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WHERE WILL WEED WIN?

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INTRODUCTION

When legal interstate weed commerce arrives to America, what will happen? Where will cannabis thrive, and where will it wither?

The answers are complex and mostly unknown, but the first and most straightforward answer is that the businesses who win will come from the places where weed is cheap. [1]

Interstate commerce will bring local, state industries into competition in a national market. Costs and prices vary widely by state, but states' current costs and prices do not necessarily reflect what they will be when weed is federally legal.

Most weed sold in America is inexpensive, near the bottom of the retail price range. The locations most likely to win in a national price competition will be places where weed can be grown and sold most cheaply.

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In general, these will be places where it is cheap to pay workers, cheap to buy the inputs that go into farming weed (including labor, land, electricity, gas, and water), and cheap to run a weed processing and marketing business.

Which places will win on these measures? Which early licensees will hold their own against low-priced competition from other states? Will upstart competition from the rapidly changing hemp market in the Southeast play a big role in the interstate market? Who will dominate a national weed market, and who will fail?

1 The insights and observations presented throughout this report are informed by research undertaken with my colleagues Dan Sumner, Olena Sambucci, and Ian Xu at the UC Davis Cannabis Economics Group. Citations to our joint work, and the full text of some articles, is available at https://goldstein.faculty.ucdavis.edu.

Consider this report a guidebook to the future of the United States weed market. My aim is to provide some insights into the answers to the questions above by comparing state-by-state costs, prices, and other data and information that can help industry participants, investors, and regulators understand what will happen to national and state weed markets in the first years after US interstate trade is legalized.

Local costs currently hinge, to a significant degree, on state and local cannabis policies, which is why my colleagues and I sometimes think of national cannabis competition in terms of competition among states, not just competition among farms and other businesses. Many answers come down to geography, utility costs, and the general costs of doing business—*any* kind of business—in a state.[2]

I hope that the broad patterns summarized here can help cast light on where weed is most likely to win, and how future regulatory outcomes may change the landscape.

2 Goldstein and Sumner (2022), *Can Legal Weed Win?* The Blunt Realities of Cannabis Economics. Oakland: University of California Press.

REGULATORY BACKGROUND AND FUTURE SCENARIOS

The future depends, first, on federal regulatory outcomes. Predicting politics or regulatory outcomes is not in the scope of this report; however, for background, I begin with a summary of the legal status of weed, which provides important context for the regulatory changes and predicted outcomes shown in Table 1 below.

Currently, marijuana (cannabis with delta-9 THC above 0.3% by dry weight) is a federally illegal Schedule I narcotic. Schedule I is the most restrictive federal category that was established under the 1970 US Controlled Substances Act (CSA). Schedule I narcotics, which also include heroin, have "no currently accepted medical use and a high potential for abuse." Under federal law, schedule I narcotics cannot be legally produced, prescribed, possessed, or consumed for any purpose, whether recreational or medical. Although marijuana has lower federal trafficking penalties than other schedule I narcotics, its interstate commerce, as of this writing in 2025, is still strictly prohibited by the federal government.[3]

The federal status of marijuana may soon change. Many media reports and discussions in the regulatory community suggest that marijuana's classification as a schedule I narcotic is fairly likely to change in the coming months or years. Such a regulatory change could occur either by "rescheduling" marijuana to schedule III or another schedule, or fully "descheduling" marijuana by removing it from the CSA altogether. Rescheduling vs. descheduling marijuana would have very different legal and market consequences.

Rescheduling (but not descheduling) marijuana would probably not legalize interstate commerce. Rescheduling was publicly discussed by federal regulators during the

3 US Drug Enforcement Agency (DEA). Available at: https://www.dea.gov/drug-information/drug-scheduling. A very narrow exception exists for federally authorized university research.

Biden administration, who proposed moving marijuana to schedule III. This move would grant federal tax benefits to licensed cannabis businesses under IRS section 280(E). However, leaving marijuana in any CSA schedule (II, III, IV, or V) would keep marijuana as a federally illegal narcotic whose sale is punishable by federal imprisonment—unless it is sold by a licensed pharmacist as an FDA-approved drug.

Even lower-scheduled narcotics such as Adderall and ketamine (schedule III), Xanax and Valium (schedule IV), and some forms of codeine (schedule V), cannot be sold recreationally outside of the pharmaceutical system. If marijuana were rescheduled but not removed from the CSA, unless some other federal legislation or administrative ruling were to specifically authorize the commercial sale and transportation of recreational cannabis across state lines, interstate weed commerce would remain illegal except within the pharmaceutical supply chain.

Rescheduling could moderately expand the very small market for weed pharmaceuticals. Cannabis-derived drugs already exist, but to date, they have claimed only a tiny fraction of the weed market. There are ways that the pharmaceutical industry could imaginably carve out more share—for instance, if some forms of flower or vape products could become FDA-approved.

It is not clear that companies would be able to generate returns on the vast investment required to enter the market for FDA-approved medicine. Business models in this market

Why do I call it weed?

In this report, as elsewhere in my writing, I refer to all psychoactive cannabis products—the ones that get you high—collectively as "weed." The term "marijuana," on the other hand, is strictly defined in federal law as a subset of weed. Weed includes some psychoactive products that have delta-9 THC above 0.3% by dry weight (and are thus "marijuana"), plus a variety of other psychoactive products with delta-9 THC below 0.3% (e.g. delta-8 THC or HHC) that are classified as legal "hemp" under federal law.[1] I only use the term "cannabis" when I am referring to the broad category of all products made from the cannabis plant in any form, including psychoactive and non-psychoactive licensed cannabis, legal hemp, and illegal marijuana.

1 The interpretation of the definition of "hemp" is disputed by some, and US courts have not rendered clear judgment on the legal question. Some states have passed civil and/or criminal laws that narrow or clarify the definition of "marijuana" within the state, and thus resolve, to some extent, the pending ambiguity in federal law. See Section 5 for details.

segment are typically built around patents and health insurance, which would probably not translate well to weed. The product is already widely available in generic forms that could not be patented, and markups over production costs could not compete well with the margins of most profitable pharmaceutical products.

Descheduling would likely legalize interstate commerce in marijuana. Removing marijuana from the CSA entirely, also known as "descheduling," would go much further toward turning weed into a normally regulated agricultural product under federal law, including interstate commerce. Whatever the federal approach to regulation, if marijuana is descheduled, descheduling will likely mean the full legalization of interstate commerce. Interstate commerce is currently prohibited only because marijuana is a scheduled narcotic. Trade between states in legal products, on the other hand, is well protected under the Commerce Clause of the US Constitution.

When marijuana is descheduled, will the federal government regulate and tax the legal industry? The answer is unknown. The federal government could even regulate weed in some ways *before* descheduling, pending the outcomes of some cases in federal courts.

In its simplest form, full descheduling could mean that all weed becomes federally treated as "hemp." Mere descheduling, without other federal weed legislation, could simply shift weed into the "hemp" category, and thus into a more or less ordinary system of agricultural regulation. This may be the default outcome if the US government chooses to take the approach of simply taking marijuana off its schedule of prohibited narcotics without making other changes to federal law, thus leaving lawmakers in each state to regulate weed however they want.

This scenario, if it comes about, would not be so different from the current patchwork of state policies where weed is already legally sold as "hemp" in a growing number of states (see Section 5) and regulated by the FDA and state and local departments of agriculture, food regulators, health boards, and so on. America's new system of cannabis regulation would simply be its current system of federal hemp regulation, overlayed by local hemp rules that vary widely by state—but with the addition of legal interstate commerce.

This scenario may be unlikely to arise, however—at least not if recreational cannabis licensees have their say. Licensees have paid millions to buy into the costly legal system, and do not want to face a flood of new competitors with lower barriers to entry.

While mere descheduling would accelerate the growth of the cannabis industry, federal "legalization" that includes regulation and taxation could have the opposite effect. Probably more likely than mere descheduling, given the political pressures mentioned above, is a scenario where the federal government imposes at least a few additional restrictions on psychoactive hemp, such as age limits on sale or possession.

On the extreme end of regulation, some federal lawmakers (e.g. Senators Chuck Schumer (D-NY) and Cory Booker (D-NJ) have proposed setting up a new federal agency that would impose federal regulations and taxes that every weed business would need to comply with, in addition to state regulations.

Introducing a new federal agency or federally regulating marijuana like alcohol—e.g. with licensing, testing and labeling rules, and excise taxes—would slow down the industry, impose new costs on struggling businesses, and make legal producers significantly less competitive with the unlicensed market.

A few years ago, it seemed unlikely that marijuana could be federally descheduled without adding such an elaborate federal system of regulation and taxation. But today, with the sudden disruption of THC hemp (see Section 5), anything seems possible. Some states may see the federal "hemp" approach to weed regulation as an opportunity for them to bypass the "recreational cannabis" step entirely, skip to a more ordinary form of agricultural regulation, and gain an early advantage against the early adopters in the fully legal interstate weed market.

In Table 1, I summarize the possible outcomes and economic consequences in a variety of federal regulatory scenarios.

Table 1. Current situation and possible future outcomes for legal US interstate commerce under different regulatory scenarios

Federal regulatory scenario	Schedule I (current situation)	US Farm Bill bans most intoxicating hemp	Reschedule marijuana to schedule III	Deschedule marijuana	"Legalize" with federal licensing, taxes, regulation
Legality of interstate commerce in scenario	Illegal; "hemp" tolerated unless US Farm Bill bans THC hemp	Illegal	Illegal unless FDA-approved; "hemp" tolerated unless US Farm Bill bans THC hemp	Legal	Legal, subject to federal agency rules, taxes, etc.
Outcome for legal cannabis states without much THC hemp	Legal and illegal prices are both falling; production is consolidating; legal licensees struggle to compete on price; many small weed businesses cannot cover high costs; unlicensed weed is still winning in most legal cannabis states	Little impact	A handful of pharmaceutical companies get FDA approval for high-end weed products, add them to insurance plans, and take some share of the legal weed market	Unless states prohibit THC hemp under state law, cannabis and hemp markets merge, prices fall, legal weed drives out most illegal weed, and tax collections increase	Legal cannabis industry continues to decline; more small cannabis businesses close and cut jobs; cannabis prices increase, causing most harm to low-budget consumers
Outcome for Hemp States without much legal cannabis	THC hemp has a big share of the weed market; hemp businesses, jobs, and tax collections are booming; unless Farm Bill bans THC hemp, legal market may soon dominate; age enforcement rules are still needed in some states	Many hemp businesses close, many retailers lose income and cut jobs, state loses tax revenue, unregulated illegal weed re-floods market, many consumers shift to illegal market	Little impact unless US Farm Bill bans THC hemp or health insurance plans begin widely covering weed in Hemp States	Interstate commerce brings in more competition from out-of-state weed	Little impact unless US Farm Bill bans THC hemp
Overall market outcome	The country is divided: in states where the THC hemp market can legally grow, the legal hemp market may replace most illegal weed in the next few years, and eliminate need for legalization initiatives	Legal prices rise, legal weed market shrinks, consumers shift from legal weed to illegal weed	Pharmaceutical companies capture a modest legal market share; not much impact on prices or legal and illegal market shares	Legal market essentially merges with hemp and captures majority share; economic boom, tax collections, jobs, ripples across retail, food, beverage and hospitality markets, except where THC hemp is banned	Legal weed gets more expensive; total legal market stagnates or shrinks; cannabis businesses close across US; weed consolidates in the hands of big companies

CURRENT MARKET OVERVIEW: WHERE IS LEGAL WEED CHEAPEST NOW?

Tables 2 and 3 provide some insight into which states might win in the initial interstate competition on price. I use data from the past couple of years to look at some broad patterns of price differences between states.

The data tables are based on analysis of national retail and wholesale price data conducted along with my colleagues Dan Sumner, Olena Sambucci, and Ian Xu at the UC Davis Cannabis Economics Group. Our joint work is available at https://cannabiseconomics.ucdavis.edu and https://goldstein.faculty.ucdavis.edu.

To address the question of which states currently selling the cheapest legal weed, I rank the cheapest states by the lowest wholesale price in Table 2, and by the retail price of a typical product in Table 3.

To avoid rapid obsolescence, I avoid stating average prices in dollars, which are frequently changing. Instead, I state the results in relative terms. In these data, California has the lowest wholesale prices, at $150 per pound. Illinois' lowest price in the same time period, by comparison, is $1,555—more than 10 times higher.

Table 2. Which US states have the cheapest low-end wholesale weed?

Differences between 15 states in lowest reported wholesale price for 1 lb legal cannabis flower, January 2025

State	State price premium, Jan 2025[4]	1-year change in lowest price[5]	3-year change per year in lowest price[6]
1. California	None	-14%	-25%
2. Michigan	+20%	-63%	-45%
3. Washington	+49%	-25%	-14%
4. Oregon	+67%	+52%	-6%
5. Oklahoma	+150%	-39%	-31%
6. Colorado	+167%	+14%	+5%
7. Arizona	+167%	+11%	-28%
8. Nevada	+200%	-49%	-17%
9. Massachusetts	+203%	-35%	-46%
10. New Mexico	+293%	-22%	-27%
11. Montana	+342%	-34%	
12. Maine	+367%	-30%	-23%
13. Vermont	+433%	-27%	-25%
14. Rhode Island	+733%	-14%	
15. Illinois	+937%	-11%	-20%

4 Source: Cannabis Benchmarks. This data provider collects wholesale transaction prices by grow type from a cohort of buyers and sellers. This does not represent a random sample of all wholesale prices; estimates are likely biased upward, but inferences can be drawn from intra-state comparisons and time trends.

5 Based on January 2025 Cannabis Benchmarks data. Percent difference between the lowest wholesale price per pound in each state vs. the lowest-priced state (California, $150/lb).

6 Based on comparison between lowest transaction prices in January 2022, January 2024, and January 2025. Categorized by color: blue = falling very fast (30%+ annual price decline); green = falling fast (15–29% annual price decline); yellow = falling (0–14% annual price decline); red = rising (positive annual price increase). Note: 2022 data not available for Montana and Rhode Island, so 2022–2025 trends are not reported.

Table 3. US states with the cheapest retail weed

Differences between states in retail price of 1/8 ounce cannabis flower

THC-adjusted retail price premium for 1/8 oz flower, USD[7]

State	Estimated state price premium[8]	3-year change per year in lowest price
1. Oregon	None	Stable
2. Oklahoma	+6%	Falling
3. Colorado	+10%	Falling
4. Montana	+25%	Stable
5. Michigan	+40%	Falling
6. California	+46%	Stable
7. Maine	+51%	Falling fast
8. Washington	+61%	Falling
9. New Mexico	+71%	Falling fast
10. Arizona	+75%	Stable
11. Massachusetts	+86%	Falling fast
12. Rhode Island	+87%	Falling
13. Nevada	+88%	Falling
14. Vermont	+137%	Falling fast
15. Illinois	+142%	Falling fast

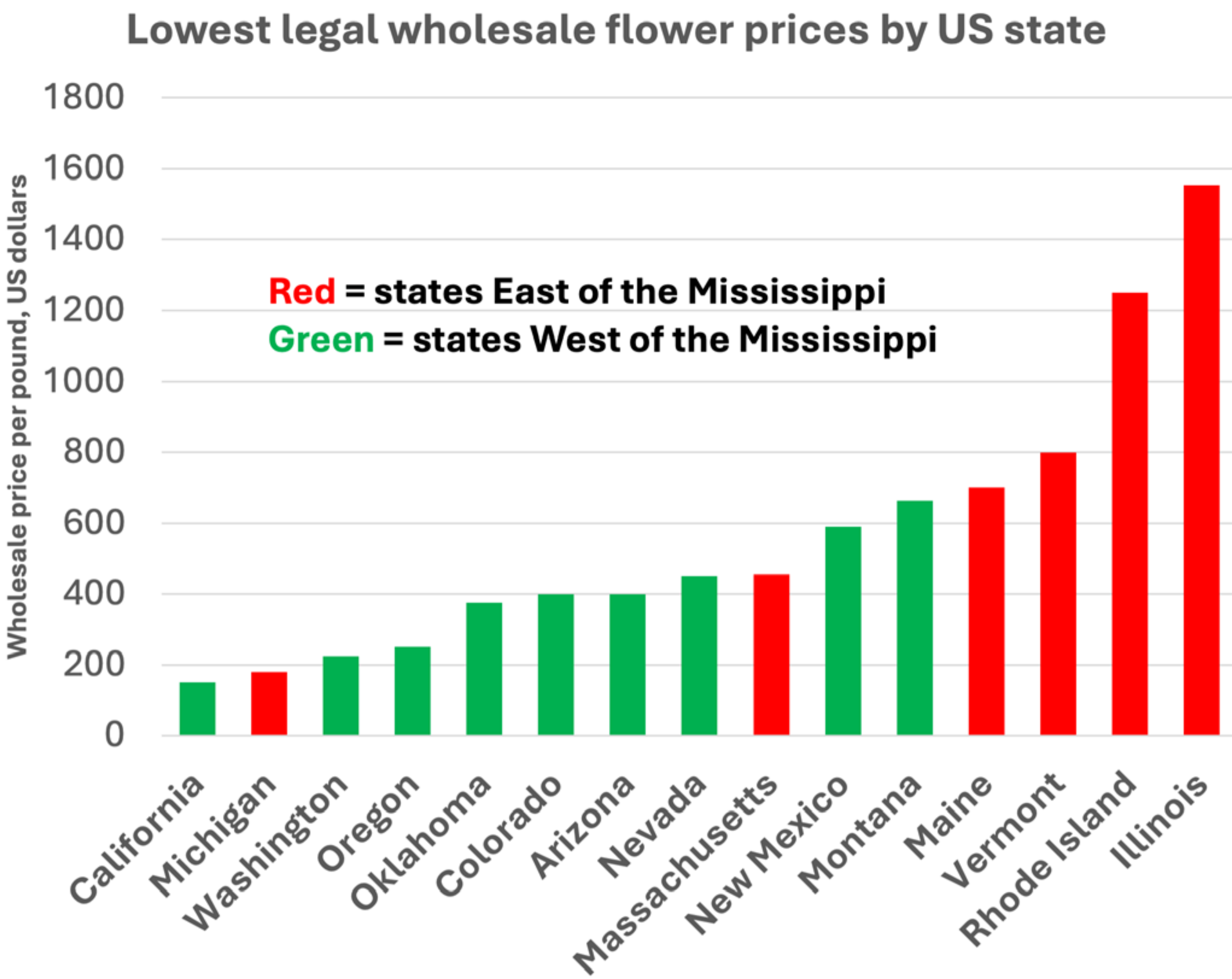
Figures 1, 2, and 3 conclude this market overview with a closer look at wholesale price differences between a handful of states and their movements over time.

Figure 1 illustrates the dramatic difference between prices on the Wes Coast and prices on the East Coast, consistent with the data shown in Tables 2 and 3 above. With the exception of Michigan, most Eastern states' lowest wholesale prices are several times higher than the lowest prices in Western states, especially the Pacific Coast.

7 Source: Estimates from UC Davis multiple regression analysis of Weedmaps retail price data (Dec 2022, 28 states, 1.52 million observations). Retail list price for a basic 1/8-oz cannabis flower package, 25% THC, without premium product characteristics, before retail tax. Utah excluded due to small sample size.

8 Based on December 2022 data. Percent difference between the THC-adjusted retail price in each state vs. the lowest-priced state (Oregon, about $22 per 1/8 oz). Relative retail price differences between states might have changed in the two years since we made these estimates.

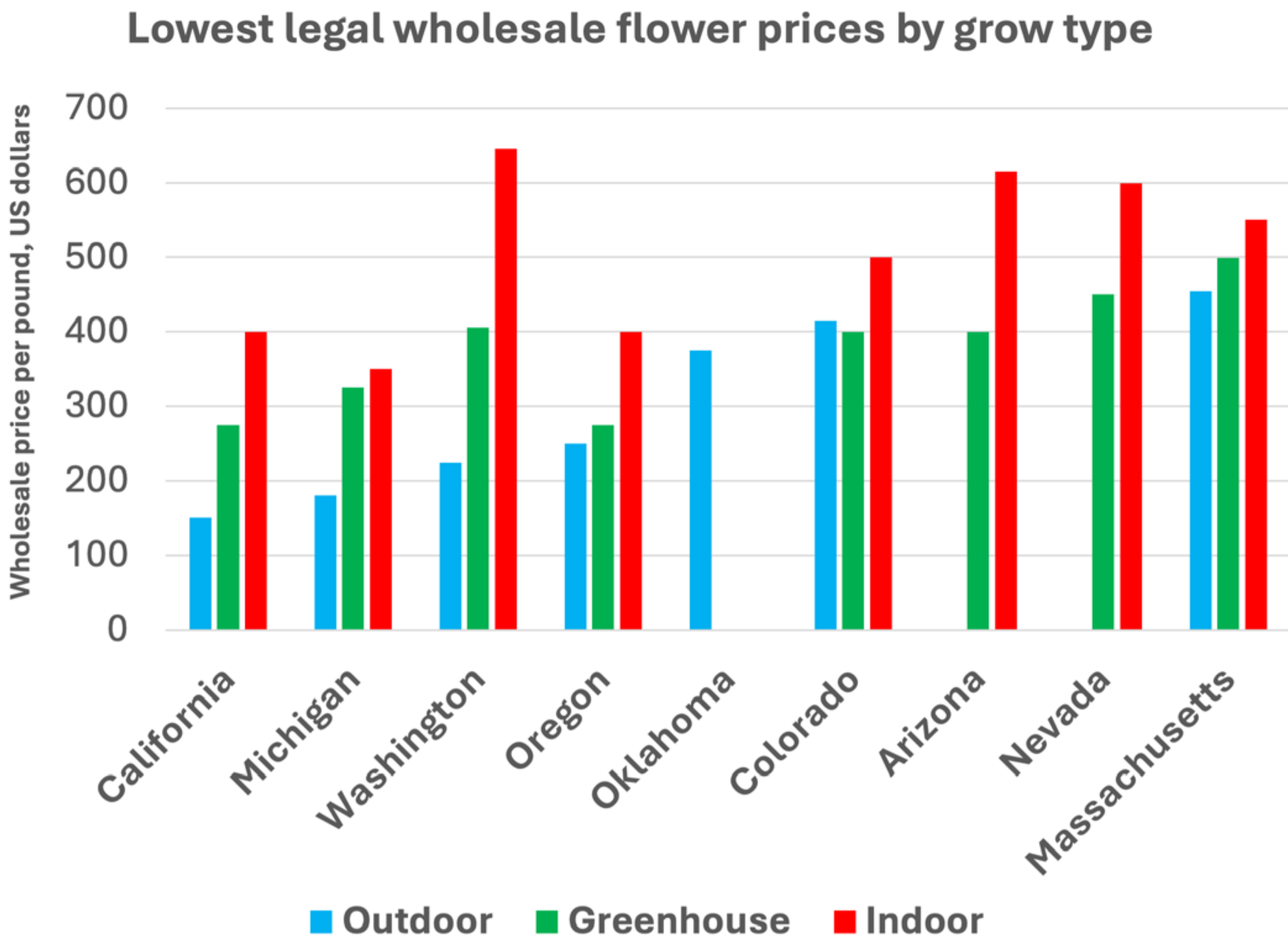
Figure 1. Legal weed is cheaper to produce in Western US states than Eastern states



Source: Cannabis Benchmarks, January 2025. Bars represent lowest prices of wholesale transactions in the week ending January 3, 2025, for any type of cannabis flower. This data provider collects and aggregates wholesale transaction prices ("spot prices") from a cohort of buyers and sellers. This does not represent a random sample of all wholesale prices; estimates are likely biased upward, but inferences can be drawn from intrastate comparisons and time trends.

Figure 2 shows wholesale prices for the cheapest outdoor and greenhouse weed in America, for the nine states where low-end wholesale flower prices are lowest. As of January 2025, low-end wholesale outdoor prices were below $300 in four states: California, Michigan, Washington, and Oregon. Oregon had America's cheapest low-end greenhouse-grown weed, below $300 per pound. Michigan had the cheapest low-end indoor-grown weed, at $350 per pound.

Figure 2. America's cheapest low-end wholesale weed is outdoor-grown flower from California, Michigan, Washington, and Oregon

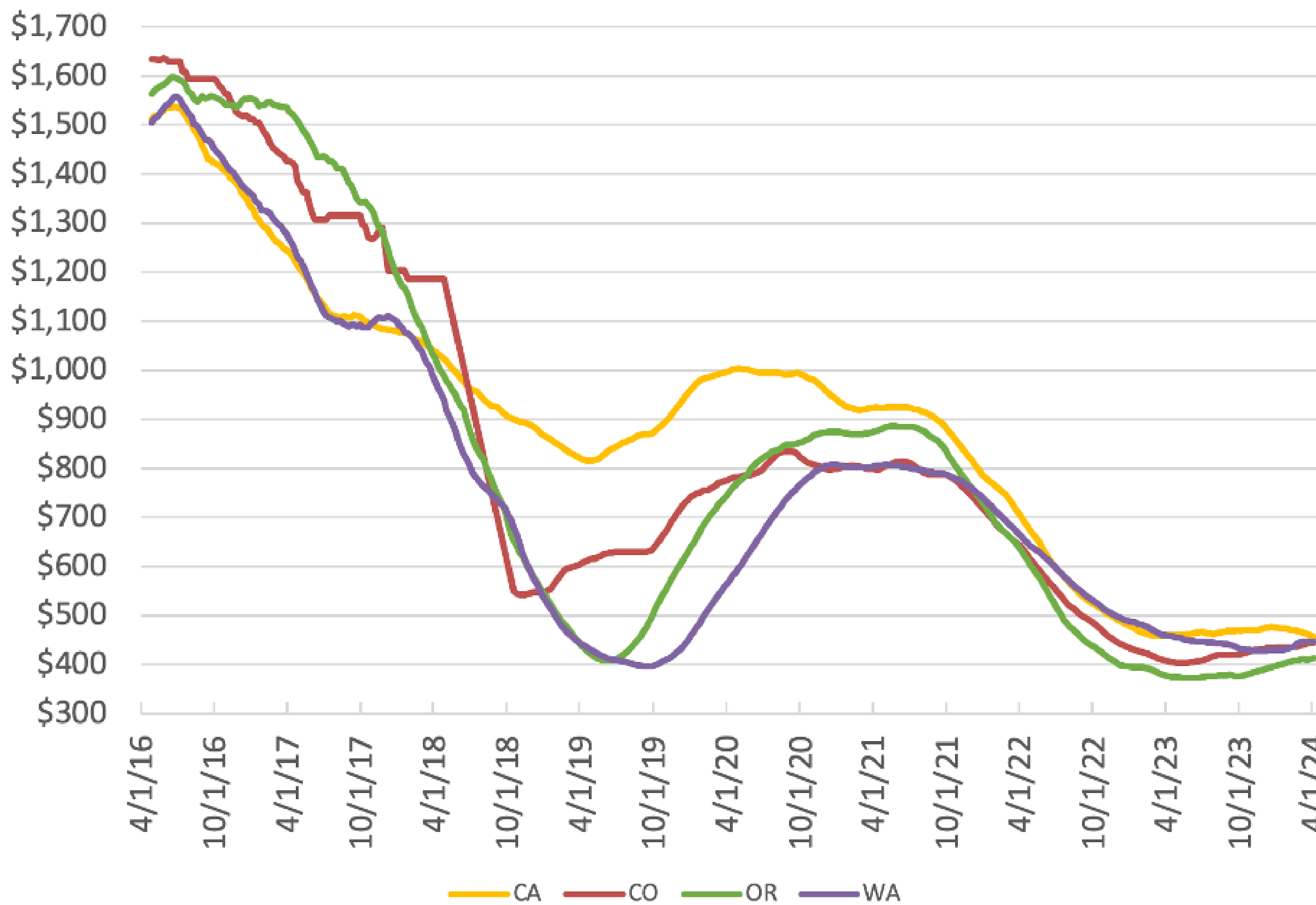


Source: Cannabis Benchmarks, January 2025. Bars represent lowest prices of wholesale transactions in the week ending January 3, 2025, for each type of cannabis flower. Outdoor prices were not reported for Arizona and Nevada. Grow types were not reported for Oklahoma, so its low price of $375 was assumed to be outdoor and other grow types are not included. This data provider collects and aggregates wholesale transaction prices ("spot prices") from a cohort of buyers and sellers. This does not represent a random sample of all wholesale prices; estimates are likely biased upward, but inferences can be drawn from intrastate comparisons and time trends.

Figure 3 looks at the prices over time in the four leading West Coast states, whose producers of low-priced outdoor-grown weed will likely dominate the first year or two of mainstream interstate commerce. It is interesting to note the convergence between states over time, the common rapid decline, and the relative stability since 2022, when prices settled around a low common range (about $400–$450 per pound). Note that these are average outdoor prices, not low transaction prices, so these numbers are not directly comparable to Figures 1 and 2 above.

Figure 3. Wholesale outdoor prices in California, Colorado, Oregon, and Washington have fallen, converged, and stabilized since 2022

Wholesale prices per pound for outdoor-grown cannabis flower in Western US states, 2016–2024, 12-month trailing averages



Source: Cannabis Benchmarks, April 2024. This data provider collects wholesale transaction prices by grow type from a cohort of buyers and sellers. This does not represent a random sample of all wholesale prices; estimates are likely biased upward, but inferences can be drawn from intra-state comparisons and time trends.

It is easy to see from Figure 3 that wholesale flower prices in the High Four (California, Colorado, Oregon and Washington) have been moving together since 2021. Three likely reasons for this interstate price convergence (or "integration," in economic terms) are:

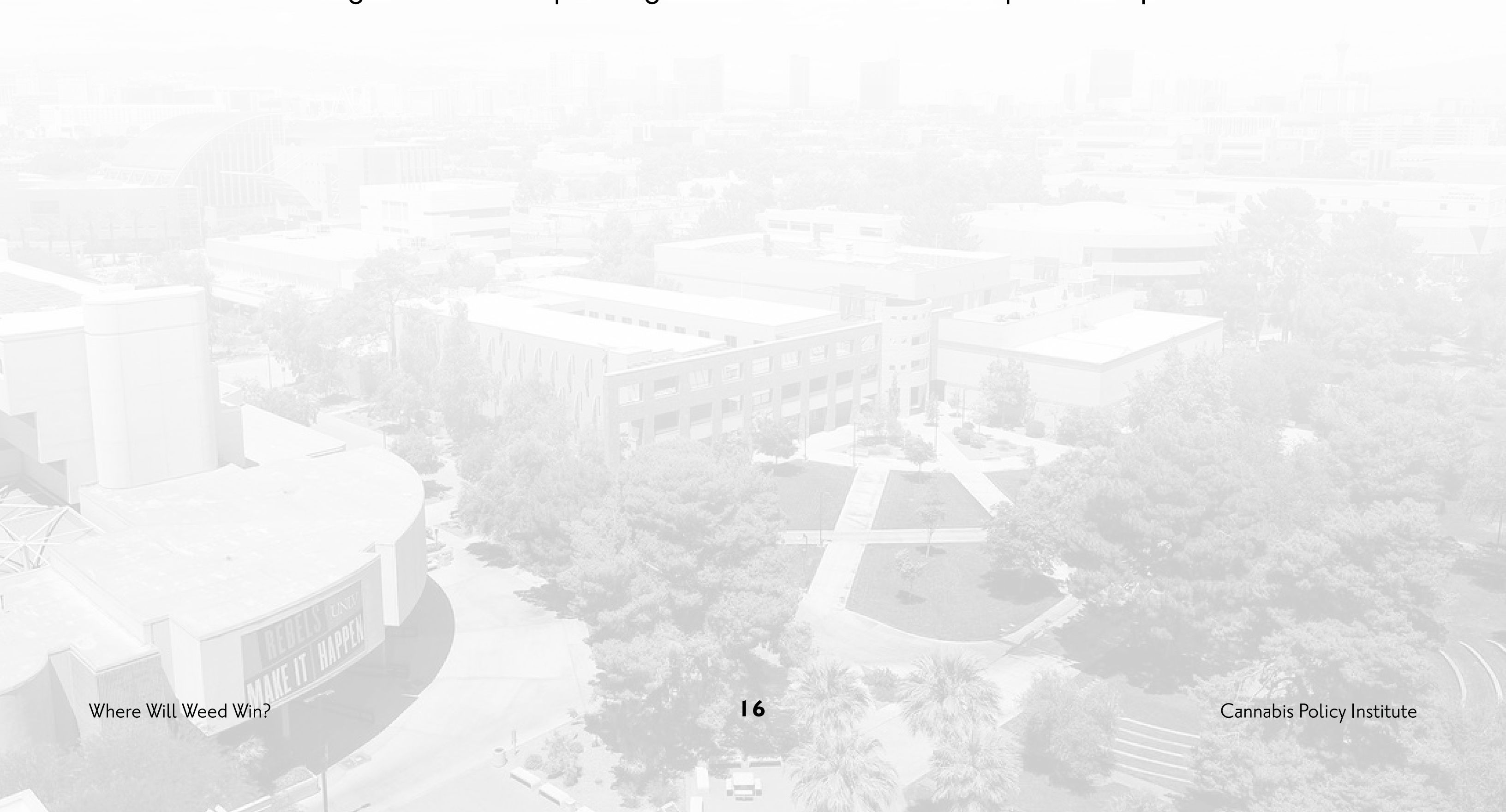
- **Reason 1 for price convergence: MSOs.** One reason for this industry consolidation is the rise of large multi-state operators ("MSOs") who can achieve some economies of scale through similar operations in different states and achieve low prices that are increasingly similar across state borders.

- **Reason 2 for price convergence: Illegal interstate commerce.** Another likely reason for the integration of prices is illegal wholesale trade between states. Leakages of cannabis products from legal producers to unlicensed sellers and illegal exporters has been widely reported. This is sometimes achieved by moving products through "burner distributors" that obtain licenses, take possession of products, and are quickly dissolved, at which point the products disappear onto the illegal market.

  Although these states all have "track-and-trace" systems that are theoretically designed to detect such leakages, most state regulators, tax agencies, and law enforcement agencies do not have the software or data analysis resources to do so. As a result, illegal interstate commerce abounds in America's most efficient weed-producing states, and illegal exports flow out steadily.

  California, in particular, has been supplying much, probably most, of America's national illegal weed market since decades before medical legalization, but with the relaxation or elimination of criminal enforcement against possession, sale, and transport, the illegal interstate export business is cheaper and less risky than it ever has been.

- **Reason 3 for price convergence: Ambiguously legal hemp.** See Section 5 for an explanation of this phenomenon, where West Coast states are shipping flower marked as "THCa" and other THC hemp products to serve an ambiguously legal retail market in Texas, the Southeast, and elsewhere. The cheapest weed states are actively competing to serve this active interstate export market, pushing all exporters to sell near marginal cost and pushing the market toward an equilibrium price.



FUTURE MARKET OVERVIEW: WHERE WILL WEED BE CHEAPEST WHEN IT IS LEGAL EVERYWHERE?

Interstate commerce outcomes will depend on a lot of factors that are correlated only loosely with current legal wholesale and retail prices. Tables 4 and 5 imagine a future where weed and interstate commerce are federally legal (i.e. we're in one of the rightmost two columns of Table 1), while making no assumption about what federal regulation might look like otherwise.

Table 4 shows the six most important drivers of cost advantages and disadvantages for weed businesses against their competitors. Table 4 includes my estimates of the relative importance of each cost driver to the competitiveness of a business in an interstate US market for seven types of weed businesses. Importance is denoted by numbers of plus signs, from - (unimportant) to +++ (most important).

Table 4. Which businesses will thrive in an interstate market?

	Main costs driving the competitiveness of business					
Business type	**Regulatory**	**Labor**	**Electricity**	**Land**	**Gas**	**Water**
Indoor grower	+++	+++	+++	+	+	++
Greenhouse grower	+++	+++	+++	++	+	++
Outdoor grower[9]	+++	+++	-	+++	++	+
Processor	+++	++	+++	++	++	+
Distributor	+++	++	+	+	+++	-
Retailer[10]	+++	+++	-	+	+++	-
Testing lab	++	+++	+++	-	++	++

Next, Table 5 compares 30 US states by their relative costs in five of the six categories from Table 4, using current price from publicly available data sets as rough indicators of relative costs. (Water, a less important input for which statewide data are scarce, is excluded from Table 5 for space.) As for other dollar values, the numbers in Table 5 are useful only for comparing states, not for calculating actual costs.

9 The impact of water costs on competitiveness varies widely by region and micro-climate. In regions where water is scarce, for example, irrigation becomes a major input cost for outdoor growers, and outdoor growing is often not feasible.

10 Applies only to retailers who would enter the mail-order business or deliver cannabis by vehicle to other states (e.g. from locations near state borders) if interstate commerce were legal.

Table 5. 30-state survey: How will cannabis costs vary by state in the future?

State + year of first legal sales[11]	Relative costs of legal cannabis inputs: Regulatory[12]	Labor[13]	Electricity[14]	Land[15]	Gas[16]
Alaska 1999	Med	**High** 26.99	**High** 21.78	**High** 13,800	Med 3.32
Arizona 2011	Med	Med 22.92	Med 12.31	**Low** 4,000	Med 3.06
California 1996	**High**	**High** 25.98	**High** 27.74	**High** 13,400	**High** 4.35
Colorado 2001	Med	**High** 25.98	Med 11.75	**Low** 2,200	**Low** 2.90
Florida 2016	**Low**	**Low** 21.67	**Low** 10.96	**High** 8,300	Med 3.07
Georgia Illegal	**Low**	Med 21.86	Med 11.53	Med 4,500	**Low** 2.90
Hawaii 2000	**High**	Med 24.28	**High** 36.87	**High** 11,400	**High** 4.53
Illinois 2014	**High**	Med 23.43	Med 12.31	**High** 8,700	Med 3.22
Iowa Illegal	Med	Med 22.34	**Low** 10.11	**High** 9,420	**Low** 2.77
Kentucky Illegal	**Low**	**Low** 21.02	Med 11.72	Med 5,300	**Low** 2.74
Louisiana 2016	Med	**V. Low** 19.87	**Low** 10.33	**Low** 3,720	**V. Low** 2.69

11 Year in which any form of retail sales were first permitted (medical or recreational). Source: Marijuana Policy Project (MPP). Available at: https://www.mpp.org/issues/medical-marijuana/state-by-state-medical-marijuana-laws/medical-marijuana-program-implementation-timeline. Categorized by color: green = early adopters (before 2005); black = second wave (between 2005 and 2020); red = third wave (since 2020). "Illegal" = states that have little or no legal cannabis commerce (not including intoxicating hemp).

12 UC Davis Cannabis Economics Group estimates. In states without legal cannabis systems, estimates do not apply to the costs of weed regulation but rather to the regulatory costs faced by hemp businesses and agricultural businesses in general.

13 Statewide average hourly wage across all occupations. Source: U.S. Bureau of Labor Statistics (BLS), May 2023. Available at: https://www.bls.gov/oes. Categorized by color: blue = very low (below $20/hour); green = low (between $20/hour and $21.75/hour); black = medium (between $21.75/hour and $24/hour); red = high (above $24/hour).

14 Source: U.S. Energy Information Administration (EIA), average commercial electricity rates, October 2024. Available at: https://www.eia.gov/electricity/monthly/epm_table_grapher.php?t=epmt_5_6_a. Values in US cents per kilowatt-hour (kWh). Categorized by color: blue = very low (below $0.100/kWh); green = low (between $0.100/kWh and $0.110/kwh); black = medium (between $0.111/kwh and $0.150/kWh); red = high (above $0.150/kWh).

15 Source: U.S. Department of Agriculture, farm real estate average value per acre, August 2024. Available at: https://www.nass.usda.gov/Publications/Todays_Reports/reports/land0824.pdf. Values in US dollars per acre. Categorized by color: blue = very low (below $1,500/acre); green = low (between $1,501/acre and $4,000/acre); black = medium (between $4,001/acre and $8,000/acre); red = high (above $8,001/acre).

16 Source: American Automobile Association (AAA), retail gasoline prices as of December 29, 2024. Values in US dollars per gallon. Available at: https://gasprices.aaa.com. Categorized by color: blue = very low (less than $2.70/gallon); green = low (between $2.70/gallon and $2.90/gallon); black = medium (between $2.90/gallon and $3.10/gallon); red = high (above $3.10/gallon).

Table 5 (continued): Relative costs of legal cannabis inputs

State + year of first legal sales[11]	Regulatory[12]	Labor[13]	Electricity[14]	Land[15]	Gas[16]
Maine 1998	Med	Med 22.88	**High** 18.52	**Low** 3,260	Med 3.04
Massachusetts 2014	**High**	**High** 29.18	**High** 20.59	**High** 14,300	Med 3.02
Michigan 2009	Med	Med 22.57	Med 13.50	Med 6,310	Med 3.03
Minnesota 2015	Med	Med 24.46	Med 11.95	Med 6,450	**Low** 2.87
Missouri 2019	Med	**Low** 21.67	**V. Low** 9.52	Med 4,800	**Low** 2.73
Montana 2004	**Low**	Med 21.97	Med 12.08	**V. Low** 1,200	**Low** 2.77
Nevada 2001	Med	**Low** 21.54	**V. Low** 9.64	**V. Low** 1,150	**High** 2.61
New Jersey 2012	**High**	**High** 26.38	Med 14.43	**High** 16,200	Med 2.92
New Mexico 2007	Med	**Low** 20.97	**Low** 10.42	**V. Low** 700	**Low** 2.78
New York 2015	**High**	**High** 27.33	**High** 19.10	Med 4,150	Med 3.13
North Carolina Illegal	**Low**	Med 21.85	Med 11.07	Med 5,190	**Low** 2.83
Ohio 2019	**High**	Med 22.45	**Low** 10.94	**High** 8,760	Med 3.16
Oklahoma 2018	**Low**	**V. Low** 19.94	**V. Low** 9.75	**Low** 2,400	**V. Low** 2.58
Oregon 1999	Med	Med 24.04	Med 11.41	**Low** 3,720	Med 3.45
Tennessee Illegal	**Low**	**Low** 21.07	Med 12.04	Med 5,710	**V. Low** 2.68
Texas Illegal	**Low**	Med 22.10	**V. Low** 8.57	**Low** 2,800	**V. Low** 2.62
Vermont 2004	**High**	Med 23.86	**High** 19.56	Med 4,350	Med 3.10
Virginia 2020	Med	Med 24.00	**V. Low** 9.33	Med 5,850	Med 2.93
Washington 1998	Med	**High** 28.81	**Low** 10.94	**Low** 3,620	**High** 3.90

Note: I chose the 30 states for this table to (1) include all states with substantial current legal weed production, (2) include most states with long histories of legal weed, (3) include some other states with substantial farming industries and potential for low-cost weed production, and (4) include states in all US regions.

THE TRANSFIGURATION OF HEMP

There's already a lot of legal interstate weed commerce in America—but it's in "hemp," not "cannabis." THC hemp is a new segment of the legal weed market, and this summary is important context for understand the annotated state rankings below.

In recent years, entrepreneurs in the Southern and Southeastern US have exploited a variety of legal loopholes and creative interpretations of the ambiguously worded 2018 Farm Bill (whose original intent was to legalize industrial hemp) and have begun openly selling intoxicating THC weed products as federally legal "hemp."

"There's already a lot of legal interstate weed commerce in America—but it's in 'hemp,' not 'cannabis.'"

The result is a large, vibrant interstate commercial market for intoxicating THC cannabis products that are being produced, packaged, and openly sold in ordinary (non-cannabis-licensed) retail stores as legal "hemp."[17]

Why is it legal? Producers and sellers claim federal legality for these products under the technical language that officially differentiated legal "hemp" from illegal "marijuana" in the 2018

17 See Goldstein, R., and Sumner, D. (2024). High on Hemp? Implications of the Farm Bill for National Weed Markets. American Enterprise Institute, October 2024. Note that when I say "legal," I don't necessary mean that the law is completely settled on the matter. For instance, the FDA has issued a guidance opinion that finished-form hemp-derived foods and beverages are not permitted. However, the FDA does not seem to have enforced this standard on any interstate shippers of finished-form products; on the contrary, interstate commerce in finished-form THC hemp products (e.g. 10 mg THC beverages) is being openly tolerated by state and federal authorities in a wide variety of states. For the purposes of this report, I consider an activity that is consistently permitted by authorities to be the rough equivalent of a "legal" activity.

Farm Bill: a measurement below or above 0.3% delta-9 THC by dry weight. This turned out to be a misleadingly narrow definition with several loopholes that put many intoxicating weed products into the federally legal "hemp" category.

By 2022, entrepreneurs around the US were relying on these loopholes to openly sell weed flower, vapes, and gummies in states that had never legalized weed. Many THC products now being sold at thousands of stores in hemp states are equivalent to licensed cannabis products being sold in other states, but they're labeled and marketed as federally legal hemp.

THC hemp is an interstate market, and it's growing fast. Between 2022 and 2024, the THC hemp market captured a substantial share of legal weed dollars in the US. The boom is still centered around a few Southeastern states, but it's built on a foundation of interstate commerce. In this market, THC flower, vapes, gummies, and beverages are being shipped across the country both wholesale and direct-to-consumer. Most THC hemp comes from California or other Western states and much of it is shipped to the East Coast, Gulf Coast, Appalachian region, or Texas.

> ***"Many THC products now being sold at thousands of stores in hemp states are equivalent to licensed cannabis products being sold in other states..."***

The retail market is growing fastest in the "Hemp States." THC hemp has taken its biggest consumer share in a handful of Southeastern states, such as Florida, Georgia, Kentucky, Louisiana, North Carolina, South Carolina, Tennessee, and Texas, where intoxicating THC hemp is either expressly permitted or openly tolerated by regulators and law enforcement. Hemp States also include several Midwestern states such as Minnesota. I call these the "Hemp States." I do not define this group of states precisely, because state regulations are changing so fast that states can quickly move in and out of the group. But one thing that distinguishes the Hemp States in general is that they tend to be states with total prohibition, i.e. no legal recreational cannabis and little or no medical cannabis. So, in many of the Hemp States, hemp has claimed 100% of the young legal weed market.

In general, the THC hemp approach to commercial and trade regulation may be more commerically viable than the "recreational cannabis" approach. Nonetheless, there are also obvious flaws in hemp regulation in many places. Many of these flaws, as with the original Farm Bill ambiguity, are built on technical misunderstandings. Some lawmakers are still not clear that THC hemp is just weed, and thus some Hemp States have not yet imposed an age limit on THC hemp sales, even though the vast majority of lawmakers and citizens do not want intoxicating weed to be legally sold to children.

But lawmakers in Hemp States appear to be making relatively rapid progress (by government standards) in adjusting and tuning their statutes to real-world businesses and market conditions. In a sense, Hemp States evaded having to suffer through the costly "recreational cannabis"-style legalization systems set up by the early-adopting states on the West and East Coasts and have instead chosen a simpler and more feasible form of weed legalization—even if some did so unintentionally.

The cat's out of the bag, and it can't be stuffed back in easily. Even if the hemp business gets reined in for now, the weed market in America may eventually look something like the weed market looks today in the Hemp States.

Business and tax collections are booming in Hemp States—unlike, for the most part, in the legal cannabis states. Through the hemp loophole, businesses are making money on legal weed, economic growth is being generated, and governments and states are collecting substantial tax dollars.

States outside the Southeast have also played big roles in the boom: Minnesota, for example, was the first state to create a legal THC hemp beverage market, and floundering craft breweries around the state that had been decimated by COVID-19 restrictions found new economic lifelines by serving weed drinks to non-beer-drinkers at their brewpubs.

Is it *really* legal? The answer is unclear. There is ambiguous wording in federal law and questions that have not been adjudicated in state or federal courts. The interpretation of the 2018 Farm Bill, in light of some later advisory opinions and statements by federal agencies that have unclear force and appear to conflict with some state laws, are all being discussed and debated by legal scholars.

I do not take a position on the potential outcome of these or future cases, and legal interpretation is outside the scope of this economic report. Before a new Farm Bill arrives, however, my view is that THC hemp is sufficiently tolerated by law enforcement and regulators in Hemp States to call it "legal," just as we call recreational marijuana "legal" in spite of conflicts between state and federal law.

Everything is changing, and every state is different. Upcoming decisions by federal judges in the Second Circuit and Ninth Circuit may have some impact—e.g. over the question of federal jurisdiction over cannabis businesses that are federally illegal—but no pending litigation would clearly close any of the major THC hemp loopholes.

The landscape of THC hemp is also rapidly changing state-by-state as legislatures consider bills to clarify or eliminate the hemp loopholes on a state level. Some proposals would expand THC hemp and support the industry, while others take steps to narrow or prohibit THC hemp. Legal ambiguities are actively being confronted in a raft of often-contentious lawsuits and legislative processes now happening around the country. Several states, including Texas—with its 30 million residents—are currently considering laws that would eliminate much of the THC hemp market.

The current situation may be temporary, as the upcoming US Farm Bill could close some or all of these loopholes, but in the Hemp States today's market provides a useful window into the future of interstate weed commerce. Throughout the annotated rankings below, I make frequent reference to the situation above, as it affects the relative positioning of states in an interstate market.

REGULATORY DEFENSE STRATEGIES IN AN INTERSTATE MARKET

The first and biggest effect of interstate commerce will be immediate competition between states on price. The initial juxtaposition of domestic and imported prices might be shocking in some states. When a producer in Illinois, whose legal weed with 25% THC is fetching $1,500 per pound from Illinois retailers in the gated market, faces competition from 30% THC weed from California at $150 per pound, the legal Illinois producer encounters immediate incentives to (try to) protect its business livelihood by lobbying the state to take protectionist measures and prevent cheap out-of-state retail competition.

If weed is federally descheduled, states might try to get creative with their regulatory protections. A simple ban on out-of-state imports would be illegal under the Commerce Clause of the US Constitution. Some states have gotten around this, however, by imposing costly environmental, safety, health, or worker-protection standards that out-of-state exporters are unable or unwilling to comply with.

For example, California's Proposition 12 banned the retail sale of imported pork products from farms that don't meet California's standards for the living quarters of breeding sows. So far, this law has withstood Commerce Clause scrutiny.

Illinois could hypothetically take a similar approach to keeping West Coast competition out of their legal cannabis retail stores, for instance, by choosing to enforce strict pesticide standards on weed coming in from states without pesticide bans.

However, the benefits of such protectionist measures—even to businesses they are intended to protect—tend to be illusory. The main effect of a pesticide ban on weed imported to Illinois would simply be a slight increase in licensed weed prices and a slight consumer shift to unlicensed weed. It would not likely affect total weed consumption or unlicensed prices. This form of protection, therefore, would likely not have the intended effect of helping licensed producers survive; instead, it would reduce the total Illinois legal market size, to the detriment of almost all market participants.

ROBIN'S WEED RANKINGS

I conclude this report with capsule summaries of my findings for 25 states that have (in my estimation) the most potential to thrive in an interstate weed market. I have chosen an unorthodox way of reporting my state-by-state findings. My motivation for this choice is as follows.

When I describe the weed market to colleagues, students, and friends, I often try and fail to organize my thoughts by state, or by groups of states. We sort states by how they are currently regulating (or not regulating) weed, constructing rough categories like "medical" vs. "recreational" states, "low-regulation" vs. "high-regulation" states, or "cannabis states" vs. "hemp states."

These categories are not always helpful in predicting state outcomes. In an industry whose regulatory fabric is a 50-state legal patchwork, states don't sort cleanly into groups. How each state will fare against national competition in an interstate market will be determined by one main factor: how cheap their weed is. That's a continuous variable, not a category distinction. It's determined by many measurable factors and some less measurable ones.

Below, I try out a new approach to sorting out the future interstate weed market. On the following pages, I rank the top 25 US states by economic potential in a national US market with legal interstate commerce.

My rankings include some basic data on each state along with brief annotations with additional information about state-specific factors, trends, and future regulatory outcomes that could affect the state's performance in interstate competition.

Although the exact choices of numerical rankings are not meant to be taken too seriously—that they are subjective and biased is endemic to the format—the accompanying reasoning and observations come from a variety of research projects currently underway at UC Davis. For continuity, I do not quote or cite individual research papers in this section.

My central aim with these rankings is not to estimate market sizes or project price trends, but to predict the big picture of what interstate commerce will look like in a future America. When it comes to weed, the American market is a collection of currently un-United States, each operating like mini-countries, with import and export bans that are largely unenforced but on paper are as strict, in theory, as national borders.

The future of the US legal weed market as it opens to interstate competition is the patchwork future of a newly interconnected set of independent states whose weed laws and regulations differ dramatically. These legal differences will not suddenly vanish with interstate commerce. Some differences may be amplified and become flashpoints for commercial and policy battles.

What I offer next as a way of reporting my main results, therefore, is not a set of numerical projections but a broad state-by-state tour of the whole patchwork, a few years from now, when many US states are in competition and selling in each other's backyards.

I present my annotated interstate Weed Rankings in the style of Power Rankings. I do this in hopes that the inevitable disagreements and incredulity that will arise over the orderings and snubs will yield thoughtful conversations, information-sharing, and new insights; and that lawmakers looking to bring investment into their states will consider how different policies might make their states more or less competitive on price.

The rankings on the following page summarize many of my key findings using the fewest words possible. I rank the top 25 states in order of **per-capita economic potential across all segments of the weed market**. One result of this is that states with smaller populations get some extra credit. In constructing these rankings I have relied, first, on the results of the comparative analysis of cost differences shown in Table 5; second, on my firsthand experience in the state, if any; and finally, on what I have learned from research, reading, and conversations.

This inaugural set of rankings is dated March 5, 2025. Each state is shown with the year, if any, that medical (M) or recreational (R) sales began. The list is presented in rank-order but can be read in any order.

ROBIN'S WEED RANKINGS

State and year of first legal sales	Capsule summary
1. Oklahoma 2018 (M) Pop: 4 million	America's most efficient legal weed system made it so easy to get a license that it was temporarily compromised by crime syndicates. This road bump won't hold back the state's vast long-term potential. Low-end wholesale prices are falling 40% per year and may not stop until they are America's lowest. The success of the no-nonsense, small-government approach to weed regulation taken by Great Plains states like #1 Oklahoma and #12 Montana has left wonks in #24 New York scratching their heads and planning vacations to dude ranches.
2. Oregon 1999 (M), 2016 (R) Pop: 4.2 million	Generations of expertise have seeded a booming legal industry with a 25-year history and the lowest prices in America. Southern Oregon has fragrant local strains and a growing climate that rivals California's legendary Humboldt County. Some of the state's plentiful high-grade outdoor flower has been selling for less than $200/lb. wholesale since 2022. Although outdoor prices have stabilized since then, greenhouse prices have now plunged below $300. Oregon's relatively permissive hemp laws (especially for West Coast legal cannabis states) have led to a thriving current export business, and give Oregon a leg up on interstate competition.
3. California 1996 (M), 2018 (R) Pop: 39 million	Weed is one of the only things that's cheap in California. Incredibly low legal prices, given the high input costs—especially for electricity, are a testament to the prowess and competitiveness of this veteran industry, in spite of formidable illegal competition. With excellent quality, unmatched outdoor growing capacity, and America's lowest wholesale flower prices, California will be an obvious industry leader from the day legal interstate commerce opens.
4. Michigan 2009 (M), 2019 (R) Pop: 10 million	Weed costs (Table 5) are much higher East of the Mississippi. So are prices (Figure 1)—except in Michigan, which in spite of average input costs has the lowest average wholesale flower prices and cheapest indoor-grown weed in America. Mature, fiercely competitive businesses are cranking out high volume to satisfy substantial local demand, and legal retail is raking in an impressive $350 in annual retail sales per resident—more evidence that low prices are the key to a big legal industry.
5. Nevada 2001 (M), 2018 (R) Pop: 3.2 million	Nevada is the least populous state in the top 10 but has exciting potential as an interstate cannabis exporter, beginning with a business-friendly environment and very low prices for electricity, land, and labor. Wholesale greenhouse prices, after stagnating for two years, fell 50% in 2024—a good sign for long-term competitiveness. Las Vegas also has a big opportunity in weed tourism, especially if regulatory changes can unlock new potential for on-premise retail.
6. Texas No legalization Pop: 30 million	In this vast state, four of America's 10 largest cities are home to a large portion of southern US demand. Texas has potential to attract very large weed manufacturers and processors, and THC hemp beverages have already been an interstate economic windfall. Some proposed laws, if coupled with enforcement, could halt or reverse this trend. On the other hand, if the incoming administration takes steps to support hemp, Texas may cooperate.
7. Colorado 2001 (M), 2014 (R) Pop: 5.9 million	Since opening America's first recreational retail shops in 2014, Colorado has been a trailblazer in the commercial development of legal weed at all levels, including tourism (to the extent allowable). There's cheap farmland, a feasible outdoor-growing climate, a supportive government and population, and an untapped market for on-premise retail spending. But labor costs are among the highest in America and, in recent years, Colorado's wholesale prices have drifted well above nearby states.

State and year of first legal sales	Capsule summary
8. Arizona 2011 (M), 2021 (R) Pop: 7.4 million	Arizona does not have a natural climate for growing but has made waves with its fast-falling prices for greenhouse-grown weed, which now average below $600/lb. Greenhouse flower from Arizona is cheaper than any state on the West Coast, even Oregon. High state cannabis taxes are a potential obstacle to success. Arizona is also leading the way among smaller western states in interstate hemp exports.
9. Washington 1998 (M), 2014 (R) Pop: 7.8 million	Washington was one of the first states to legalize weed in the country. A robust consumer culture and healthy tourist demand have helped the state's 10-year-old recreational industry mature more than most. Investments in technology and increasing scale have helped bring outdoor flower prices near national lows, but high labor and utility costs will be a long-term challenge to success. However, Washington has also banned THC hemp—one of three states to do so (with California and Alaska)—complicating state growers' and manufacturers' chances for being competitive in the current interstate hemp market.
10. Tennessee No legalization Pop: 7.1 million	The THCa hemp revolution was born here in 2023, when retailers began selling ordinary weed flower as "THCa hemp" based on a technical loophole in the federal definition in the US Farm Bill (see Section 5 for details). The market boomed, but new state regulations—currently under appeal by the hemp industry—now threaten to smoke it out.
11. New Mexico 2007 (M), 2024 (R) Pop: 2.1 million	New Mexico has a small population but a productive medical weed industry that is just transitioning to a recreational system. Wholesale and retail prices are low and falling fast, and the state's high-altitude farmland is some of the cheapest in the country, with a statewide average market price of $700 per acre.
12. Montana 2004 (M), 2022 (R) Pop: 1.1 million	This dark horse unexpectedly debuts at #12 in the rankings with some of the lowest retail prices in America and high per-capita revenue. Montana's thinly settled, ultra-inexpensive land could attract plenty of large-scale greenhouse growers. Weed taxes are heavy, but regulations aren't costly otherwise, and the state has a reputation for harboring a friendly business environment.
13. Florida 2016 (M) Pop: 23 million	For years, Florida's medical system grew but was limited by quotas and barriers that kept per-capita revenues below $100 per resident. Then, in 2023–24, ambiguously legal "hemp" (see Section 5) busted open the market. With tax collections flowing, the governor supported the growing hemp industry by vetoing a bill that would have narrowed the definition of hemp. At least for now, THC manufacturing and drinks might have a sunny future in Florida.
14. Minnesota 2015 (M) Pop: 5.7 million	Minnesota is the North Star of THC drinks, which state lawmakers have embraced. Weed sodas, 10mg and 5mg, are the ~~Jefferson and Madison~~ Jefferson and Addison of its weed-exporting future. Meanwhile, the recreational bill that passed in 2023, which might not be implemented by 2026, could be rendered moot by federal legalization before it ever takes effect.
15. Massachusetts 2014 (M), 2018 (R) Pop: 7 million	Nowhere in America have weed prices fallen faster over the past three years than in Massachusetts, where growers are now competitive with prices in Montana and New Mexico. Brutal in-state competition has sunk many businesses, but the cost-cutters who survive will be better prepared to compete nationally than their high-priced Northeastern neighbors.
16. Puerto Rico 2017 (M) Pop: 3.2 million	Data from this medical-only state are scarce, but it's definitely a market worth watching. Labor costs (below $10 per hour at the 25th percentile) are very low in PR. So are current retail prices, despite small legal production scale. If growers can reduce other input costs as they expand, then they could contend on price in the low-end outdoor-grown wholesale market. High import costs may help some smaller producers on the island withstand out-of-state competition.
17. North Carolina No legalization Pop: 10.8 million	North Carolina has a robust THC and THCa hemp market, and healthy state tax collections give lawmakers every incentive to support the weed industry. In Robeson County and other tobacco-growing areas, costs are low, the land is fertile, and farmers are looking for new ideas.
18. Missouri 2019 (M), 2023 (R) Pop: 6 million	A relative newcomer to legalization, Missouri only opened its recreational system in 2023 but is now tracking $1.4B in annual sales ($226 per state resident), with tax collections over $200M. Some of the nation's lowest electricity bills and low labor costs could help bring high prices down.

State and year of first legal sales	Capsule summary
19. Louisiana Medical: 2016 Pop: 4.6 million	In Louisiana, THCa flower and hemp edibles are widely available at convenience stores, and there are increasing tax incentives for the government to stay on the legal-hemp bandwagon. Louisiana's biggest long-term assets are its low costs, especially labor. The state's history of less-than-transparent licensing processes is a potential challenge for new entrants.
20. Maine 1998 (M), 2021 (R) Pop: 1.4 million	Maine makes the top 20 for its long history (it was one of the first three states with any legal weed), inexpensive land, and the lowest medical prices in New England. But competitiveness in New England won't count for much in a national price battle. Tax breaks on production and distribution could help protect state exporters.
21. Kentucky No legalization Pop: 4.5 million	Kentucky has modest costs of doing business and cannabis input costs, and the state's labor force brings expertise in agri-business. One more advantage here—shared by Tennessee and other Hemp States—is that the weed-regulation slate is relatively blank here. The wait-and-see approach could benefit Kentucky if federal laws turn toward hemp.
22. Vermont 2004 (M), 2022 (R) Pop: 650,000	Challenges for Vermont include high regulatory costs for all businesses and a harsh growing climate for weed. But the state has rapidly falling wholesale prices, a weed-friendly population, and a culture of buying local. Cannabis clubs could help some smaller farms cultivate long-term direct-to-consumer sales relationships with local customers who visit their farms regularly. With legal interstate shipping, club membership could expand to include out-of-state tourists.
23. Hawaii 2017 (M) Pop: 1.4 million	Hawaii has very high costs of all kinds, so Hawaiian growers have no chance to compete on price nationally. If they cooperate on state-themed branding, however, their premium outdoor-grown flower and craft-brewed THC-infused punch could also find space on the shelves of Beverly Hills.
24. New York 2015 (M), 2022 (R) Pop: 20 million	So far, New York has been a lesson in how not to legalize, but in-state consumption is sky-high. Retailers are finally sprouting up around cities, but they can only sell licensed weed, much of which is schwag. Illegal smoke shops already sell great imported weed. On-premise retail could bring in big tourist dollars, but only by removing barriers that currently ban the sale (and consumption) of weed and alcohol in the same location.
25. Alaska 1999 (M), 2016 (R) Pop: 750,000	Very high labor, electricity, and land prices—plus a small population and forbidding climate that increases resource use—will prevent Alaskan weed from competing much in the interstate market. Alaska's location and high import costs could protect local producers to some extent. Alaska is one of three licensed cannabis states (with California and Washington) to pass blanket THC bans on hemp, but given the dim prospects for interstate exports, this won't have much impact in Alaska other than taxing its own consumers. Weed tourism, especially in the cruise sector, could eventually get interesting.