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What Tax Revenues Should Ohioans Expect If Ohio Legalizes Adult-Use Cannabis?

2023 UPDATE



THE OHIO STATE UNIVERSITY
MORITZ COLLEGE OF LAW

**DRUG ENFORCEMENT
AND POLICY CENTER**

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2023 Update

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CONTENTS

Introduction	1
Key Assumptions Informing Revenue Estimates	3
Tax Revenue Estimates for the State of Ohio	7
Contextualizing Cannabis Tax Revenues	8
Conclusion	9

INTRODUCTION

In November 2023, Ohio voters will be given an opportunity to decide whether the state that markets itself as “the heart of it all” should become the 24th state to legalize adult-use cannabis. While the proponents of legalization name a number of potential benefits, the opportunity for states to generate significant tax revenue from the sale of cannabis often takes front and center in the debate over legalization.

In the spring of 2022, we issued our first report estimating possible tax revenues Ohio residents could expect from legalization of adult-use cannabis. Given the placement of the initiative on the November 2023 ballot, we wanted to revisit the report and provide updated estimates informed by additional tax revenue data collected from six state that were part of our initial study: **Michigan**, selected for its vicinity, similar population size and nearly identical tax structure to the Ohio initiative’s proposed tax structure; **Illinois**, selected for its proximity to Ohio and similar population size; and **Nevada, Oregon, Washington** and **Colorado**, selected to provide tax revenue trends from more mature cannabis markets. For background information on each state relevant to tax revenue, please see Table 1 below.

Table 1. Background Information on Selected Cannabis Reform State Markets

State	Fiscal year	Date of first adult-use sales ¹	Tax rate ²	Population ³	License limits
Colorado	July 1 – June 30	January 2014	15% wholesale, 15% special retail	5,773,714	No limits.
Nevada	July 1 – June 30	July 2017	15% wholesale, 10% special retail	3,104,614	Licenses capped based on county size. Counties with a 100,000+ population limit one adult-use license per entity/group/person, or up to 10% of allocable licenses in the county. ⁴
Michigan	October 1 – September 30	December 2019	10% excise tax on sales; 6% standard sales tax	10,077,331	The State of Michigan does not restrict the number of licenses, but cities and towns can regulate, ban, or limit the number of marijuana businesses in their community. ⁵
Illinois	July 1 – June 30	January 2020	7% at wholesale; 10% tax on cannabis flower or products with less than 35% THC; 20% tax on infused products such as edibles; 25% tax on any product with a THC concentration higher than 35% ⁶ ; 6.25% standard sales tax	12,812,508	Illinois law provides for 30 Cultivation Centers ⁷ ; 40 Craft Growers in 2020 and 60 additional licenses added by December 2021; 40 Infusers; 185 Dispensing Organizations ⁸ (in addition to 55 medical dispensary license holders who could apply for an early adult-use license and sell adult-use marijuana from up to two locations ⁹).

¹ Marijuana Policy Project, *Cannabis Tax Revenue in States that Regulate Cannabis for Adult Use*, updated April 5, 2022.

<https://www.mpp.org/issues/legalization/cannabis-tax-revenue-states-regulate-cannabis-adult-use/>.

² Ibid.

³ U.S. Census Bureau. State Quick Facts. <https://www.census.gov/quickfacts/fact/table/US/PST045221>.

⁴ "Chapter 678B – Licensing and Control of Cannabis, NRS 678B.260 & NRS 678B.270," Nevada State Legislature, accessed October 08, 2020, <https://www.leg.state.nv.us/NRS/NRS-678B.html>.

⁵ Michigan Cultivation License and Marijuana Laws," 365 Cannabis, accessed on October 21, 2020,

<https://www.365cannabis.com/2020/02/06/michigan-cultivation-license/>.

⁶ Boesen, Ulrik, March 2021. "How High Are Taxes on Recreational Marijuana in Your State?". Tax Foundation. <https://taxfoundation.org/state-recreational-marijuana-taxes-2021/>.

⁷ (410 ILCS 705/) Cannabis Regulation and Tax Act, Illinois General Assembly, accessed October 08, 2020,

<https://www.ilga.gov/legislation/ilcs/ilcs3.asp?ActID=3992&ChapterID=35>.

⁸ Slaughter, Kevin, July 14, 2021. "How HB 1443 Seeks to Improve Cannabis Licensing in Illinois." <https://www.lplegal.com/content/hb-1443-seeks-improve-cannabis-licensing-illinois.html>.

⁹ (410 ILCS 705/) Cannabis Regulation and Tax Act. Article 15. License and Regulation of Dispensing Organizations. Sec. 15-15. Early Approval Adult Use Dispensing Organization License and Sec. 15-20. Early Approval Adult Use Dispensing Organization License; secondary site. <https://www.ilga.gov/legislation/ilcs/ilcs4.asp?DocName=041007050HArt%2E+15&ActID=3992&ChapterID=35&SeqStart=3200000&SeqEnd=6900000>.

State	Fiscal year	Date of first adult-use sales ¹⁰	Tax rate ¹¹	Population ¹²	License limits
Washington	July 1 – June 30	July 2014	37% at retail since July 2015; 6.5% sales tax	7,738,692	The state of Washington limits the number of retail store by county. The state is currently not accepting new applications for retail, processor or producer licenses. HB 2870, passed in March 2020, mandates that any replacement licenses will begin to social equity applicants. ¹³
Oregon	July 1 – June 30	October 2015	17% excise tax	4,246,155	Technically none at the state level, but Oregon legislature approved HB 4106 in 2022 and enacted a moratorium on marijuana production, processing, wholesale, and retail licenses until March 31, 2024. ¹⁴
Ohio ¹⁵	July 1 – June 30	<i>Sales have not started</i>	Proposed: 10% excise tax, 5.75% state sales tax, plus 0.25-2.25% local sales tax	11,799,448	The Act as proposed does not specify limits on licenses but gives a broad authority to the Department of Commerce to develop rules and regulations.

Because Ohio does not yet have an established adult-use cannabis industry or an enacted cannabis tax structure, all tax revenue projections are speculative and dependent on variables and assumptions that might change, such as usage rates, price of cannabis product, tax structure, pace and number of awarded licenses, rate of retail growth, possible federal reforms, and other factors. Thus, the estimates included in this report should be viewed as “best-guess” projections. We provide multi-year projections to account for the experience of other reform states where the cannabis industry has often gotten off to a slow start, then grown steadily for a few years, only to experience a small decline in tax revenues as markets become saturated. This pattern of slow starts followed by considerable growth followed by small decline has sometimes led to analysts overestimating expected tax revenues in the first year or two but thereafter underestimating tax revenues as markets matured.

KEY ASSUMPTIONS INFORMING REVENUE ESTIMATES

All future tax revenue estimates for cannabis markets are projected based on several assumptions about the market’s key characteristics. For this report, we drew on various data points from other states to develop a set of key assumptions regarding the rate of year-to-year cannabis industry growth, comparable state’s tax revenue starting points, population measure for per capita calculation, and future pricing trends of adult-use cannabis products in Ohio.

¹⁰ Marijuana Policy Project, *Cannabis Tax Revenue in States that Regulate Cannabis for Adult Use*, updated April 5, 2022, <https://www.mpp.org/issues/legalization/cannabis-tax-revenue-states-regulate-cannabis-adult-use/>.

¹¹ Ibid.

¹² U.S. Census Bureau. State Quick Facts. <https://www.census.gov/quickfacts/fact/table/US/PST045221>.

¹³ “WA Governor - Bill Action, (March 31, 2020) – Summary,” Cannabis Observer, April 1, 2020, <https://cannabis.observer/observations/wagovernor-bill-action-march-31-2020-summary/>.

¹⁴ Oregon State Legislature, “Enrolled House Bill 4016,” accessed April 15, 2022, <https://olis.oregonlegislature.gov/liz/2022R1/Downloads/MeasureDocument/HB4016/Enrolled>.

¹⁵ For the state of Ohio, we are using tax rate and licensing information from the citizen initiative, which is called the *Act to Control and Regulate Adult Use Cannabis*, because it would appear to be the only viable proposal in 2022 given the opposition to any legislative proposal by Ohio General Assembly Leadership.

Year-to-year rate of growth assumption: Declining rate of growth over time

Table 2 below summarizes adult-use cannabis sales for the six states. In each of the four mature state, sales steadily increased year-over-year as markets matured and customers became more familiar with different products.¹⁶ The rate of growth from year to year has varied considerably in all full legalization states for a variety of reasons (including some unique market dynamics created by the COVID pandemic). Though market growth data is hard to predict with precision, the experiences of other legalization states all suggest that Ohio's adult-use cannabis market will see significant growth initially (perhaps at a rate of 40% or more) with rate of sales growth continuing, but slowing in subsequent years and perhaps even declining from their height at some point.

Table 2. Total Adult-Use Retail Cannabis Sales in Select States

Fiscal year	Colorado¹⁷ (year-to-year rate of growth)	Washington¹⁸ (year-to-year rate of growth)	Oregon¹⁹ (year-to-year rate of growth)	Nevada^{20,21} (year-to-year rate of growth)	Michigan²² (year-to-year rate of growth)	Illinois²³ (year-to-year rate of growth)
FY 2014	\$114 mil	\$91 mil	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>
FY 2015	\$440 mil (285%)	\$469 mil (412%)	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>
FY 2016	\$700 mil (59%)	\$726 mil (55%)	<i>Figure not reported publicly</i>	<i>None</i>	<i>None</i>	<i>None</i>
FY 2017	\$999 mil (43%)	\$913 mil (26%)	\$248 mil –	<i>None</i>	<i>None</i>	<i>None</i>
FY 2018	\$1,157 mil (16%)	\$1,005 mil (10%)	\$594 mil (140%)	\$530 mil	<i>None</i>	<i>None</i>
FY 2019	\$1,289 mil (11%)	\$1,097 mil (9%)	\$706 mil (19%)	\$639 mil (21%)	<i>None</i>	<i>None</i>
FY 2020	\$1,528 mil (18%)	\$1,412 mil (29%)	\$949 mil (34%)	\$685 mil (7%)	\$342 mil	\$239 mil
FY 2021	\$1,907 mil (25%)	\$1,450 mil (3%)	\$1,210 mil (27%)	\$1,003 mil (47%)	\$1,104 mil (223%)	\$1,056 mil (341%)
FY 2022	\$1,676 mil (-12%)	\$1,263 mil (-13%)	\$1,080 mil (-11%)	\$965 mil (-4%)	\$1,829 mil (66%)	\$1,504 mil (42%)

¹⁶ While five of the six states experienced what appears as explosive growth in sales in their second year of operations, the figures reflect the reality that four of the programs began operating part way through the fiscal year, thus distorting any initial year-to-year comparisons.

¹⁷ Colorado Department of Revenue, "Marijuana Sales Reports," Department of Revenue, accessed April 12, 2022, <https://cdor.colorado.gov/data-and-reports/marijuana-data/marijuana-sales-reports>.

¹⁸ Washington State Liquor and Cannabis Board, "Washington State Liquor and Cannabis Board Annual Report," Annual Report | Washington State Liquor and Cannabis Board, accessed April 15, 2022, <https://lcb.wa.gov/about/annual-report>.

¹⁹ Oregon Liquor and Cannabis Commission, "Marijuana Market Data," Oregon Liquor and Cannabis Commission : Marijuana Market Data : Marijuana and Hemp (Cannabis) : State of Oregon, accessed April 15, 2022, <https://www.oregon.gov/olcc/marijuana/Pages/Marijuana-Market-Data.aspx>.

²⁰ State of Nevada Department of Taxation, "Cannabis Statistics and Reports," Cannabis statistics and reports, accessed April 12, 2022, https://tax.nv.gov/Publications/Cannabis_Statistics_and_Reports.

²¹ Nevada's sales figures represent all taxable sales reported by the adult-use retail stores and medical marijuana dispensaries.

²² Marijuana Regulatory Agency, "Marijuana Regulatory Agency Statistical Report," SOM - State of Michigan, accessed April 12, 2022, <https://www.michigan.gov/mra/reports/marijuana-regulatory-agency-statistical-report>.

²³ Illinois Department of Revenue, "Monthly Collections Remitted to the State Comptroller," Illinois.gov, accessed April 12, 2022, <https://www2.illinois.gov/rev/research/taxstats/CollectionsComptroller/Pages/default.aspx>.

In our original report, we chose to model potential Ohio tax revenue using two relatively conservative estimates of declining year-to-year growth rates of 30-20-10% and 20-15-10% from year two to year five of operations. However, given the additional tax revenue data from the six states we highlight in this report, we are adding an additional estimate of declining year-to-year growth rates of 40%-20%-10% to account for the fact that the two most recent states to legalize cannabis in our study group, Michigan and Illinois, experienced a significant growth in year three of their market being operational (81% in Michigan and 47% in Illinois) but Illinois also experienced a drop in year four of its operations (Michigan's FY 23 concludes on September 30, 2023, and thus their tax revenues are not yet available even though they appear to be on track to record significant growth – for preliminary FY22 and FY23 comparison see Appendix). Though we are adding a third scenario to account for potentially higher initial growth rates, we still believe we are being conservative in our estimates to account for possible delays in licensing, differences in demand driven by geography and demographics, and the greater overall maturity of the cannabis industry which might contribute to market saturation.

Starting point for Ohio tax revenue calculations: Michigan

In Table 1 above we describe various states' cannabis tax revenue structures. Michigan has nearly identical cannabis tax structure to the proposed tax structure set forth in the citizen-initiated statute that will come before Ohio voters in November 2023 – state and applicable local sales tax (6% and 5.75% state sales tax in Michigan and Ohio respectively), plus 10% special or excise tax at the point of purchase. Given common geography and demographic similarities (age, racial and gender make-up of state population), as well as nearly identical tax revenue structure, we have adopted Michigan tax revenue data as our starting point for calculating potential tax revenues for the state of Ohio. We chose to use Michigan's FY 2021 tax collections as the first year of full 12-month revenue data and extrapolate from that data to estimate what we call "year-two" tax revenue in Ohio's market (figuring "year one" in Ohio will be a partial or start-up year without full revenues collected as has been the experience in other states). For context and comparison, Table 3 sets forth official tax revenue data for all six states.

Table 3. Adult-Use Cannabis Tax Revenues in Select States

Fiscal Year	Colorado ²⁴	Washington ²⁵	Oregon ²⁶	Nevada ²⁷	Michigan ²⁸	Illinois ²⁹
FY 2014	\$14,744,490	<i>Figure not publicly reported</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>
FY 2015	\$77,829,982 (428%)	\$64,630,000	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>
FY 2016	\$129,136,316 (66%)	\$186,000,000 (188%)	\$20,652,983	<i>None</i>	<i>None</i>	<i>None</i>
FY 2017	\$197,995,790 (53%)	\$315,000,000 (69%)	\$70,263,897 (240%)	<i>None</i>	<i>None</i>	<i>None</i>

²⁴ Colorado Department of Revenue, "Marijuana Tax Reports," Department of Revenue, accessed April 15, 2022, <https://cdor.colorado.gov/data-and-reports/marijuana-data/marijuana-tax-reports>.

²⁵ Washington State Liquor and Cannabis Board, "Washington State Liquor and Cannabis Board Annual Report," Annual Report | Washington State Liquor and Cannabis Board, accessed April 15, 2022, <https://lcb.wa.gov/about/annual-report>.

²⁶ Oregon Marijuana Tax Statistics," State of Oregon: Government & Researchers - Oregon marijuana tax statistics, accessed April 15, 2022, <https://www.oregon.gov/dor/programs/gov-research/pages/research-marijuana.aspx>.

²⁷ State of Nevada Department of Taxation, "Cannabis Statistics and Reports," Cannabis statistics and reports, accessed April 12, 2022, https://tax.nv.gov/Publications/Cannabis_Statistics_and_Reports/.

²⁸ Marijuana Regulatory Agency, "Marijuana Regulatory Agency Statistical Report," SOM - State of Michigan, accessed April 12, 2022, <https://www.michigan.gov/mra/reports/marijuana-regulatory-agency-statistical-report>.

²⁹ Illinois Department of Revenue, "Monthly Collections Remitted to the State Comptroller," Illinois.gov, accessed April 12, 2022, <https://www2.illinois.gov/rev/research/taxstats/CollectionsComptroller/Pages/default.aspx>.

Fiscal Year	Colorado ²⁴	Washington ²⁵	Oregon ²⁶	Nevada ²⁷	Michigan ²⁸	Illinois ²⁹
FY 2018	\$240,360,311 (21%)	\$362,000,000 (15%)	\$82,203,729 (17%)	\$69,759,783	None	None
FY 2019	\$252,797,468 (5%)	\$390,400,000 (8%)	\$102,094,948 (24%)	\$99,184,973 (42%)	None	None
FY 2020	\$308,606,453 (22%)	\$469,200,000 (20%)	\$133,150,349 (30%)	\$105,180,946 (6%)	\$29,678,156	\$52,783,471
FY 2021	\$412,142,854 (34%)	\$555,400,000 (18%)	\$178,262,488 (34%)	\$157,751,597 (50%)	\$155,443,876 (424%)	\$317,074,562 (501%)
FY 2022	\$356,062,031 (-14%)	\$511,123,712 (-8%)	\$170,572,100 (-4%)	\$152,334,798 (-3%)	\$281,415,241 (81%)	\$466,816,883 (47%)
FY 2023	\$276,441,262 (-22%)	Not yet available	\$142,133,231 (-17%)	Not yet available	Not yet available	\$451,868,765 (-3%)

Population base for revenue estimates: State population

We have chosen to use the state population figures for Michigan and Ohio for the purposes of our estimates of sales and tax revenues.³⁰ Michigan and Ohio have nearly identical age distributions and other demographic similarities,³¹ which makes it reasonable to use total state population for calculating average cannabis tax revenue per capita and expect similar sales and revenue dynamics in both states. To calculate estimated per capita rate of tax revenue in Michigan, we divided FY 2021 Michigan tax revenue (second year of operations) by the number of Michigan state residents to arrive at \$15.43 average tax revenue per person. We then multiplied this number by the number of Ohio state residents (11,799,448) to arrive at our starting year-two tax revenue estimate for the state of Ohio of \$182,007,709.

Price of cannabis assumption: Range of 0% to 20% higher than Michigan

The last assumption necessary for creating potential tax revenue estimates is the price of cannabis product because a tax structure based on excise and sales taxes means that tax revenue is influenced by retail sales prices. As of the first half of 2021, Ohio medical dispensaries charged on average 40% more than dispensaries in Michigan for cannabis plant product.³² This has increased to over 120% price differential in the first half of 2022 mainly due to rapidly declining prices in the state of Michigan.³³ This price differential is driven by many factors, including the fact Ohio is a medical-only cannabis state and has higher licensing fees and strict licensing limits. The price differential between Michigan and Ohio would likely decrease significantly following adult-use legalization in Ohio, but we might reasonably assume that, at least for the first few years of legalization, some degree of price differential could remain. Consequently, we have thus prepared a set of tax revenue estimates assuming price parity, as well as assuming 10% and 20% higher prices relative to Michigan to account for different possible Ohio pricing scenarios following legalization.

³⁰ Some efforts to project potential tax revenues for a new cannabis market have used "last month usage" figures from the National Survey on Drug Use and Health. These annual surveys measure the number of people in each state that have reported using cannabis in the last month, and these data were used to estimate the percentage of a state's population that might purchase cannabis if legalized. But now that states have actual sales data from functioning adult-use programs, use rate proxies may be problematic when not taking into consideration how legalization and other factors impact levels of consumption and sales within the legal marketplace.

³¹ US Census Bureau - <https://www.census.gov/quickfacts/fact/table/OH,MI/AGE775218>. Accessed April 13, 2022.

³² Hrdinova, Jana, "Ohio Medical Marijuana Control Program at Three Years: Evaluating Satisfaction and Perception". Drug Enforcement and Policy Center. 2021. https://cpb-us-w2.wpmucdn.com/u.osu.edu/dist/1/90743/files/2021/09/OMMCP-Survey-Report-2021_final.pdf.

³³ Hrdinova, Jana, "Ohio Medical Marijuana Control Program at Four Years: Evaluating Satisfaction and Perception". Drug Enforcement and Policy Center. 2021. https://moritzlaw.osu.edu/sites/default/files/2022-09/2022%20OMMCP%20Survey%20Report_final.pdf

If there were higher prices in Ohio, even at 10% or 20% differential, one might expect lower sales in the Ohio legal marketplace as compared to Michigan. But because it is hard to speculate about how price sensitive Ohio consumers will be (as well as how much price variation there could be from year-to-year), we have modeled the same sales growth rate under each pricing scenario.

TAX REVENUE ESTIMATE FOR THE STATE OF OHIO

To summarize, we are using Michigan FY 2021 data on cannabis tax revenue as our starting point for Ohio cannabis tax revenue estimates given the demographic and tax structure similarities; we are assuming a conservative rate of diminishing retail sales growth under three models of 40%-20%-10%, 30-20-10% and 20-15-10% year-to-year through year five of an operational legal adult-use program; we are using state population figures as our basis for calculating per capita cannabis tax revenue rates; and we are modeling for three different Ohio pricing scenarios - price parity between Michigan and Ohio, as well as 10% and 20% higher product pricing in Ohio. Our tax revenue estimates do **not** include (a) any collection of additional local sales taxes or any other taxes that cannabis businesses and their employees might pay such as state Commercial Activity Tax, local property taxes, or state and local income taxes; or (b) any fees collected from cannabis business license applicants or license holders, which could be structured to provide another significant source of revenue for the state.

The results of our cannabis tax revenue estimates are detailed in Tables 4, 5 and 6 below. Given the above-mentioned assumptions, the potential annual tax revenue from adult-use cannabis ranges from \$276 million in year five of an operational cannabis market (assuming price parity and 20-15-10% growth rate scenario) to \$403 million in year five (assuming a price differential of 20% between Ohio and Michigan and 40-20-10% year-to-year increase in sales).

Table 4. Ohio Estimated Adult-Use Tax Revenues at 20-15-10% Diminishing Annual Growth Rate

Year of operation	OH estimate using MI prices and tax revenue per person applied to OH population	OH estimate using 10% higher prices than MI) using OH population	OH estimate using 20% higher prices than MI) using OH population
Year two of operations	\$182,007,709	\$200,208,480	\$218,409,251
Year three of operations	\$218,409,251	\$240,250,176	\$262,091,101
Year four of operations	\$251,170,638	\$276,287,702	\$301,404,766
Year five of operations	\$276,287,702	\$303,916,472	\$331,545,243

Table 5. Ohio Estimated Adult-Use Tax Revenues at 30-20-10% Diminishing Annual Growth Rate

Year of operation	OH estimate using MI prices and tax revenue per person applied to OH population	OH estimate using 10% higher prices than MI) using OH population	OH estimate using 20% higher prices than MI) using OH population
Year two of operations	\$182,007,709	\$200,208,480	\$218,409,251
Year three of operations	\$236,610,022	\$260,271,024	\$283,932,026
Year four of operations	\$283,932,026	\$312,325,229	\$340,718,431
Year five of operations	\$312,325,229	\$343,557,751	\$374,790,274

Table 6. Ohio Estimated Adult-Use Tax Revenues at 40-20-10% Diminishing Annual Growth Rate

Year of operation	OH estimate using MI prices and tax revenue per person applied to OH population	OH estimate using 10% higher prices than MI) using OH population	OH estimate using 20% higher prices than MI) using OH population
Year two of operations	\$182,007,709	\$200,208,480	\$218,409,251
Year three of operations	\$254,810,793	\$280,291,872	\$305,772,952
Year four of operations	\$305,772,952	\$336,350,247	\$366,927,542
Year five of operations	\$336,350,247	\$369,985,272	\$403,620,296

CONTEXTUALIZING CANNABIS TAX REVENUES

Though these projections are subject to various assumptions, the tax revenue experiences of other states support claims that Ohio is likely to generate hundreds of millions in tax revenues from a mature adult-use market. For comparison, in FY 2021, Ohio casinos have generated gross tax revenues of over \$300 million,³⁴ so it is possible that cannabis sales in Ohio will generate tax returns comparable to those now collected through the gross casino revenue tax.

Ultimately, the amount of taxes collected will be highly dependent on what type of tax levels and structure would be ultimately adopted if Ohio legalizes adult-use cannabis. At present, the Michigan tax structure, as well as the Ohio tax structure proposed in the citizen-initiated statute, reflects some of the lowest tax rates among all states that have legalized cannabis for adult use.³⁵ Were Ohio's General Assembly to later adopt a higher tax rate, as states like Illinois and Washington have done, Ohio might produce higher overall tax revenues than modeled above. But efforts to maximize potential tax revenue must consider the possible impact on the illicit market and downstream effect on tax revenues. As the experience of states such as Illinois suggests, higher tax rates resulting in higher prices of cannabis product in the regulated marketplace might make it more difficult to combat the illicit cannabis trade and might ultimately lead to decreasing tax revenues.³⁶ Additionally, states that have not adopted caps on the number of growers seem to be experiencing market oversaturation, which can result in falling tax revenues as we see in almost all six states with the exception of Michigan. Since the 2023 Ohio ballot initiative does not include caps on the number of producers, we should anticipate that tax revenue from the cannabis market might eventually dip as the market matures.

Regardless of tax structure, in every legalization state, cannabis tax revenue makes up only a small proportion of the overall state revenue collection. As detailed in Table 6 below, in more mature cannabis markets, the tax revenue proportion from cannabis taxes has most recently hovered between 1-2% of the total state revenue, with newer states in the Midwest region so far reporting tax revenues below 1% of total state receipts.

³⁴ Ohio Department of Taxation, Annual Report Fiscal Year 2021, https://tax.ohio.gov/static/communications/publications/annual_reports/2021annualreport.pdf.

³⁵ Boesen, Ulrik. "How High Are Taxes on Recreational Marijuana in Your State?". March 31, 2021, Tax Foundation. <https://taxfoundation.org/state-recreational-marijuana-taxes-2021/>.

³⁶ Schuba, Tom. "Billions in black-market weed still selling in Illinois 18 months after marijuana legalized." *Chicago Sun Times*. June 14, 2021. <https://chicago.suntimes.com/cannabis/2021/6/14/22534079/illinois-dispensaries-illegal-legal-marijuana-cannabis-pot-bud-sale>.

Table 6. Proportion of State Cannabis Tax Revenue to Overall State Revenue Collection

State	% of State Overall Tax Revenue from Cannabis
Colorado ³⁷	2.08% (FY2021), 1.56% (FY2022)
Michigan ³⁸	0.61% (FY2021), 0.77% (FY2022)
Illinois ³⁹	0.67% (FY2021), 0.91% (FY2022), 0.85% (FY2023)
Nevada ⁴⁰	2.12% (FY2021), 1.67% (FY2022)
Oregon ⁴¹	1.00% (FY2021), 0.90% (FY2022)
Washington ⁴²	1.66% (FY2021), 1.35% (FY2022)

CONCLUSION

Tax revenue estimates for new cannabis markets, though necessarily speculative, can provide useful information for the public and policymakers considering adult-use reforms. To calculate such estimates for Ohio, we made conservative assumptions about the state's future cannabis marketplace and based our estimates on the tax structure proposed in the citizen-initiated statute that will come before Ohio voters in the fall of 2023. Notably, different assumptions and different tax structures could produce different outcomes. Though our estimates are based on the tax structure proposed in the citizen-initiated statute, Ohio legislators could pursue another tax structure which could significantly impact actual tax revenues collected.

Whatever tax structure is adopted, our analysis suggests it is reasonable to predict that Ohio would collect hundreds of millions in annual cannabis tax revenues from a mature adult-use cannabis market. But the amount of tax revenue collected would likely still represent a small percentage of Ohio's \$60+ billion annual budget.

³⁷ Figure represents the percent of all state and local gross receipts realized (p.76). Colorado Department of Revenue, "Colorado Department of Revenue. (2022). 2022 ANNUAL REPORT. Colorado Department of Revenue. https://cdor.colorado.gov/sites/revenue/files/documents/DR-4000_2022.pdf

³⁸ Figure represents the percent of FY2022 State Tax Collections (pg. 19) "Michigan Department of Treasury. (2022). 2021-2022 Annual Report of the Michigan State Treasurer. Department of Treasury. <https://www.michigan.gov/treasury/-/media/Project/Websites/treasury/Annual-Report/STAR-2021-22.pdf?rev=a478e51967264f42a80e8baecb078e42&hash=203254575BA142F3BC41F0741EC2B427>

³⁹ Figure represents a percentage of Illinois total revenue for FY 2023. Nevada Commission on Government Forecasting and Accountability, "Commission on Government Forecasting and Accountability. (2023, June). MONTHLY BRIEFING For the Month Ended: June 2023. <https://cgfa.ilga.gov/Upload/623%20Monthly.pdf>

⁴⁰ Figure represents the percent of all sales, business, and excise tax collections for FY 2021. Department of Taxation. (n.d.). ANNUAL REPORT Fiscal Year 2022 (2021 - 2022). <https://tax.nv.gov/uploadedFiles/taxnv.gov/Content/TaxLibrary/FINAL%20WEB%20VERSION%20Annual%20Report%20FY%2022.pdf?n=6209>

⁴¹ Figure represents a percentage of total tax collection for FY 2022. Oregon Department of Administrative Services. (2022, June 30). Annual Comprehensive Financial Report - For the Fiscal Year Ended June 30, 2022. Statewide Accounting & Reporting Services - Department of Administrative Services. <https://www.oregon.gov/das/Financial/Acctng/Documents/2022%20ACFR.pdf>

⁴² Figure represents a percentage of state and local taxes collected in FY 2022. Department of Revenue. (2023, January 19). July 2021 - June 2022 Annual Report. Department of Revenue Washington State. https://dor.wa.gov/sites/default/files/2023-01/AnnualReport2022_0.pdf?uid=64cd48b53077c

APPENDIX – COMPARISON OF MICHIGAN FY22 AND FY23 MONTHLY TAX REVENUES

Month of year	FY22 Tax Revenue Per month	FY22 Tax Revenue Cumulative	FY23 Tax Revenue Per month	FY23 Tax Revenue Cumulative	FY22/FY23 Monthly Tax Revenue Differential
October	\$20,807,623	\$20,807,623	\$26,776,661	\$26,776,661	28.7%
November	\$1,972,826	\$22,780,449	\$8,081,322	\$34,857,983	53.0%
December	\$1,942,371	\$24,722,820	\$3,184,060	\$38,042,044	53.9%
January	\$20,664,998	\$45,387,818	\$27,149,237	\$65,191,280	43.6%
February	\$2,496,875	\$47,884,693	\$5,601,567	\$70,792,847	47.8%
March	\$2,959,493	\$50,844,186	\$5,914,551	\$76,707,398	50.9%
April	\$20,540,864	\$71,385,050	\$27,534,818	\$104,242,216	46.0%
May	\$4,820,961	\$76,206,012	\$7,199,697	\$111,441,913	46.2%
June	\$2,799,197	\$79,005,209	<i>Not available</i>	<i>Not available</i>	<i>Not available</i>
July	\$24,148,870	\$103,154,079	<i>Not available</i>	<i>Not available</i>	<i>Not available</i>
August	\$5,020,196	\$108,174,275	<i>Not available</i>	<i>Not available</i>	<i>Not available</i>
September	\$3,713,713	\$111,887,987	<i>Not available</i>	<i>Not available</i>	<i>Not available</i>