

Measure 91

How Likely is the Best Case Scenario?

MARIJUANA'S LEGALIZATION IN OREGON AND ITS IMPLICATIONS FOR
REVENUE, LAW ENFORCEMENT, AND PUBLIC HEALTH

Measure 91

- ▶ Measure to Legalize Recreational Consumption of Marijuana in Oregon
- ▶ Also implements a series of taxes aimed at increasing revenue for the state from recreational marijuana use
- ▶ Number of tradeoffs to consider
 - ▶ The amount of revenue
 - ▶ Substitution effects
 - ▶ Public health costs or benefits

Measure 91

- ▶ With its passage Oregon would be the third state to recreationally legalize marijuana in the United States
- ▶ Following Washington and Colorado
- ▶ Compare legislation fees across the two states

Measure 91: OR vs. CO vs. WA

	OR	CO	WA
Personal Growth	Yes (4 plants)	Yes (6 plants)	No (Medical only)
Sales	\$35 per whole sale ounces	2.9+10	6.5
Production			25 percent
Excise	\$5 per plant	15 Percent	
Effective Rate		30-40 Percent	44 Percent

Colorado Revenues So Far

- ▶ Original forecast of \$70,000,000 (40,000,000 for schools, 30,000,000 for enforcement)
- ▶ First 6 months (21.8 Million)



Lessons from Colorado

- ▶ Tax Generation Depends on Several Factors
- ▶ Increase in supply which will lower the price
- ▶ Availability of substitute goods
- ▶ If taxes are set too high, individuals will choose substitutes with lower effective prices
- ▶ Fundamental Question: How readily available are substitute goods to legal marijuana?

How Much Will Production Increase

- ▶ Depends on Technologies
- ▶ Due to federal prohibition, most farming will continue indoors and be small scale (Caulkins et al. 2012)
- ▶ Medical marijuana laws resulted in a 10-26 percent decrease in price
- ▶ While supply increase enough to decrease the price further?

Substitutes and Taxes

- ▶ What if we introduced a tax on a very specific good?

Substitutes and Taxes

- ▶ What if we introduced a tax on a very specific good?



- ▶ What do we consume?

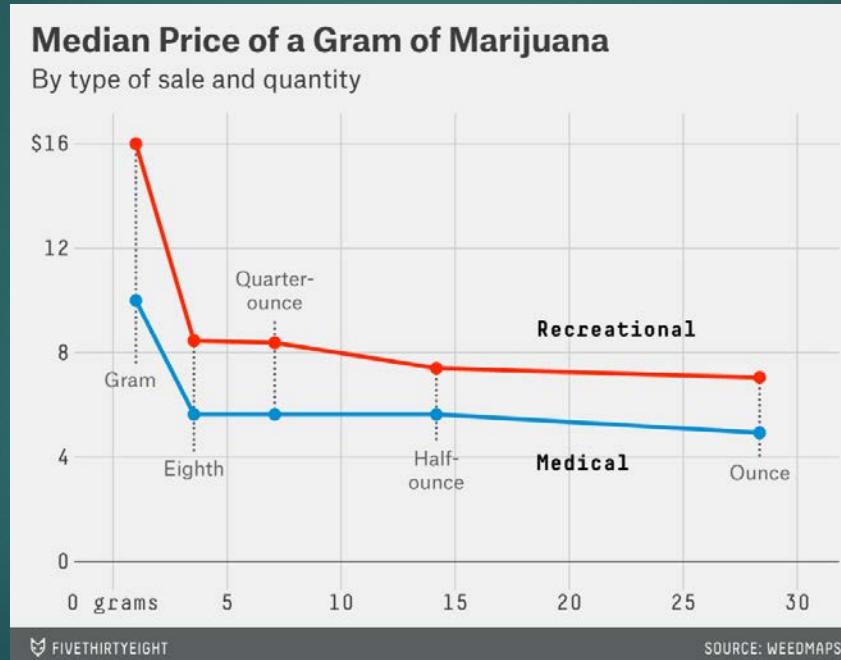
Substitutes and Taxes



Substitutes for Recreational Legal Marijuana

- ▶ Black Market Marijuana
- ▶ Medical Marijuana
- ▶ Personal Cultivation
- ▶ Other Drugs
- ▶ Legal Marijuana From Other States

Substitutes for Recreational Legal Marijuana



Substitutes for Recreational Legal Marijuana

	Medical Marijuana	Recreational Marijuana
Age	18	21
Doctor's Visit	\$45-75	\$0
Application Fee	\$15	\$0

These Factors Affect Elasticity of Demand

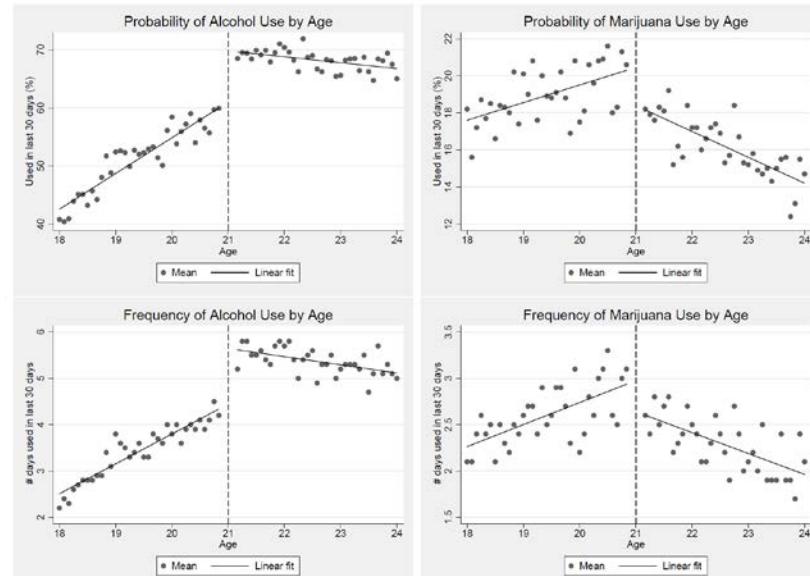
- ▶ Previous studies which have been used to estimate elasticities focus on small changes in a single legal regime
- ▶ ECONorthwest assumed a price elasticity of -.54
 - ▶ Assumed 40 percent of black market will shift to recreational
 - ▶ Assumed medical marijuana market will not change
 - ▶ Forecasted revenue of \$38,000,000 in the first year
- ▶ Price Elasticities might be higher with the plethora of substitutes available
- ▶ These factors likely contributed to Colorado's revenue falling below the forecasted revenue

Effects on Alcohol Use

- ▶ Anderson, Hansen, and Rees (2013)
- ▶ Crost and Guerrero (2012)

Crost and Guerrero

Figure 1: Alcohol and Marijuana Use Around Age 21



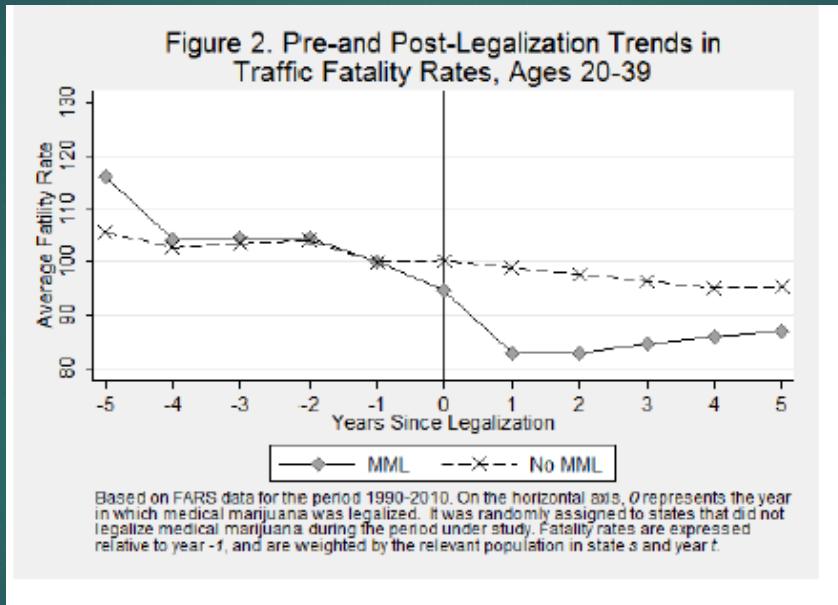
Medical Marijuana Laws

- ▶ Anderson, Hansen, and Rees (2013)
- ▶ Declines in reported heavy drinking
- ▶ 5 Percent Decline in Beer Sales

Other Effects

- ▶ Traffic injuries/fatalities?
- ▶ Suicidality?
- ▶ Crime?
- ▶ Teen Drug Use?

Traffic Fatalities



Traffic Fatalities

- ▶ Decline by 8 percent overall
- ▶ 13 to 15 percent decline in drunk driving
- ▶ Driven by 2 potential mechanisms
 - ▶ Risks of high vs. drunk driving
 - ▶ Private vs. Public Consumption
 - ▶ Outstanding question: what is the right legal limit?

Suicides

- ▶ Anderson, Rees and Sabia (2014)
- ▶ Decline by 5 percent
- ▶ 11 percent decline in suicide rate of 20-29 year old males

Crime

- ▶ Morris (2014)
- ▶ No crime exacerbating effect of medical marijuana laws
- ▶ Possible reduction in homicides and assaults (costly Measure 11 crimes)

Teen Drug Use

- ▶ Anderson, Hansen and Rees (2012)
- ▶ Teen marijuana use does not increase in states passing medical marijuana laws.
- ▶ Anderson and Rees (2014)
- ▶ Similar evidence examining cities experiencing changes in marijuana laws

Gary Becker

- ▶ “Social Welfare is increased if fines are used whenever feasible.”
- ▶ Previously marijuana use and production has been treated as a crime with incarceration
- ▶ Legalization and taxation accomplish similar effects to decriminalization and fines, with potential supply effects to enhance revenue generation

Conclusions

- ▶ Potential for large revenue gains
- ▶ Current forecasts for revenue make necessary but perhaps “rosy” assumptions about price elasticity. Demand elasticities and increase in recreational supply are key components that may affect revenue from legalization.
- ▶ Many other benefits from legalization due to reduced enforcement costs, improved public health outcomes (reduced drunk driving), with seemingly small risks for increased crime or teen drug abuse