalize marijuana in his state (FL).
- Recent quote...

“...I believe it is time to end needless arrests and incarcerations of adults for small amounts of marijuana for personal use...We must also implement smart regulations, while providing access for adults to a safe, tested product.”



Candidates on rescheduling marijuana

- DEA is in the process of considering moving marijuana from a Schedule I (e.g., heroin, peyote, LSD) to a less-restricted Schedule III drug
 - Schedule I drugs have “no accepted medical use”
 - Schedule III drugs are often used for pain control (e.g., Tylenol) and have less potential for physical/psychological dependence
- DEA is scheduled to hold a hearing on rescheduling after election (Dec. 2nd)
- Rescheduling will open up marijuana-related research focused on RCTs with human subjects
- Recent quotes:
 - Harris: “Marijuana is considered as dangerous as heroin and more dangerous than fentanyl [a Schedule II drug], which is absurd, not to mention patently unfair.”
 - Trump: “As President, we will continue to focus on research to unlock the medical uses of marijuana to a Schedule 3 drug.”

Candidates on SAFER Banking Act

- **What is it?**
 - Provides protections for federally regulated financial institutions that serve state-sanctioned marijuana businesses
 - Currently, many financial institutions do not provide services to state-sanctioned marijuana businesses due to the federal classification of marijuana as a Schedule I drug
 - Versions of this Act have passed the US House of Representative seven times since 2019, but it has never passed in the Senate

Harris


- In 2019, then-Senator Harris wrote that year's version of the bill was “a promising step forward in allowing legal marijuana businesses to access basic banking services.”

Trump

- Running mate, Sen. Vance, previously voted against the SAFER Banking Act in 2023, saying that it would “pave the way for more widespread marijuana use and federal legalization.”
- But, Trump recently said he would, if elected, “work with Congress to pass common sense laws, including safe banking for state authorized companies”

What can we expect?

- Regardless of who is elected, we can expect further legalization
 - Perhaps at federal level
 - If not at federal level, (undoubtedly) more states will legalize
- What public health effects might we expect? (Anderson and Rees 2023)
 - Adult marijuana use
 - Youth marijuana use
 - Use of other substances
 - Traffic safety
 - Crime
 - Mental health
 - Workplace health



Review of studies that are based on well-defined natural experiments (i.e., quasi-experimental research designs)

The Public Health Effects of Legalizing Marijuana[†]

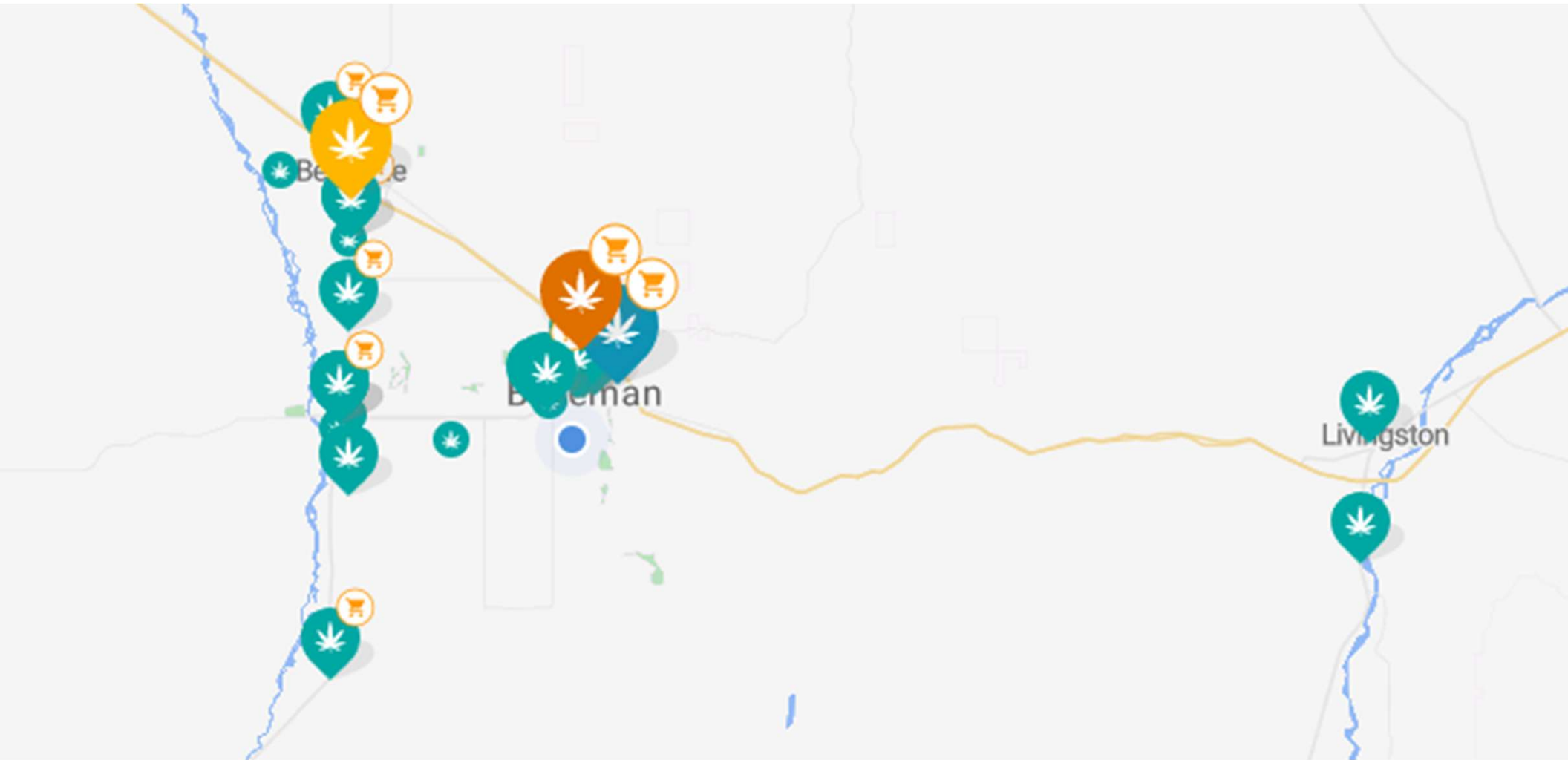
D. MARK ANDERSON AND DANIEL I. REES*

Thirty-six states have legalized medical marijuana and 18 states have legalized the use of marijuana for recreational purposes. In this paper, we review the literature on the public health consequences of legalizing marijuana, focusing on studies that have appeared in economics journals as well as leading public policy, public health, and medical journals. Among the outcomes considered are: youth marijuana use, alcohol consumption, the abuse of prescription opioids, traffic fatalities, and crime. For some of these outcomes, there is a near consensus in the literature regarding the effects of medical marijuana laws (MMLs). As an example, leveraging geographic and temporal variation in MMLs, researchers have produced little credible evidence to suggest that legalization promotes marijuana use among teenagers. Likewise, there is convincing evidence that young adults consume less alcohol when medical marijuana is legalized. For other public health outcomes such as mortality involving prescription opioids, the effect of legalizing medical marijuana has proven more difficult to gauge and, as a consequence, we are less comfortable drawing firm conclusions. Finally, it is not yet clear how legalizing marijuana for recreational purposes will affect these and other important public health outcomes. We will be able to draw stronger conclusions when more posttreatment data are collected in states that have recently legalized recreational marijuana. (JEL I12, I18, K32, K42, R41)

Brief background

- California became the first state to legalize medical marijuana in 1996, when voters passed the Compassionate Use Act
 - With a recommendation from a physician, patients could possess and cultivate marijuana for medicinal use without fear of being arrested or fined.
- Since 1996,
 - 37 states and D.C. have passed a medical marijuana law (MML)
 - Strictest MMLs prohibit home cultivation and require that patients have a serious health condition (e.g., Alzheimer's, cancer, HIV/AIDS, multiple sclerosis)
 - Laxest MMLs permit home cultivation, allow patients to register based on medical conditions that cannot be objectively confirmed (e.g., chronic pain or nausea), and place fewer restrictions on dispensaries
- In 2012, Colorado and Washington passed recreational marijuana laws (RMLs)
 - Currently, 24 states and D.C. have legalized recreational marijuana
 - Legal age is 21 across all RML states
 - Residence within state not required
 - All but 3 RMLs allow marijuana to be grown at home

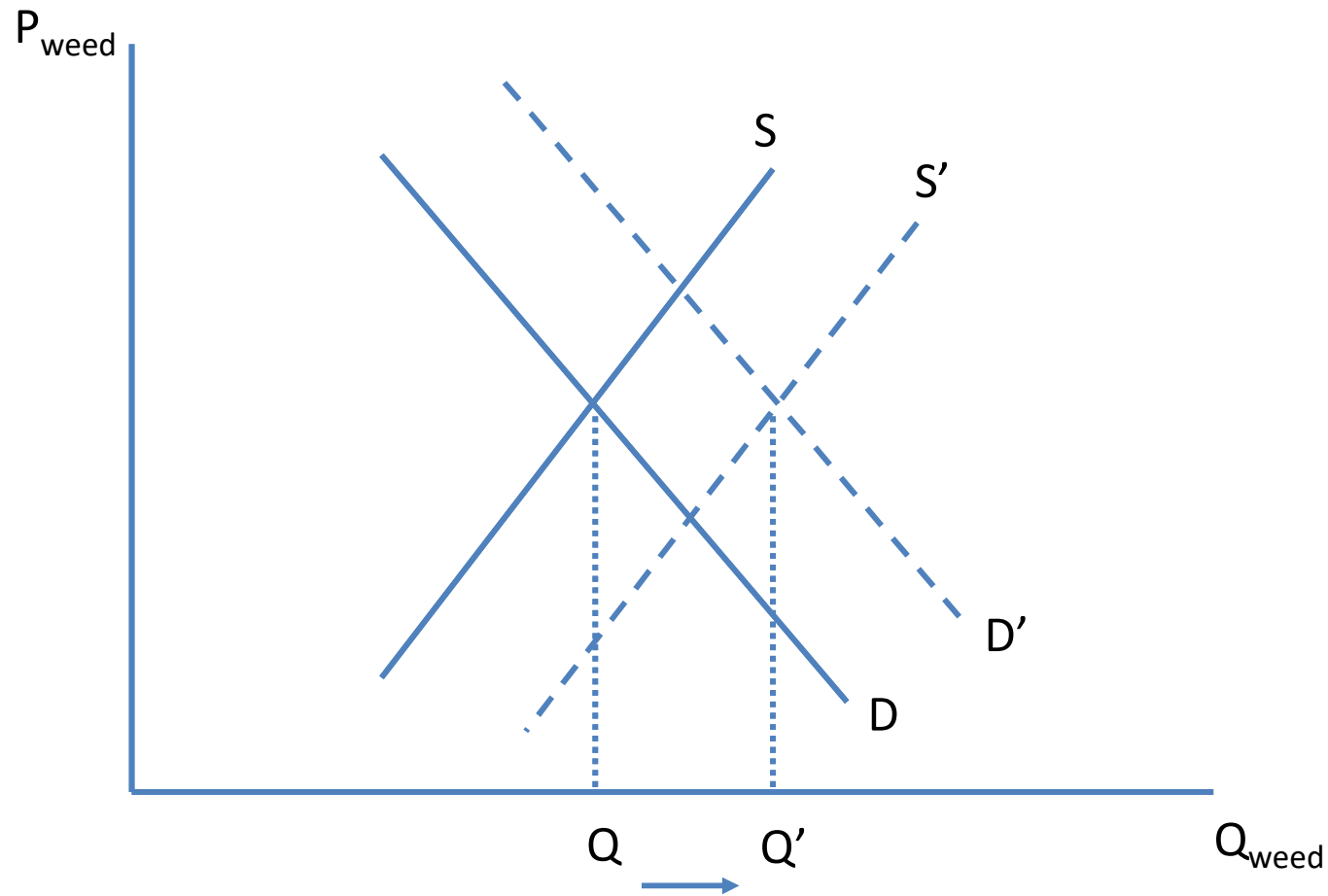
Easy access in RML states



In cities such as Seattle and L.A., the number of dispensaries $>$ number of Starbucks

Legalization, consumption, and price

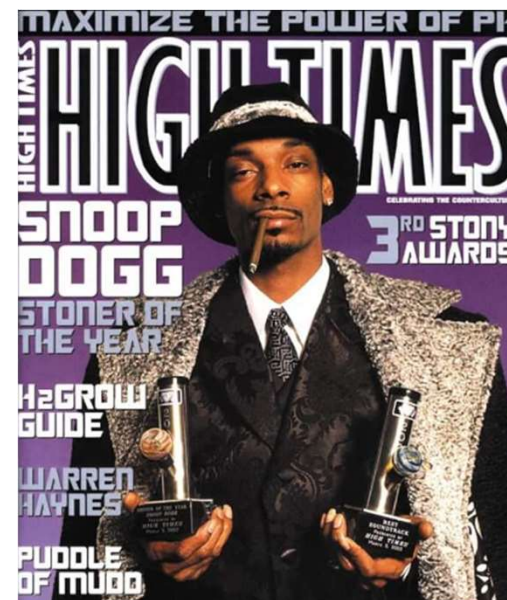
- In theory, legalization should increase both supply and demand, unambiguously leading to an increase in consumption



For adult marijuana use, empirical findings are consistent with the theoretical prediction (see Anderson and Rees (2023) for cites)

Legalization, consumption, and price

- Theoretical effect on price is ambiguous and depends on whether supply response is larger than demand response (or vice versa).
- Only evidence comes from Anderson et al. (2013) on MMLs
 - Price data from *High Times* magazine
 - Readers from across the country provide information (e.g., price, amount purchased, and strain) on their marijuana purchases



- Large reduction in price, suggesting supply response to legalization outweighs demand response
- Results consistent with complaints from law enforcement authorities of large-scale diversion from medicinal to recreational markets

What about youth marijuana use?

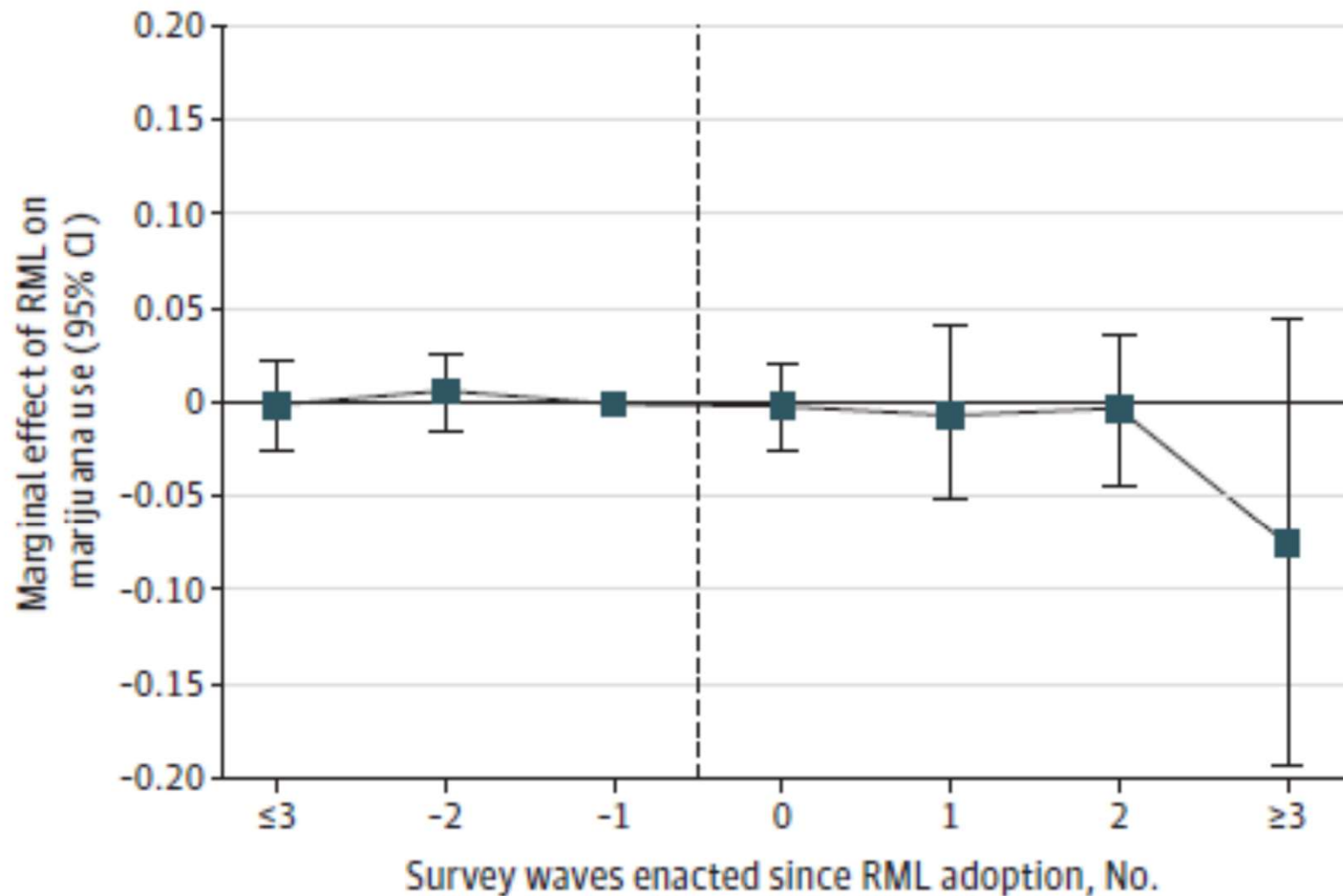
- Despite changing social norms, concerns remain (and for good reason) regarding youth use
 - According to the American Academy of Pediatrics, marijuana use can adversely affect adolescent brain development, particularly areas of the prefrontal cortex, which control judgment and decision-making (Zimlich 2019)
- Based on 12 studies reviewed by Anderson and Rees (2023) and a meta-analysis conducted by Sarvet et al. (2018)...
 - Little evidence to support hypothesis that either MMLs or RMLs have led to increased teen marijuana use
 - Results are consistent with the argument that it is more difficult to access marijuana when drug dealers are replaced by licensed dispensaries that require proof of age.
 - Post legalization, the relative cost of selling to a minor goes up.



- Most up-to-date estimates on RMLs come from Anderson et al. (2024) in *JAMA Psychiatry*

Figure. Event Study Analysis

A Pre- and post-RML trends in current marijuana use (logistic estimates)



Legalization and the use of other substances

- Opponents of legalization often refer to negative externalities associated with marijuana consumption (e.g., crime or traffic accidents)
 - In the presence of such externalities, utility maximizing individuals will consume more marijuana than is socially optimal
- However, legalization may also affect the consumption of other substances, some of which impose substantial costs on society.
- The policy-relevant question is empirical because theory alone cannot determine whether marijuana is a complement to or a substitute for other substances

Legalization and the use of other substances



Alcohol

- 12 studies reviewed by Anderson and Rees (2023)
 - (i) self-reported survey data; (ii) data on alcohol sales; (iii) data on emergency department visits and hospital admissions
 - Strong evidence that marijuana and alcohol are substitute goods
 - Extremely important from a policy perspective because social costs of alcohol consumption are so high

Legalization and the use of other substances

Opioids

- Opioid epidemic is a uniquely American phenomenon.
 - First stage of epidemic lasted through 2010
 - Prescription anti-pain meds (e.g., OxyContin and Vicodin) were response for majority of deaths
 - In second stage, heroin- and fentanyl-related deaths surged
 - Has prompted lawmakers to consider adoption of alternative policies, including the legalization of recreational marijuana
 - Hinges on the relationship between marijuana and opioids
- 12 of the 15 studies reviewed suggest marijuana and opioids are substitute goods
 - Most of the evidence is based on legalization for medicinal purposes

Legalization and the use of other substances

Opioids (continued)

- For instance, using data at the county level, Smith (2020) found that the opening of a medical marijuana dispensary is associated with a 7% reduction in mortality involving a prescription opioid and a 5-8% reduction in the admission rate to substance abuse treatment for opioids.
- Powell et al. (2018) found that legalization is associated with a 20% reduction in opioid-related mortality

Legalization and the use of other substances

Tobacco

- Evidence either suggests that legalization has no effect on tobacco consumption or reduces it

Other substances

- Little evidence that legalization affects cocaine use
- Some evidence that non-opioid prescription drug consumption falls (e.g., anxiolytics, meds for sleep disorders or sleep aids, anti-depressives, etc.)

Legalization and traffic safety



- Opponents of legalization argue it will lead to more traffic fatalities
 - Argument is not without merit
 - Simulator experiments show that drivers under influence of THC have trouble “road tracking” (i.e., maintaining the correct road position)
- Anderson et al. (2013), however, found that MMLs led to fewer traffic fatalities.
 - Effect driven entirely by alcohol-related traffic fatalities
 - Again, whether marijuana and alcohol are substitutes or complements is very important
 - Estimates replicated and updated by Cook et al. (2020)
 - Results hold when adding data through 2017
- Early evidence on RMLs suggests no relationship with traffic fatalities

Legalization and crime

- Marijuana is the most commonly used drug among arrestees in the U.S.
 - Based on urine samples at the time of booking (Baran 2011)
- Strong positive association between marijuana consumption and criminal behavior
 - Could be causal
 - Could be due to unobserved factors at the individual level
 - Personality
 - Risk tolerance
 - Time preference
 - Researchers have relied on two quasi-experimental approaches
 - Leverage state laws
 - Exploit spatial and temporal variation from openings/closings of dispensaries

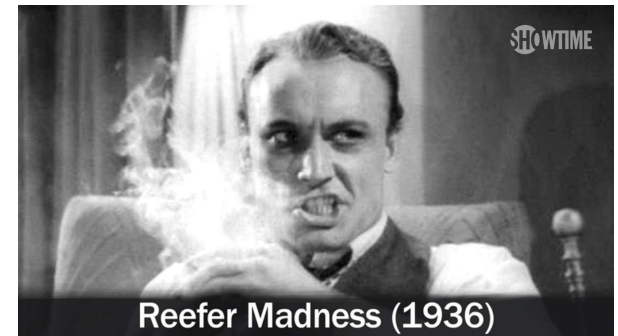
Legalization and crime (in theory)

Legalization could lower crime

- Legalization could shrink the black market and reduce its attendant violence or free up police resources, allowing law enforcement officials to reallocate their efforts towards reducing nondrug crime (Miron and Zwiebel 1995).
- If legalization lowers the price of marijuana and demand is sufficiently inelastic, crimes committed to finance marijuana consumption could fall.
 - Davis et al. (2016) estimated the price elasticity of demand to be between -0.67 and -0.79.

Legalization could increase crime

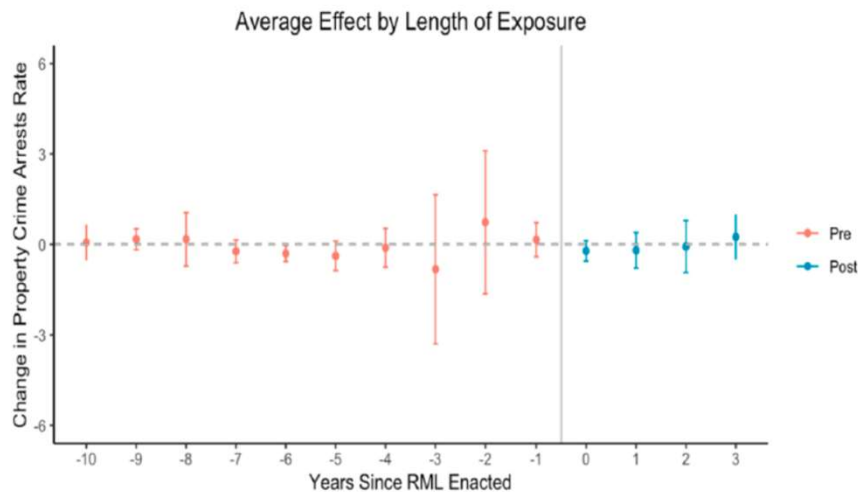
- Increased marijuana use could lead to more violent behavior directly through a psychopharmacological effect (Pacula and Kilmer 2003)
- Or indirectly through a “gateway” effect



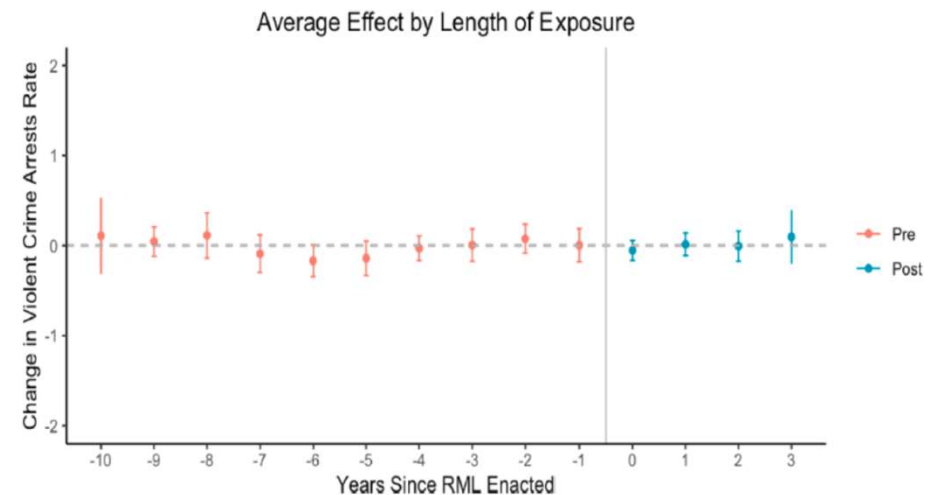
Legalization and crime (what do the data say?)

- Most recent (and best) evidence on RMLs comes from Sabia et al. (2024)

Panel (a): Property Crime Arrests



Panel (b): Violent Crime Arrests



Legalization and crime (what do the data say?)

- Dragone et al. (2019) estimate the effect of legalizing recreational marijuana in Washington State on crime near the Washington-Oregon border
 - Legalization of recreational marijuana is associated with a 15-30% reduction in rapes and a 10-20% reduction in thefts in counties on the WA side of the border relative to the OR side
- Dispensaries have been associated with...
 - Fewer motor vehicle thefts (“eyes on the street” hypothesis, Change and Jacobson (2017))
 - Fewer violent crimes; fewer hard drug- and alcohol-related crimes; more motor vehicle thefts (Burkhardt and Goemans 2019)
 - Fewer total crimes (Brinkman and Mok-Lamme 2019)

Legalization and crime (what do the data say?)

- Study by Gavrilova et al. (2019) is perhaps most important because of the degree to which Harris and Trump disagree on U.S./Mexico border issues.
 - Gavrilova et al. 2019. “Is Legal Pot Crippling Mexican Drug Trafficking Organizations? The Effect of Medical Marijuana Laws on US Crime.” *Economic Journal*, 129(January): 375-407.
- By allowing production in the U.S., legalization can create competition for incumbent Mexican drug trafficking organizations, reducing their revenues and disincentivizing them from investing in rent-protecting violent activity.
- Consistent with this argument, Gavrilova et al. (2019) found that legalization leads to a decrease in violent crime in states that border Mexico.
 - Reduction in crime is strongest for counties closest to the border
 - Reduction in crime is strongest for crimes that relate to drug trafficking (e.g., drug-law related homicides, robbery-related homicides, and juvenile-gang-related homicides)

Wrapping up

- While marijuana policy, and drug policy more generally, may not be a top issue determining this presidential election, it has profound implications for the future of public health in the United States
 - Important topics not covered today include mental health outcomes, workplace safety, effects on educational attainment, and labor market outcomes
- As more states legalize marijuana and more data become available, it will be vital to update existing estimates and to explore longer run effects
- Young economists, such as yourselves, will need to embrace the challenge of continually monitoring the interaction between marijuana legislation and public health

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Appendix: Taxation

- In absence of federal-level legalization, both Harris and Trump would leave tax decisions up to the individual states
 - Currently, tax rates vary widely across RML states
- Advocates for legalization often point to the potential for taxation and the possibility of eliminating the black market
- However, these two goals are often at odds with one another
 - To the extent that increasing taxes increases the price (which it will, especially because demand is probably fairly inelastic), those increases may encourage substitution from legal retailers to black-market suppliers
 - Particularly an issue when legal markets first open as prices are often quite high
- For a great general overview of this, see the following:
Hansen, Benjamin, Keaton Miller, and Caroline Weber. 2021. “Up in Smoke? The Market for Cannabis.” in the Handbook of Labor, Human Resources and Population Economics.

Appendix: Fentanyl and opioid epidemic

Harris	Trump
In May 2024, Biden-Harris administration announced approval of over \$1.5 billion in state/tribal opioid response funding to address the overdose crises, supporting a broad spectrum of treatment and prevention options	Said he would permanently designate fentanyl as a federally controlled substance
Wants to increase access to and affordability of naloxone, which reverses overdoses	Encourage companies to provide job opportunities and skills training to people recovering from addiction
As a senator, supported efforts to expand addiction support in the health care system	Expand federal support for counseling, treatment, and recovery programs
According to her 2024 platform, Harris promises to build on the Biden-Harris success and revive a bipartisan border security bill, which would combat fentanyl smuggling by investing in drug detection technology	Promised family leave to care for relatives trying to overcome addiction
	Prior Trump administration expanded Medicare/Medicaid coverage to include opioid treatment programs