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The Budgetary Effects of Ending Drug Prohibition

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In the past several years, the national movement to end drug prohibition has accelerated. Nine states and Washington, DC, have legalized recreational marijuana, with at least three more states (Connecticut, Michigan, and Ohio) likely to vote on legalization by the end of 2018. Dozens of others have decriminalized the substance or permitted it for medicinal use. Moreover, amid the nation's ongoing opioid crisis, some advocates and politicians are calling to decriminalize drugs more broadly and rethink our approach to drug enforcement.

Drug legalization affects various social outcomes. In the debate over marijuana legalization, academics and the media tend to focus on how legalization affects public health and criminal justice outcomes. But policymakers and scholars should also consider the fiscal effects of drug liberalization. Legalization can reduce government spending, which saves resources for other uses, and it generates tax revenue that transfers income from drug producers and consumers to public coffers.

Drawing on the most recent available data, this bulletin estimates the fiscal windfall that would be achieved through drug legalization. All told, drug legalization could generate up to \$106.7 billion in annual budgetary gains for federal, state, and local governments. Those gains would come from two primary sources: decreases in drug enforcement spending and increases in tax revenue. This bulletin estimates that state and local governments spend \$29 billion on drug prohibition annually, while the federal government spends an additional \$18 billion. Meanwhile, full drug legalization would yield \$19 billion in state and local tax revenue and \$39 billion in federal tax revenue.

In addition, this bulletin briefly examines the budgetary effects of state marijuana legalizations that have already taken place in Colorado, Oregon, and Washington. This study finds that, so far, legalization in those states has generated more tax revenue than previously forecast but generated essentially no reductions in criminal justice expenditure. The bulletin offers possible explanations for those findings.

ESTIMATES FOR EXPENDITURES AND TAX REVENUE

Jeffrey Miron and Katherine Waldoek previously estimated government anti-drug expenditures and potential tax revenue from legalization in a 2010 Cato Institute study.¹ That study examined the reduction in criminal justice spending (\$41.3 billion per year) and the increase in tax revenue (\$46.7 billion per year) that would result from legalizing all drugs in the United States at the federal level and in all states.

This study draws on more recent data and presents exciting new conclusions. These updates are useful because a number of states have legalized marijuana since the 2010 report; this provides some evidence on the validity of the 2010 estimates.² Moreover, additional states are considering marijuana legalization going forward, and updated estimates might be relevant to the legalization debates in those states.

This report uses the same analytic framework as the 2010 Cato study and therefore omits some details.³ The underlying data in this update are the latest numbers available and are sourced from 2015 or 2016 unless otherwise noted. Tables 1–6 in this report update the key information from Tables 2–7 in the 2010 report.

Table 1 shows estimated state and local criminal justice expenditures related to drug prohibition in 2016.⁴ In nearly all categories, estimated expenditure has risen, albeit slightly. For all drugs, the estimate is \$29.4 billion; for marijuana, \$6.0 billion; for heroin and cocaine, \$12.8 billion; for synthetic drugs, \$4.9 billion; and for all other drugs, \$5.6 billion. Adjusted for inflation, these figures represent only about a 3 percent increase since 2010.

Table 2 provides a state-by-state breakdown of state and local expenditure on drug prohibition in 2016.

Table 3 presents estimated federal spending on drug prohibition enforcement for 2015 (in 2016 dollars). Real federal spending has risen by 4 percent since 2008. This report attributes that change to growth in the U.S. population.

Table 4 presents updated estimates of the tax revenue that federal, state, and local governments could collect if drugs were legal. Compared with the original study, these figures suggest that overall federal and state tax revenue would be higher than previously estimated after accounting for inflation; the federal government would take in \$39.2 billion in federal tax revenues as a result of legalization today, compared with \$31.2 billion in 2008. In real terms, this represents growth of about 12 percent. States

Table 1
State and local expenditures attributable to drug prohibition, billions of dollars, 2016

All drugs	Heroin/cocaine	Marijuana	Synthetic	Other
29.37	12.78	6.04	4.93	5.62

Source: Author's calculations.

Table 2
State and local expenditures attributable to drug prohibition, millions of dollars, 2016

State	All drugs	Marijuana	Heroin/cocaine	Other
United States	29,374.9	6,036.9	12,779.2	10,555.4
Alabama	252.9	51.2	111.5	90.2
Alaska	111.8	17.4	54.0	40.4
Arizona	615.1	96.7	286.3	232.0
Arkansas	192.9	40.3	82.8	69.9
California	5,963.4	951.4	2,718.4	2,293.0
Colorado	422.3	64.2	200.1	157.9
Connecticut	314.9	74.1	142.3	98.5
Delaware	113.5	25.1	48.5	39.9
Florida	1,170.0	180.4	564.3	425.2
Georgia	1,339.2	424.0	457.9	457.8
Hawaii	172.6	33.9	72.8	65.8
Idaho	140.7	23.2	63.8	53.7

State	All drugs	Marijuana	Heroin/cocaine	Other
Illinois	713.1	125.4	334.9	252.7
Indiana	637.6	236.5	193.0	207.4
Iowa	204.8	59.0	77.1	68.5
Kansas	206.5	54.2	81.5	70.7
Kentucky	276.9	56.8	122.2	97.9
Louisiana	376.2	72.2	170.0	133.9
Maine	174.5	63.5	67.1	44.0
Maryland	514.9	77.5	248.7	188.6
Massachusetts	481.0	115.5	215.5	150.0
Michigan	860.3	200.9	356.2	302.7
Minnesota	443.5	130.7	164.1	148.4
Mississippi	278.7	86.3	96.9	95.6
Missouri	335.8	76.6	141.5	117.5
Montana	160.4	28.7	68.4	63.3
Nebraska	147.2	31.1	63.2	52.8
Nevada	223.3	34.6	106.6	82.1
New Hampshire	175.7	65.2	67.0	43.5
New Jersey	669.3	117.8	320.5	231.0
New Mexico	345.1	59.3	149.4	136.4
New York	1,889.6	308.8	915.1	665.4
North Carolina	891.2	263.3	319.0	309.3
North Dakota	310.7	153.7	62.6	94.0
Ohio	650.2	111.0	311.3	227.7
Oklahoma	589.5	209.5	182.1	198.2
Oregon	375.4	57.2	177.7	140.4
Pennsylvania	1,033.0	179.6	493.7	359.6
Rhode Island	203.6	76.1	77.4	50.2
South Carolina	244.7	47.4	108.9	88.4
South Dakota	158.8	67.5	40.9	50.2
Tennessee	342.7	53.9	165.1	123.7
Texas	1,711.5	291.3	798.2	621.9
Utah	767.3	151.9	300.1	315.3
Vermont	69.3	19.5	29.5	20.4
Virginia	602.1	81.2	296.1	224.7
Washington	545.8	82.4	259.3	204.0
West Virginia	270.1	94.5	85.4	90.3
Wisconsin	414.8	62.7	199.1	152.9
Wyoming	223.5	42.9	89.3	91.3
District of Columbia	47.2	8.5	22.0	16.7

Source: Author's calculations.

Table 3
Federal expenditures attributable to drug prohibition, billions of dollars, 2015 (in 2016 dollars)

All drugs	Marijuana	Cocaine	Heroin	Other
18.47	3.96	8.42	1.47	4.61

Source: Author's calculations.

Table 4
State and federal tax revenues from drug legalization, billions of dollars, 2016

	Total	Marijuana	Cocaine	Heroin	Other
Federal revenues	39.21	8.04	17.28	10.18	3.71
State revenues	19.60	4.02	8.64	5.09	1.86

Source: Author's calculations.

would collect \$19.6 billion today, compared with \$15.6 billion in 2008. Beyond the effects of population growth and inflation, this upward trend reflects increasing use of marijuana, cocaine, and heroin—and therefore increasing consumer spending and

potential tax revenue associated with those substances.

Table 5 estimates the tax revenue generated in each state by allocating the estimates from Table 4 to each state on the basis of population.

Table 5
State tax revenues from drug legalization, distributed by population, millions of dollars, 2016

State	Total	Marijuana	Cocaine	Heroin	Other
All states	19,603.33	4,020.00	8,640.00	5,090.00	1,856.67
Alabama	296.52	60.81	130.69	76.99	28.08
Alaska	45.07	9.24	19.86	11.70	4.27
Arizona	416.48	85.41	183.56	108.14	39.45
Arkansas	181.91	37.30	80.18	47.23	17.23
California	2,382.11	488.49	1,049.89	618.51	225.61
Colorado	332.86	68.26	146.71	86.43	31.53
Connecticut	218.99	44.91	96.52	56.86	20.74
Delaware	57.67	11.83	25.42	14.97	5.46
Florida	1,236.75	253.62	545.09	321.12	117.13
Georgia	623.07	127.77	274.61	161.78	59.01
Hawaii	87.06	17.85	38.37	22.61	8.25
Idaho	100.97	20.71	44.50	26.22	9.56
Illinois	784.33	160.84	345.69	203.65	74.29
Indiana	403.97	82.84	178.05	104.89	38.26
Iowa	190.72	39.11	84.06	49.52	18.06
Kansas	177.57	36.41	78.26	46.11	16.82
Kentucky	270.30	55.43	119.13	70.18	25.60
Louisiana	285.22	58.49	125.71	74.06	27.01
Maine	81.22	16.65	35.79	21.09	7.69
Maryland	366.23	75.10	161.41	95.09	34.69
Massachusetts	414.44	84.99	182.66	107.61	39.25

State	Total	Marijuana	Cocaine	Heroin	Other
Michigan	605.87	124.24	267.03	157.31	57.38
Minnesota	334.92	68.68	147.61	86.96	31.72
Mississippi	182.62	37.45	80.49	47.42	17.30
Missouri	371.19	76.12	163.60	96.38	35.16
Montana	63.05	12.93	27.79	16.37	5.97
Nebraska	115.69	23.72	50.99	30.04	10.96
Nevada	176.17	36.13	77.64	45.74	16.69
New Hampshire	81.26	16.66	35.81	21.10	7.70
New Jersey	545.86	111.94	240.58	141.73	51.70
New Mexico	127.09	26.06	56.01	33.00	12.04
New York	1,206.34	247.38	531.68	313.23	114.25
North Carolina	613.04	125.71	270.19	159.18	58.06
North Dakota	46.23	9.48	20.38	12.00	4.38
Ohio	708.95	145.38	312.46	184.08	67.15
Oklahoma	238.70	48.95	105.21	61.98	22.61
Oregon	245.86	50.42	108.36	63.84	23.29
Pennsylvania	781.45	160.25	344.42	202.90	74.01
Rhode Island	64.49	13.22	28.42	16.74	6.11
South Carolina	299.02	61.32	131.79	77.64	28.32
South Dakota	52.41	10.75	23.10	13.61	4.96
Tennessee	402.89	82.62	177.57	104.61	38.16
Texas	1,675.66	343.62	738.53	435.08	158.70
Utah	182.70	37.46	80.52	47.44	17.30
Vermont	38.25	7.84	16.86	9.93	3.62
Virginia	511.17	104.82	225.29	132.73	48.41
Washington	437.42	89.70	192.79	113.58	41.43
West Virginia	112.47	23.06	49.57	29.20	10.65
Wisconsin	352.36	72.26	155.30	91.49	33.37
Wyoming	35.83	7.35	15.79	9.30	3.39
District of Columbia	40.95	8.40	18.05	10.63	3.88

Source: Author's calculations.

Table 6
Summary of expenditure savings and additional revenues from drug legalization, billions of dollars, 2016

		All drugs	Marijuana	Heroin/cocaine	Other
Expenditures	State	29.4	6.0	12.8	10.6
	Federal	18.5	4.0	9.9	4.6
	Total	47.9	10.0	22.7	15.2
Revenues	State	19.6	4.0	13.7	1.9
	Federal	39.2	8.0	27.5	3.7
	Total	58.8	12.0	41.2	5.6

Source: Author's calculations.

Table 6 summarizes the updated estimates for expenditure savings and additional revenues tied to drug legalization. Three aspects stand out. First, the total effect of drug legalization on government budgets would be approximately \$106.7 billion in combined savings and additional revenue. In real terms, that marks an 8 percent increase from the estimates in the 2010 Cato study. Second, as in the previous report, nearly 60 percent of budgetary gains would come from legalizing heroin and cocaine. Third, the fiscal benefits of drug legalization would be roughly evenly shared between the states and the federal government.

TAX REVENUE COMPARISONS

This section compares estimates from the 2010 Cato study with observed tax revenues following state-level marijuana legalization in a handful of U.S. states. Comparing those predictions to actual outcomes sheds light on the accuracy of the 2010 study.

Table 7 presents marijuana-related tax revenue from Colorado, Oregon, and Washington, the three states that had legalized and implemented recreational marijuana commerce at the time of writing. Although Colorado and Washington officially legalized marijuana in 2012 and Oregon followed suit in 2014, marijuana sales did not commence until regulatory frameworks were established. In each state, that process took several years. For example, Colorado did not begin issuing licenses to sell retail marijuana until the end of 2014. Table 7 also lists the tax revenue projections from the original report.

Washington collected nearly \$70 million in marijuana tax revenues during the first year of legalization, almost exactly the estimate in the 2010 report once adjusted for inflation. In fiscal year 2016, however, Washington collected nearly triple that amount, and in fiscal year 2017 tax revenues reached nearly \$320 million. Oregon collected only \$20.6 million in fiscal year 2016, about half the 2010 estimate, but it collected

\$70.3 million in fiscal year 2017, well above the 2010 estimate. In Colorado, marijuana tax revenues have risen from \$67.6 million in calendar year 2014 to \$247.4 million in calendar year 2017. Even adjusting for inflation, those figures far outstrip the 2010 estimates as well as the updated estimates presented in this paper.

The discrepancy between the 2010 estimates and experience so far reflects, in part, an unexpectedly high amount of marijuana tourism in these three states; initial reports suggest that out-of-state marijuana shoppers account for a significant fraction of tax revenue. For example, a 2015 survey of adult tourists in Colorado found that 23 percent identified legal marijuana as a reason they traveled to the state.⁵

Alternatively, the discrepancy between the 2010 estimates and experience so far may indicate that some of the assumptions behind the original estimates were incorrect. For example, the 2010 report assumed that marijuana prices would fall by 50 percent in states that legalized; however, pricing data analyzed in a 2016 Cato Institute study by Angela Dills, Sietse Goffard, and Jeffrey Miron suggest that marijuana prices have not dropped that much.⁶ If true, this assertion would help explain the higher-than-expected tax revenue.

The implications of these initial data are therefore unclear. One caveat is that tax revenues are still in flux because of the recent nature of existing legalizations. Revenues may continue to increase over time as more stores open or if demand increases as a result of greater cultural acceptance of marijuana. This is a plausible explanation for the observed growth in tax revenue; Colorado, Oregon, and Washington have all seen gradually rising levels of marijuana use, according to survey data. But revenues in existing legalization states may also moderate if other states or the federal government legalize marijuana.⁷ Another consideration is that a nontrivial share of tax revenue in Colorado, Oregon, and Washington has been generated from collection of one-time application and

Table 7
State tax revenue from marijuana, 2016 dollars

State	Original projection	2014	2015	2016	2017
Oregon	\$40,460,000	—	—	\$20,652,983	\$70,263,897
Washington	\$69,920,000	—	\$65,688,345	\$189,219,693	\$319,087,924
Colorado	\$52,740,000	\$67,594,323	\$130,411,173	\$193,604,810	\$247,368,473

Sources: Colorado Department of Revenue; Washington State Liquor and Cannabis Board; Oregon Department of Revenue.

licensing fees. To date, Colorado has collected \$57.3 million in marijuana licensing and application fees, or about 8 percent of total state marijuana revenues since legalization.⁸ As recreational marijuana becomes a more established industry, states will likely see a decline in the number of new entrants and therefore a decline in licensing revenue.

Further, if marijuana were legalized at the federal level, it would likely be taxed at both the state and federal level, similarly to how cigarettes are currently taxed. The addition of a federal tax would increase the price and drive down demand. States would then see less revenue as users reduced use in response to the price change. As California prepares to tax recreational marijuana sales statewide with a tax rate of 45 percent, we will be able, in the future, to observe consumer responses to widely varying tax rates.

CRIMINAL JUSTICE EXPENDITURES IN STATES WITH MARIJUANA LEGALIZATION

This section examines the effect of marijuana legalization on state-level criminal justice expenditures. Unlike tax

revenues, no direct indicator shows how legalization affects state spending. Nevertheless, no evidence to date suggests that legalization generates a sharp decline in police, judicial, or correctional expenditures.

Table 8 shows marijuana arrests in Oregon and Washington and the percentage of total drug arrests and total statewide arrests attributed to marijuana offenses. Colorado does not publish comparable data for marijuana-specific offenses, so the table reports total arrests for any drug-related violation. The shaded box indicates the year in which marijuana legalization measures were passed.

Despite the sharp decline in marijuana arrests, criminal justice expenditures in Colorado, Oregon, and Washington have risen slightly, as shown in Table 9. One possible explanation is that marijuana offenses accounted for a small share of arrests and prosecutions even before legalization. In Table 2, the criminal justice expenditure attributable to marijuana represented only 15 percent of total expenditure in these three states. Another possible explanation is that states are shifting resources toward other types of drug and nondrug crimes.

Table 8
Marijuana arrests

Oregon	Marijuana arrests	Percentage of total drug arrests	Percentage of all state arrests
2012	—	—	—
2013	6,996	51.70	7.95
2014	3,376	39.20	5.88
2015	2,406	24.70	3.71
2016	1,818	18.86	2.63
Washington	Marijuana arrests	Percentage of total drug arrests	Percentage of all state arrests
2012	4,381	41.30	2.81
2013	1,756	19.97	1.09
2014	1,472	16.56	0.93
2015	1,529	16.91	0.96
2016	1,624	14.73	0.95
Colorado	Arrests, drug violations	Total arrests	Percentage of total arrests
2012	—	—	—
2013	12,370	230,910	5.36
2014	13,381	239,994	5.58
2015	14,430	226,807	6.36
2016	14,790	225,710	6.55

Sources: Oregon Criminal Justice Information Services, https://www.oregon.gov/osp/CJIS/Pages/annual_reports.aspx; Washington Association of Sheriffs and Police Chiefs, <http://www.waspc.org/crime-statistics-reports>; Federal Bureau of Investigations Uniform Crime Reports.

Table 9
State and local expenditures by function (thousands of dollars)

Colorado	Police	Correctional	Judicial	Total
2010	1,581,534	1,312,747	575,534	3,469,815
2011	1,618,440	1,215,364	672,369	3,506,173
2012	1,594,966	1,243,601	724,754	3,563,321
2013	1,715,504	1,180,448	686,432	3,582,384
2014	1,800,716	1,214,623	714,882	3,730,221
2015	1,835,368	1,279,815	741,748	3,856,931
Oregon	Police	Correctional	Judicial	Total
2010	1,115,941	1,069,653	440,125	2,625,719
2011	1,101,659	1,050,098	439,590	2,591,347
2012	1,149,792	1,070,641	591,202	2,811,635
2013	1,149,023	1,063,615	569,653	2,782,291
2014	1,205,826	1,128,234	624,965	2,959,025
2015	1,226,286	1,129,501	655,281	3,011,068
Washington	Police	Correctional	Judicial	Total
2010	1,577,447	1,664,846	839,146	4,081,439
2011	1,626,048	1,595,452	844,343	4,065,843
2012	1,626,801	1,559,392	846,782	4,032,975
2013	1,674,362	1,564,641	877,720	4,116,723
2014	1,786,933	1,604,905	898,042	4,289,880
2015	1,855,229	1,673,540	955,312	4,484,081

Source: United States Census Bureau, <http://www.census.gov/govs/local>.

CONCLUSION

At both the federal and state levels, government budgets would benefit enormously from drug legalization policies. This report estimates that \$47.9 billion is spent annually on drug prohibition enforcement, whereas \$58.8 billion could potentially be raised in tax revenue. Combined, these figures suggest that the fiscal windfall of drug legalization could be as high as \$107 billion. Moreover, although media outlets and policymakers mostly focus on marijuana, the majority of budgetary gains would likely come from legalizing heroin and cocaine. In addition to providing new estimates of the revenue and expenditure implications of drug legalization, this

report suggests two conclusions based on experience to date from state-level legalizations.

First, the tax revenues generated by legalization might significantly exceed the estimates in the 2010 Cato study. At the same time, several factors might moderate the tax revenues if legalization occurs widely at the state level or at the federal level.

Second, the reductions in criminal justice expenditures from legalization are likely to be modest in practice, even if the number of drug arrests falls substantially. Early experience suggests that governments will reallocate rather than reduce those expenditures. That reallocation may be beneficial, but it does not have a direct effect on the budget deficit.

NOTES

1. Jeffrey A. Miron and Katherine Waldock, “The Budgetary Impact of Ending Drug Prohibition,” Cato Institute white paper, September 27, 2010.

2. Since the 2010 report, 30 states and Washington, DC, have decriminalized, medicalized, or fully legalized marijuana. Colorado (2012); Washington (2012); Alaska (2014); Oregon (2014); Washington, DC (2014); California (2016); Maine (2016); Massachusetts (2016); Nevada (2016); and Vermont (2018) have legalized recreational marijuana consumption. Connecticut (2011), Michigan (2012), Maryland (2014), Missouri (2014), Delaware (2015), Illinois (2016), and New Hampshire (2017) have decriminalized marijuana use. Arizona (2010), New Jersey (2010), Minnesota (2014), New York (2014), Utah (2014), Georgia (2015), Louisiana (2015), North Carolina (2015), Texas (2015), Arkansas (2016), Florida (2016), North Dakota (2016), Ohio (2016), and Pennsylvania (2016) have enacted medical marijuana laws.

3. An appendix available on request contains details of all the calculations.

4. This report ignores the difference made in the 2010 report between gross and net expenditures, which equals the value of asset seizures and fines collected in the process of prohibition enforcement. As noted in the 2010 report, those amounts are too small to have a meaningful effect on the overall estimates.

5. Jason Blevins, “Only 4% of Colorado Tourists Came for the Legal Weed in 2015, Survey Says,” *Denver Post*, July 20, 2016.

6. Angela Dills, Sietse Goffard, and Jeffrey Miron, “Dose of Reality: The Effect of State Marijuana Legalizations,” Cato Institute Policy Analysis no. 799, September 16, 2016.

7. Federal taxation would make it harder for states to impose significant taxation without recreating the black market. So even though federal legalization would generate federal revenue, it might imply lower state revenue in some cases.

8. Colorado Department of Revenue, “Marijuana Tax Data,” <https://www.colorado.gov/pacific/revenue/colorado-marijuana-tax-data>.
