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Overview of the 2024

NEVADA CANNABIS ECONOMY

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About the CPI

The Cannabis Policy Institute at the University of Nevada, Las Vegas is dedicated to the development and advancement of cannabis research, policy, and education. The institute engages with a range of stakeholders and community partners to develop effective approaches to cannabis policy, expand and coordinate educational opportunities, and support and promote research. The economics of the cannabis industry is one of the first focus areas the CPI identified in 2024 as in need of more robust, thoughtful research.

Understanding the trends, challenges, and opportunities for the cannabis industry is important for policy development and overall growth. Thus, the CPI formed a collaborative partnership with economist and Director of the UC Davis Cannabis Economic Group, Robin Goldstein, author of *Can Legal Weed Win?: The Blunt Realities of Cannabis Economics*, as well as Deputy Director of the UC Davis Cannabis Economics Group, Olena Sambucci, to develop this report.



CPI Director Riana Durrett was appointed as director of the UNLV Cannabis Policy Institute in August 2023 where she enjoys the guidance of an advisory board as well as assistance from CPI Director of Research, Dr. Marla Royne Stafford. Durrett also serves as the vice chair of the Nevada Cannabis Compliance Board. Prior to her work with the CPI and CCB, Durrett served as the executive director of the Nevada Dispensary Association, where she established the association as the primary resource on best practices in Nevada’s cannabis industry—developing the NDA into the primary regulatory and government affairs voice for Nevada’s cannabis industry. Durrett obtained a JD from William S. Boyd School of Law, as well as an LLM in Gaming Law and Regulation and is admitted to practice law in Nevada and California.

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Overview of the 2024 Nevada Cannabis Economy

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Abstract

This report gives a broad survey of the legal cannabis market in the state of Nevada in 2024, including notable trends in retail and wholesale prices, market shares by product type, challenges faced by cannabis businesses and state regulators, and opportunities for the cannabis industry, including tourism and on-premise consumption in the context of decreasing national alcohol consumption. In order to estimate market characteristics, we analyze 2018–2024 data from the Nevada Department of Taxation, 2023–2024 data

from the Metrc track-and-trace system administered by the Nevada Cannabis Compliance Board (CCB), and national U.S. retail and wholesale cannabis price data. We describe a variety of characteristics of the Nevada cannabis market as of 2024, including total retail and wholesale revenues, average prices for a variety of product types and package sizes, and trends over time. Finally, we discuss several regulatory levers of market share, stability, and growth of the legal cannabis market in Nevada between 2025 and 2030.

Introduction



A typical “Overview of the Cannabis Economy” report might begin by reporting top-line numbers, such as total cannabis retail revenue or tax collections, to evaluate the progress of the state’s legal cannabis industry. But legal cannabis is not a typical industry, and the legal cannabis industry is not in a typical state. The market for cannabis of all forms is in a state of rapid flux, currently in the shadow of a presidential election and, at the same time, of a booming gray market for intoxicating hemp products that is unlikely to be resolved by a new U.S. Farm Bill before 2025.

This report does include ordinary top-line numbers such as total retail revenue, including tables and charts of growth and projections,

but we take a non-standard approach to organizing our results. For the results shown here, we have analyzed historical and present-day data, and use simple econometric models to predict future outcomes that are most likely to occur in light of different future regulatory scenarios. We attempt to report our results in plain English with common-sense economic reasoning and simple tables and figures. We encourage readers to write to us with any questions or criticisms.

The report is organized as follows.

First, in Section 1, “Key Trends Driving the Nevada Cannabis Market,” we summarize the key trends, measures of progress, and obsta-

cles to success for legal cannabis in the Nevada cannabis industry. We review the basic characteristics of the Nevada cannabis market from 2023 through early 2024, including cultivation, production, wholesaling, and retailing. We report total revenues and quantities by volume, and retail prices for flower and vape products by product type and package size.

In Section 2, “Other Factors Impacting the Nevada Cannabis Industry,” we offer brief summaries of some other trends, economic market forces, and regulatory factors currently at play.

In Section 3, “Challenges and Opportunities for the Nevada Cannabis Industry,” we briefly report on the challenges and opportunities presented by current and future legal and

regulatory phenomena. First we consider the rapidly growing gray market for intoxicating hemp as applied to the Nevada market. This is a brief section, but one of important policy relevance. We reference a second report in this series (Goldstein, 2024) for more detail on the growth of the intoxicating hemp market and its impact on the U.S. legal cannabis industry.

We also provide background and context on some policy decisions that impact the Nevada cannabis market in the present day and near future, and we consider directions that the Nevada cannabis market could take in scenarios with different sets of state policies in place.

Finally, in Section 4, we list some important research topics for further study.

1. KEY TRENDS DRIVING THE NEVADA CANNABIS MARKET

Before reporting the descriptive measurements that result from our analysis of the Nevada cannabis market (Section 2), we begin by evaluating eight overall trends, market dynamics, and regulatory phenomena that we see as particularly relevant to understanding the state of the Nevada market in 2024.

1.1. Trend 1: Retail cannabis prices are falling rapidly, and will fall further

In most U.S. states that have legalized cannabis, legal cannabis prices started high, partly for historical reasons. The transition from a fully illegal to fully legal industry in one to two decades caused some stickiness in prices that incorporated prohibition-era risk premia. Legal prices in many states are still, to some degree, anchored to pre-legalization benchmarks like \$40 per eighth (1/8 ounce) of cannabis flower. However, this is quickly disintegrating.

But across the United States, over the past decade, the rapid legalization, growth, technol-

ogy adoption, and consolidation of the legal cannabis industry—alongside the decriminalization of the illegal market and the emergence of a gray market for THC hemp that now includes mail-order THC products—has exerted a downward pressure on the so-called “risk premium,” or the cost associated with running an illegal business. Overflow from legal markets into illegal exports has also caused integration between markets in U.S. states, pushing wholesale and retail cannabis prices.

Over the course of 2023, Nevada retail prices for flower and edibles fell by about 10%, concentrates fell by about 4%, and pre-rolls fell by about 1%.

As shown in Table 1, over the first five months of 2024, the decrease in flower prices accelerated such that prices in April and May 2024 were down more than 21% year-over-year (vs. April and May 2023).

Table 1. One-year retail price changes, January–May 2024

Difference between each month’s average retail price and the retail price on the same month in 2023

	Flower			Concentrates		Edibles
	Ordinary	Smalls*	Pre-rolls	Solvent	Solventless	Liquid & Solid
Jan-24	-9.7%	-1.8%	-1.2%	-4.0%	-4.4%	-11.7%
Feb-24	-13.5%	-4.3%	1.3%	-2.1%	-7.2%	-10.5%
Mar-24	-15.8%	-5.3%	1.1%	-2.0%	-6.3%	-9.9%
Apr-24	-21.3%	-4.0%	2.4%	-0.8%	-2.8%	-9.4%
May-24	-21.4%	-7.1%	1.2%	0.7%	1.9%	-11.1%

Source: Author calculations using anonymized data from state Metrc track-and-trace system.

* “Smalls” means packages of flower with smaller-than-normal buds, also known as “popcorn” flower. In Nevada’s state track-and-trace system, the category is called “small/popcorn buds.”

Figure 1

Retail price per gram of cannabis flower in Nevada

Adult-use, all package sizes, n=9,030,781 transactions



Source: Author calculations using anonymized data from state Metrc track-and-trace system.

Today's falling retail prices are an indicator of efficiency and adaptation of better technology. Prices are expected to fall in a newly legal industry where businesses are rapidly adapting to new conditions and refining their business models to market demands they understand better each year. So it is unsurprising that the effect of falling prices would drive overall trends in total retail revenue.³

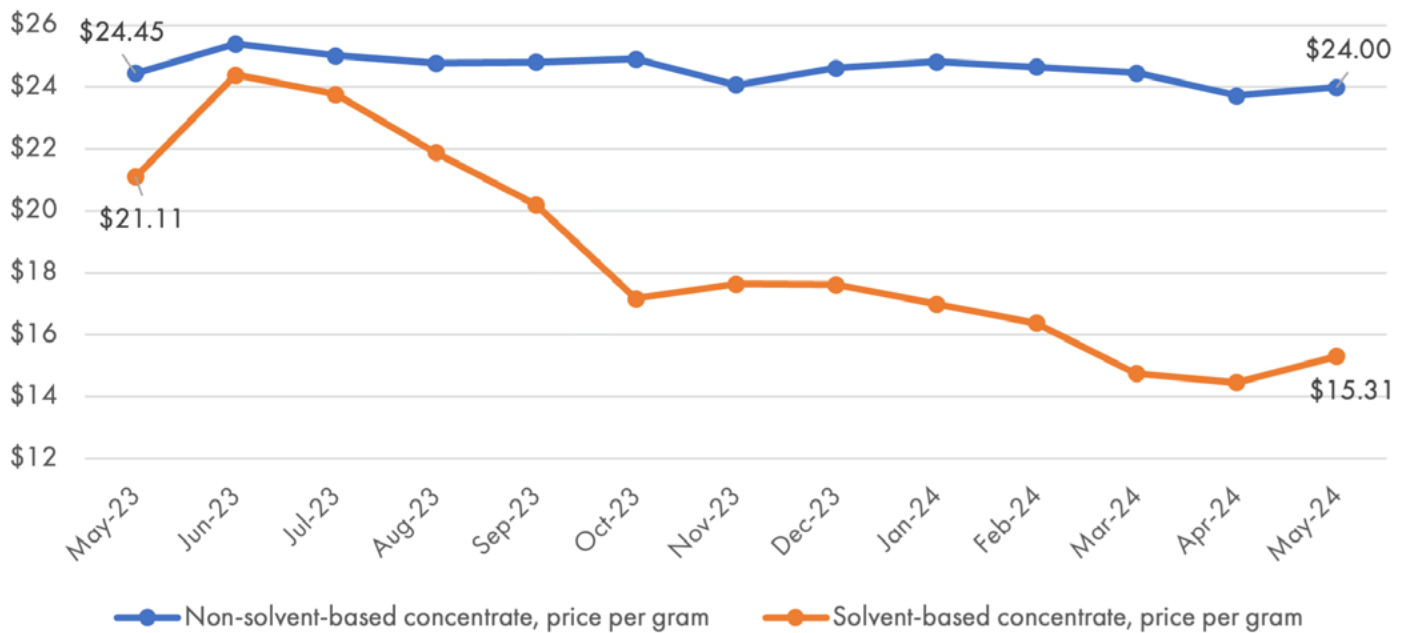
One notable thing about the retail price trend for flower over the last year (May 2023 to May 2024) is the almost perfectly linear consistency of the price decline across all package sizes, as shown in Figure 1 above. Ordinary flower prices declined from \$6.18 per gram in May 2023 to \$5.11 per gram in May 2024, a decline of about 17%.⁴

3 Goldstein, R., and Sumner, D.A. (2022). *Can Legal Weed Win? The Blunt Realities of Cannabis Economics*. University of California Press.

4 Regression estimates showed a good fit (R-squared = 0.98) of a model with a linear monthly decline in the average retail price of flower of about 9.5 cents/month. Regression equation is shown in Figure 1.

Figure 2

Nevada cannabis concentrate retail prices: Solvent-based falling faster than non-solvent-based



Source: Author calculations using anonymized data from state Metrc track-and-trace system.

Retail prices for solvent-based concentrates, a category that includes the THC distillates that make up most of the vape market, have been falling even more rapidly. Solvent-based retail prices decreased about 27% between May 2023 and May 2024. Non-solvent-based concentrates, a premium category that includes whole-plant “live resin” and “live rosin” vapes, have been relatively flat, falling only slightly (about 2%) over that same time period. Figure 2 shows time trends in retail prices for solvent-based and non-solvent-based concentrates.

1.2. Trend 2: Total quantity of cannabis sold has been increasing over the same time as average price per gram has been decreasing

These two trends are shown together in Fig-

ures 3 through 7. All of these figures plot the increasing cannabis quantity (blue line) against the decreasing average monthly retail cannabis prices (orange line) on the same set of axes.

First, Figure 3 shows the comparison of price and quantity for all cannabis products, measuring quantity by approximate total grams THC sold at retail per year, using rough market estimates of average THC potency by category. Converting quantities to pure-THC equivalents enables comparison and addition across product types.

Next, Figure 4 shows the comparison of price and quantity for all cannabis flower only (including small buds, but not including pre-rolls),

measuring quantity by total grams of flower sold at retail. Cannabis flower accounts for roughly 45% of the Nevada market, whether measured by volume (in terms of grams total THC) or revenue (in retail dollars spent).

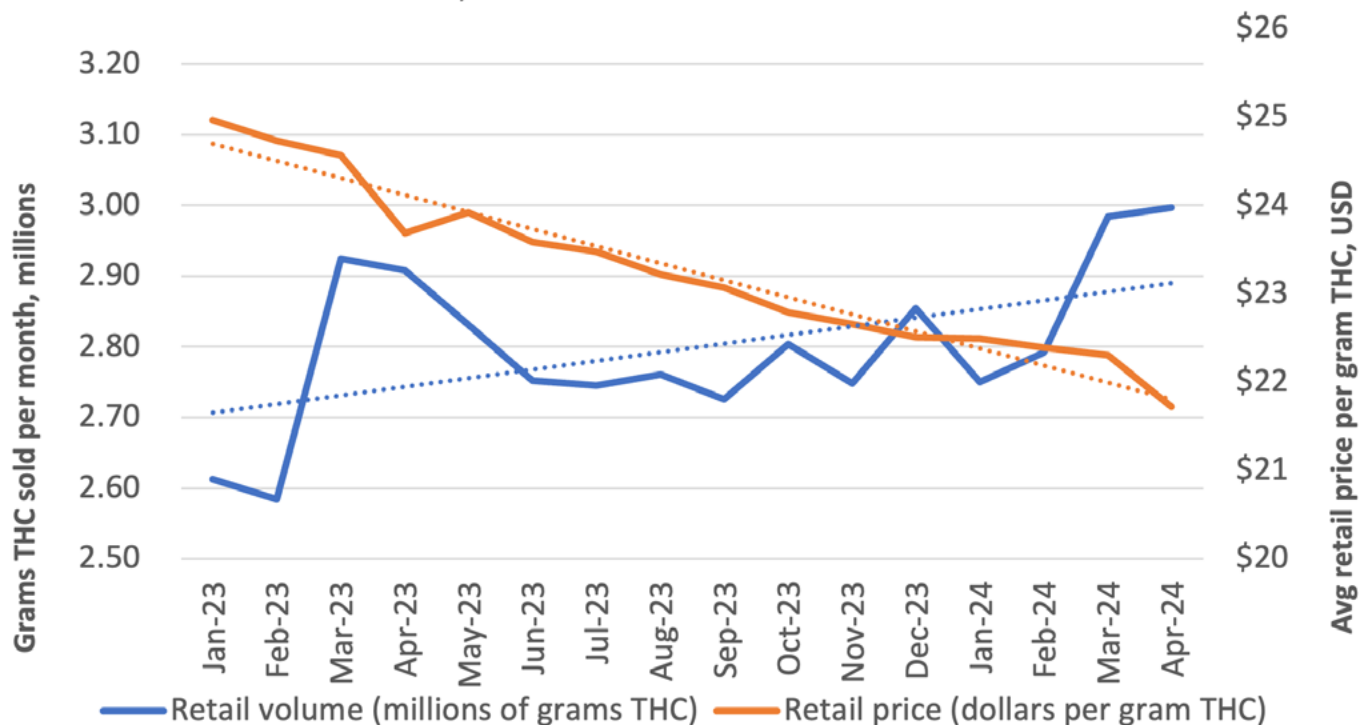
Figure 5 shows the comparison for pre-rolls (the other dried-flower category), which have about 8% of the market by volume and 12% of the market by revenue. Figure 6 shows the same comparison for concentrates, which have about half the market by volume and about one-third by revenue. Figure 7 shows the comparison for edibles, which have about 2% of the market by volume and 12% by revenue.

For Figures 4 through 7, we have used the same absolute scale for the X-axes and the same relative scale for both price and quantity Y-axes (a 1-to-1.5 ratio of low-to-high values on the charts), so that the magnitude of change is comparable across product categories and all the charts can be compared side to side. Horizontal rules in Figures 4 through 7 are also standardized to 0.5 million grams, again for comparability.

Figure 3

**Nevada retail cannabis market overall:
volume of cannabis sold is rising,
cannabis prices are falling**

Total retail revenue and total retail volume as measured by estimated total THC, Nevada. *Source: CCB METRC data.*

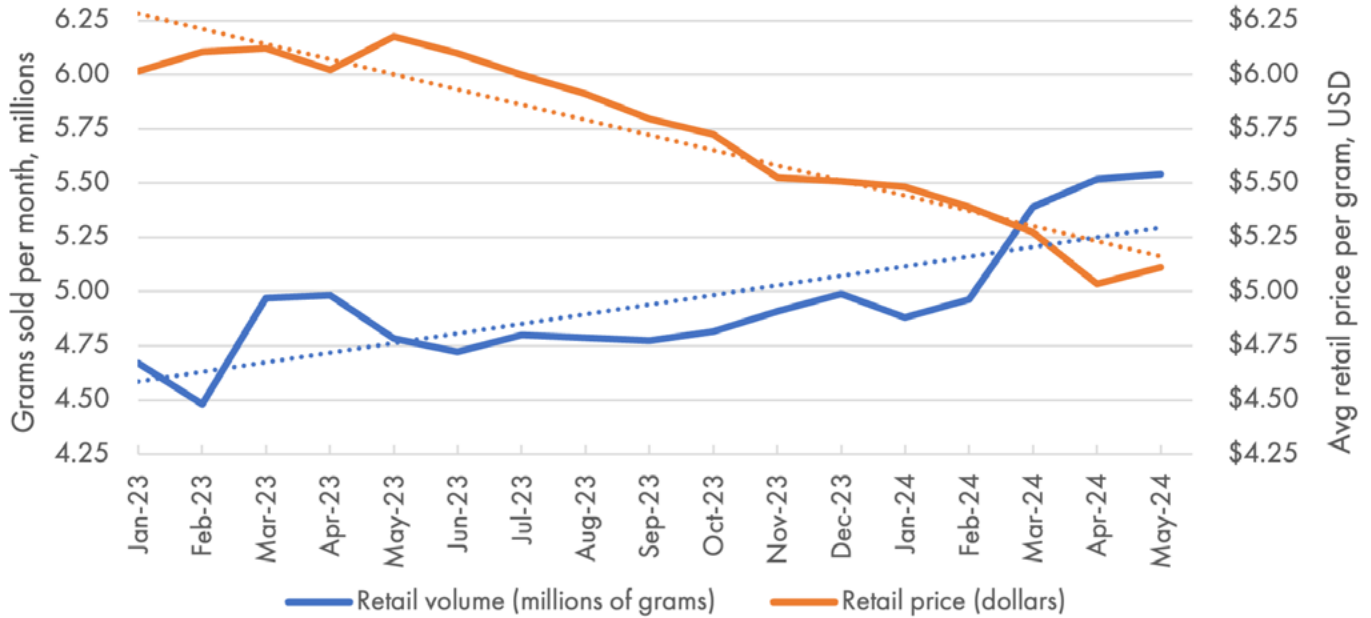


Source: Author calculations using anonymized data from state Metrc track-and-trace system.

Figure 4

Retail sales of flower (not including pre-rolls): volume is rising fast, prices are falling fast

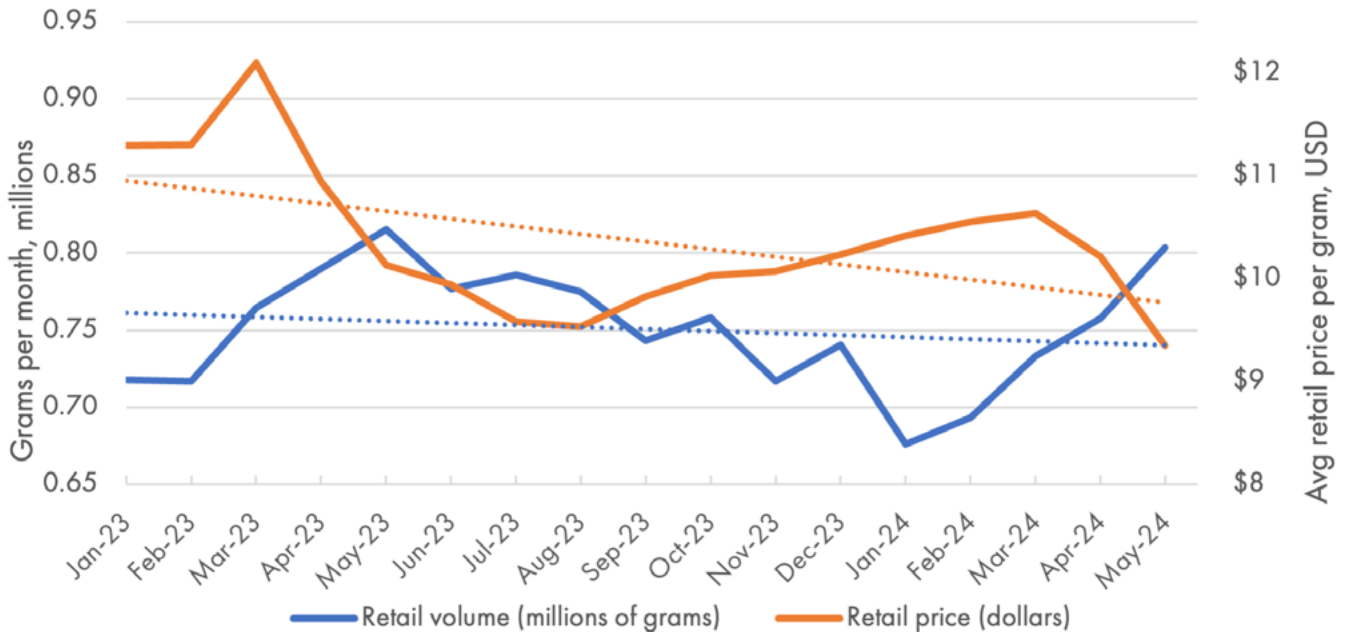
Includes small/popcorn buds (about 15% of revenue, 20% of volume, 10% lower avg price)
Source: CCB METRC data



Source: Author calculations using anonymized data from state Metrc track-and-trace system.

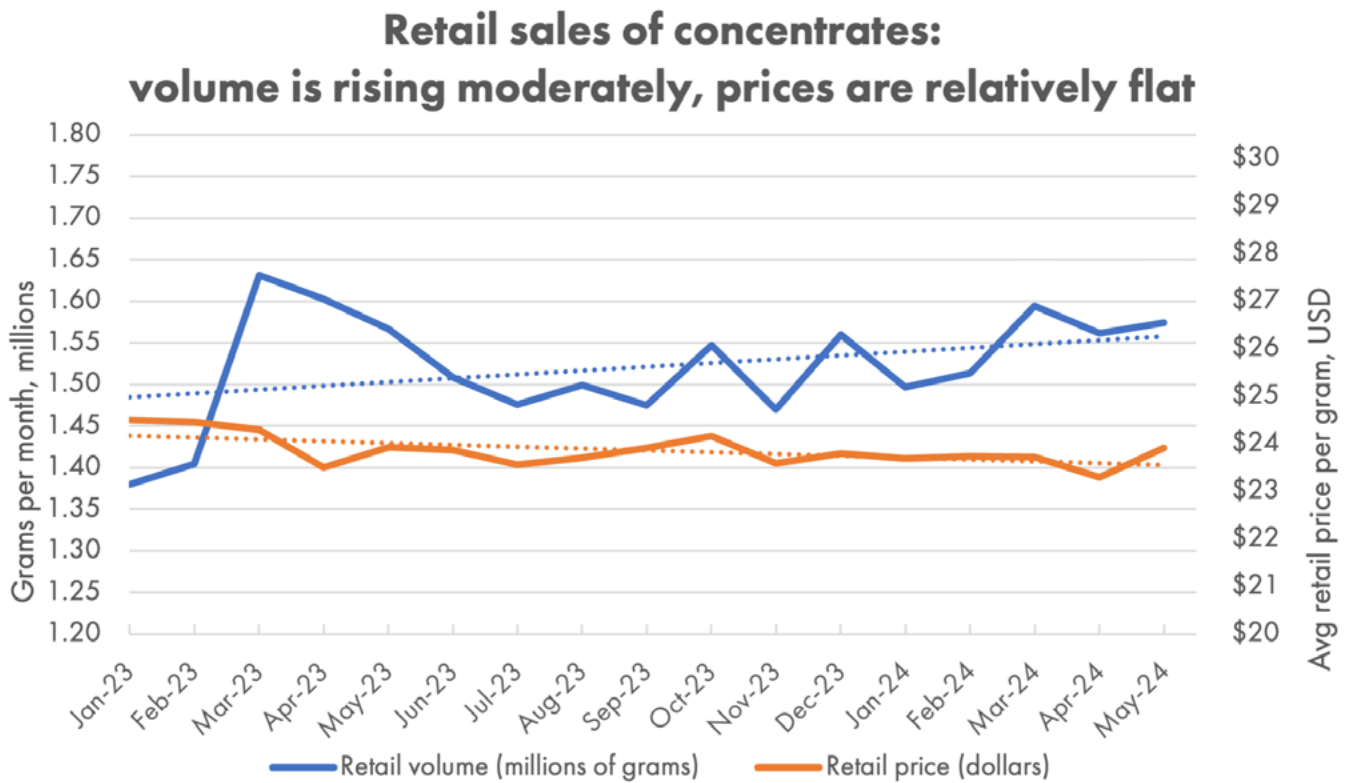
Figure 5

Retail sales of pre-rolls (ordinary + infused): volume is flat, prices are falling moderately



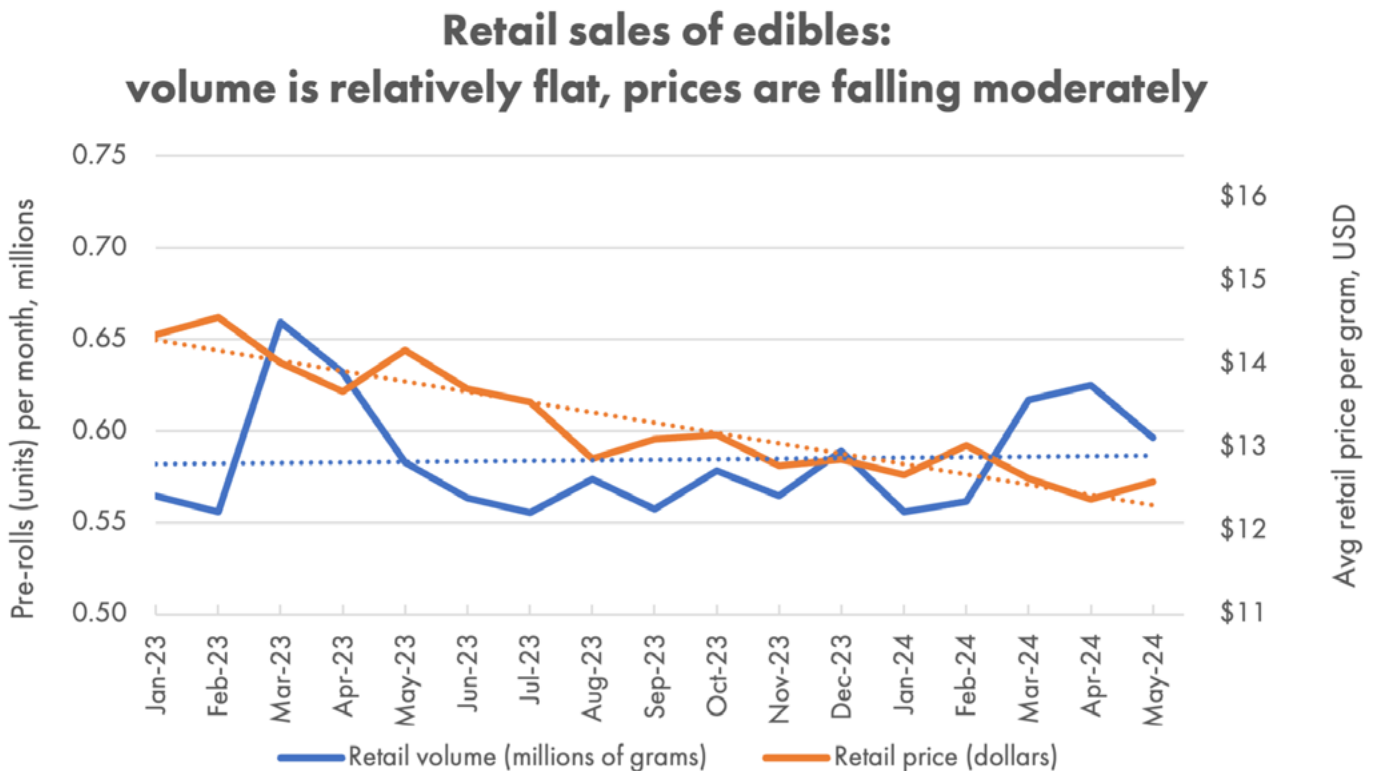
Source: Author calculations using anonymized data from state Metrc track-and-trace system.

Figure 6



Source: Author calculations using anonymized data from state Metrc track-and-trace system.

Figure 7



Source: Author calculations using anonymized data from state Metrc track-and-trace system.

1.3. Trend 3: Wholesale cannabis prices are falling, but more gradually than retail prices, and are still high by U.S. standards

Average wholesale flower prices averaged about \$1,350 per pound and fell throughout 2023, to about \$1,270 in December 2024. Figure 8 shows average monthly wholesale prices per pound for packaged flower, unpackaged flower, and pre-rolls. Wholesale flower price data, here as in the remainder of this report (except where Cannabis Benchmarks data is referenced), come from anonymized CCB METRC (track-and-trace) data obtained through a public records request.

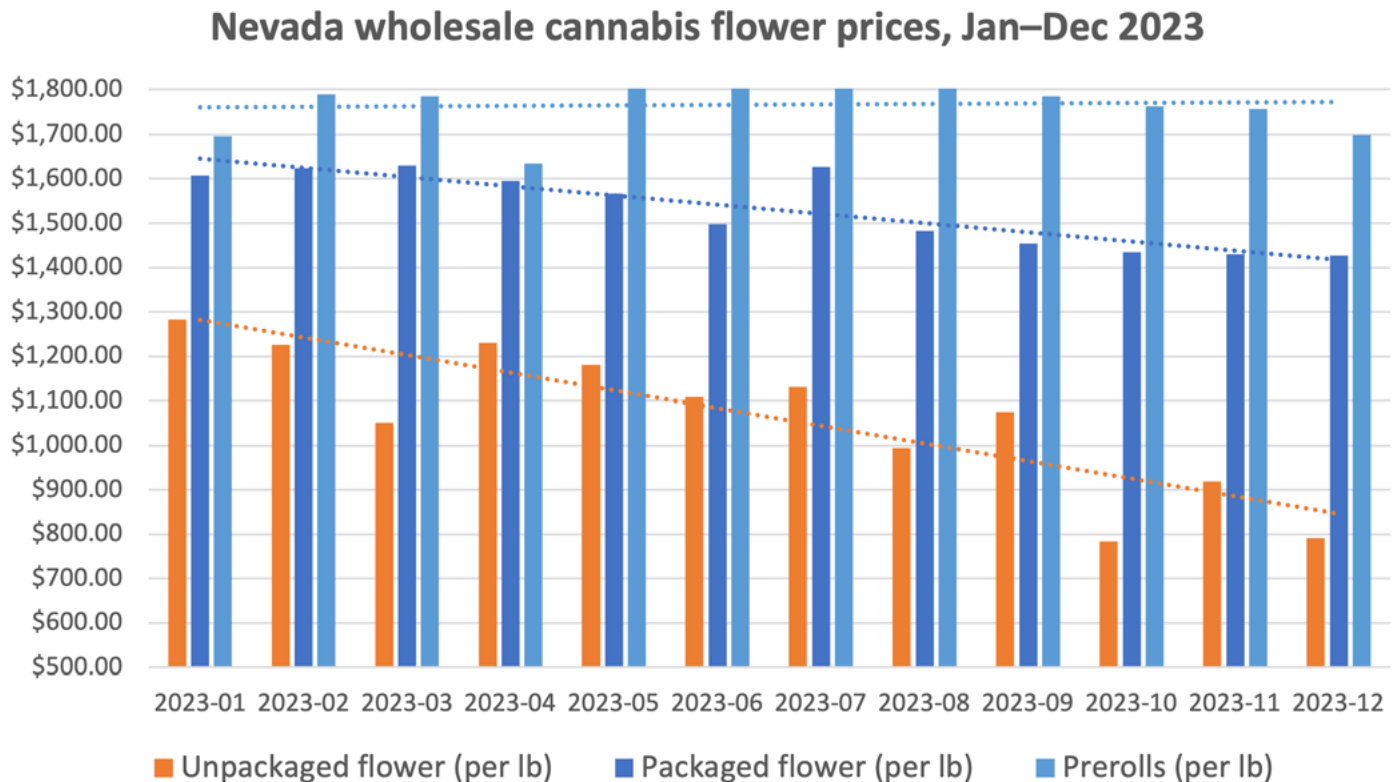
Nevada’s wholesale average was high for the U.S. western states in 2023, more than double

California median prices (see Section 2 below for more on Nevada’s differences).

In 2023, wholesale prices declined most for unpackaged flower (almost 40%). Prices decreased by about 12% for packaged flower, and prices decreased only slightly for pre-rolls.

We ran univariate time-series regressions to measure these trends. Fit lines are shown on Figure 8. Our results were as follows: Pre-rolls (per lb): $y = 1.0806x + 1758.5$ (R-squared = 0.004) – no change in price over 2023. Packaged flower (per lb): $y = -20.66x + 1665.8$ (R-squared = 0.78) – price per pound decreasing by about \$21 per month (\$248 per year). Unpackaged flower (per lb): $y = -39.67x + 1322.1$ (R-squared = 0.75) – price

Figure 8



Source: Author calculations using anonymized data from state Metrc track-and-trace system.

per pound decreasing by about \$40 per month (\$476 per year).

Retail prices for flower, especially unpackaged flower, fell faster than wholesale flower prices. This trend is shown in Figure 9. One result of this was a decrease of wholesale-to-retail markups in the flower category, which de-

creased from 110% to below 100% over the course of 2023.

The most recent 2024 markup averages from our data are shown in Table 2. Lower markups mean smaller overhead margins (or less revenue to cover operating costs) for retail businesses.

Figure 9

Flower retail prices are falling faster than wholesale prices

Price per gram of packaged legal cannabis flower, Nevada, 2023



Source: Author calculations using anonymized data from state Metrc track-and-trace system.

Table 2. One-year retail price changes, January–May 2024

Product Type	Wholesale Price	Retail Price	Retail Markup Pct	Retail Dollar Markup
Small buds (1/8 oz)	\$8.15	\$15.38	89%	\$7.23
Ordinary flower (1/8 oz)	\$10.42	\$22.27	114%	\$11.85
Pre-rolls (avg ~1g)	\$4.26	\$8.14	91%	\$3.88
Ordinary concentrates (1 g)	\$10.81	\$22.78	111%	\$11.97
Solventless concentrates (1 g)	\$13.10	\$25.06	91%	\$11.96
Edibles (1 pkg)	\$5.62	\$13.57	141%	\$ 7.95

Source: Author calculations using anonymized data from state Metrc track-and-trace system.

1.4. Trend 4: Total Nevada retail revenue was declining from 2021–2023, and has been relatively flat from mid-2023 to mid-2024

From 2018 to 2020, total legal retail cannabis revenue collected in the state (along with corresponding state cannabis taxes) grew steadily as Nevada’s adult-use system was first rolled out. However, starting in 2021, this trend was reversed, at least temporarily, by even more rapidly falling prices.

Total retail revenue is a common metric of market size that is equivalent to the price per good (dollars per unit) times the quantity of goods (number of units). When overall average price goes down and overall quantity goes up—which is the case in Nevada, as shown in Figure 3 above—overall effects on total revenue can be positive, negative, or flat. The combination of falling prices and rising quantities exerts a counterbalancing effect on overall market size, in dollar terms, that in some cases can result in low or negative annual growth in total retail revenue and tax collections.

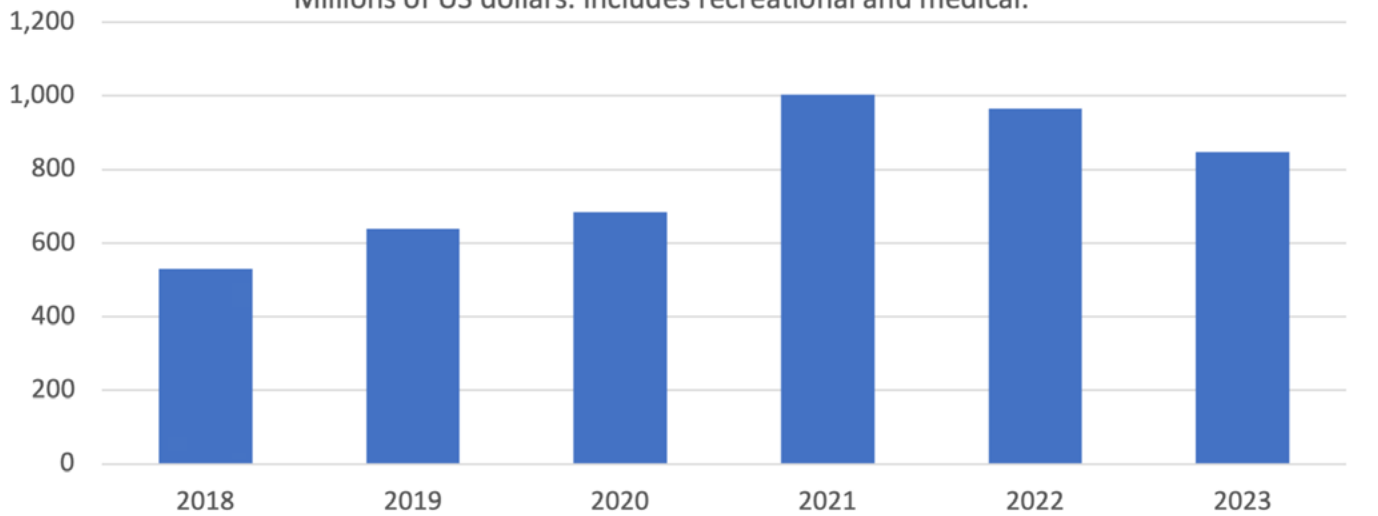
Between 2021 to 2023, cannabis prices in general decreased so rapidly that total retail revenue decreased even as total retail sales (total volume of cannabis sold) increased (as shown in Figure 3). The reason for the decline in total retail cannabis revenue in Nevada, as in some other U.S. states, is that legal retail prices have been falling rapidly, while the volume of legal cannabis sold has been increasing only gradually. The overall negative trend from 2021 to 2023 is shown in Figure 10.

However, total revenue appears to have stabilized approximately flat, with a very slight decline, from March 2023 to May 2024 (the last month for which we had METRC retail data from the CCB for analysis), as shown in Figure 11. This stabilization does not appear to have come from a pause in price decreases—on the contrary, as Figure 3 above shows clearly, the price decrease has continued in near-linear fashion through mid-2024. Instead, an increase in volume seems to be driving the stabilization in total retail revenue, which as of May 2024 was almost exactly the same as it was two years later, in June 2022.

Figure 10

Total Nevada legal cannabis retail revenue by calendar year

Millions of US dollars. Includes recreational and medical.

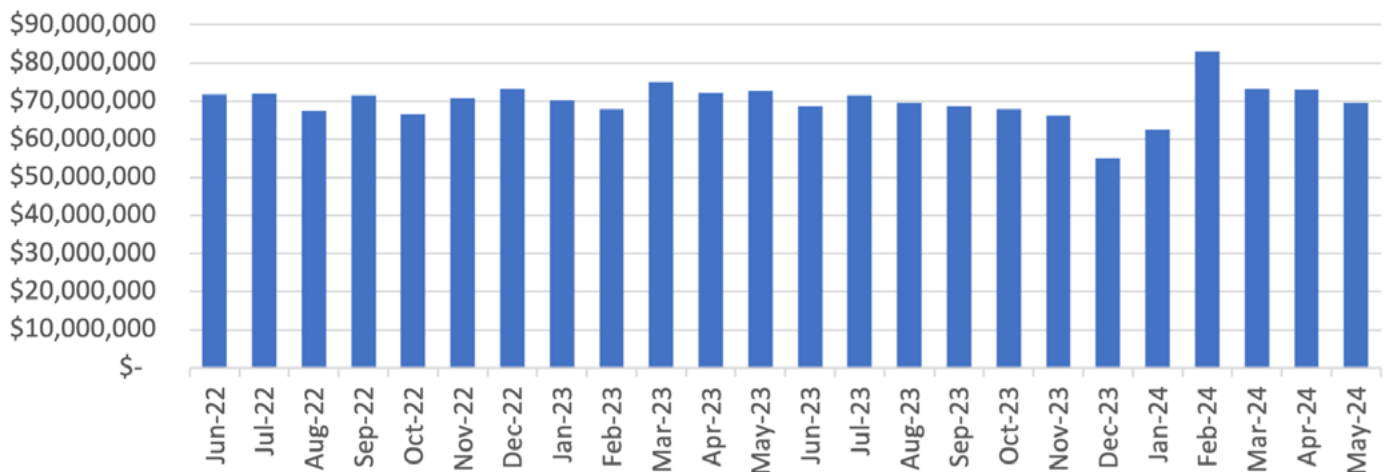


Source: Nevada Department of Taxation.

Figure 11

Total Nevada monthly adult-use cannabis retail revenue

June 2022–May 2024, US dollars, total revenue reported to Dept of Taxation



Source: Nevada Department of Taxation.

In some industries, declining total retail revenue might be taken as a sign of failure, or at least of an industry that is struggling. Using this metric to measure the size of a legal cannabis market is different, however, because of the product’s disproportionately high retail and wholesale price in comparison with its natural

cost of production, which is more in line with other agricultural industries.

In our judgment, an analyst assessing the health of the Nevada cannabis market should not be alarmed by the 2021–2023 decrease, although some investors might be. A reader

should also be skeptical of media coverage suggesting that the industry is in crisis because of falling total revenues. While declining market size in terms of total retail revenue might have hurt some businesses with ambitious growth expectations, the pattern does not mean that the overall process of legalization has been derailed.

We see no economic or structural reason—other than a baseline of high regulatory costs and taxes—why the downward trends will not continue and cannabis prices, both legal and illegal, will not continue to decrease over the next five years. Too often, cannabis industry analysts or pundits, cheerleaders or critics, take falling total revenues as a sign that legalization has not gone as planned, that regulations are not functioning as intended, or that the illegal cannabis industry is defeating the legal cannabis industry.

On the contrary, as we say above, total retail revenue is price times quantity, and when price and quantity are moving in opposite directions and counteracting each other, it is misleading to look at the product of price times quantity, or total retail revenue, as an indicator of the overall health of the market—or as an economic indicator of anything else.

1.5. Trend 5: Demand is shifting toward infused pre-rolls

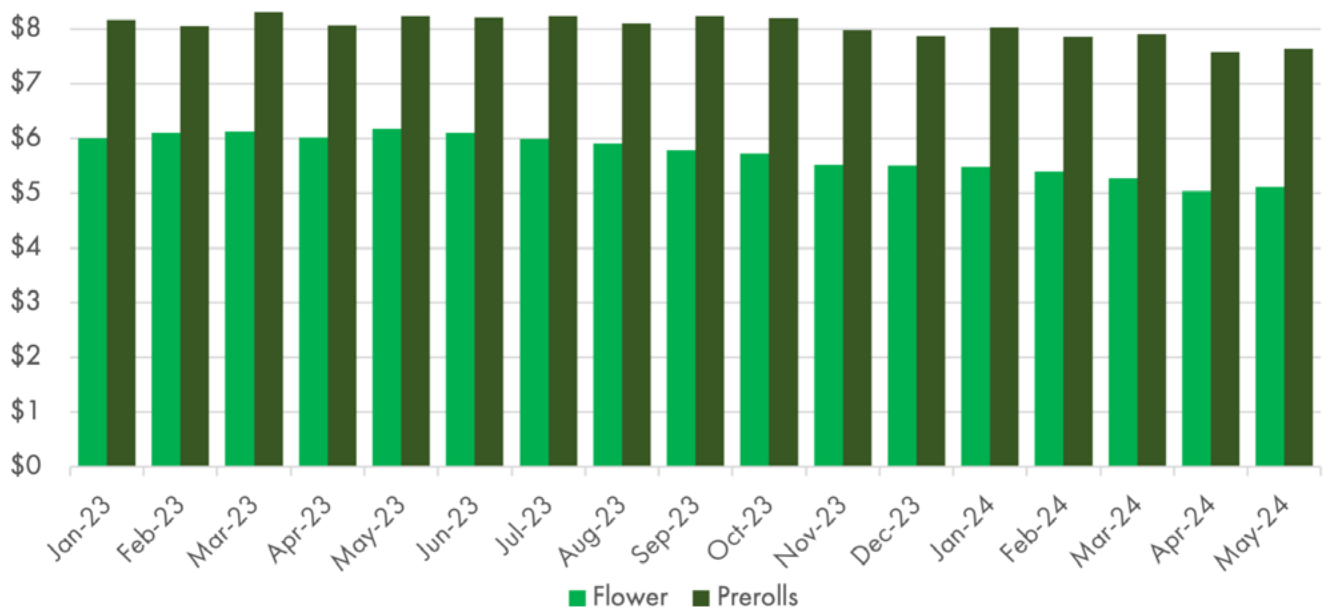
You may have noticed that pre-rolls is the only category in Table 1 above with increasing prices. Dried-flower products have steadily decreasing retail prices, whereas pre-rolls—which are simply dried-flower products rolled into single-use paper cones—have prices that are decreasing only very modestly, as shown in Figure 12:

Figure 12

Average retail price by flower package type, adult-use

Jan 2023–May 2024, by flower package type (US dollars)

n = 11,899,693 retail transactions (dried flower), 12,271,582 transactions (pre-rolls)



Source: Author calculations using anonymized data from state Metrc track-and-trace system.

In investigating this difference in price trends between the rawer versus more manufactured versions of the same type of product, we analyzed pre-roll subcategories separately and found that the overall pre-roll trends are driven by two counteracting trends in sub-categories.

We observed a rapid increase in both retail prices and retail quantities within one segment: infused pre-rolls, which are dusted with THC crystals or treated with concentrate to obtain higher THC levels. At the same time,

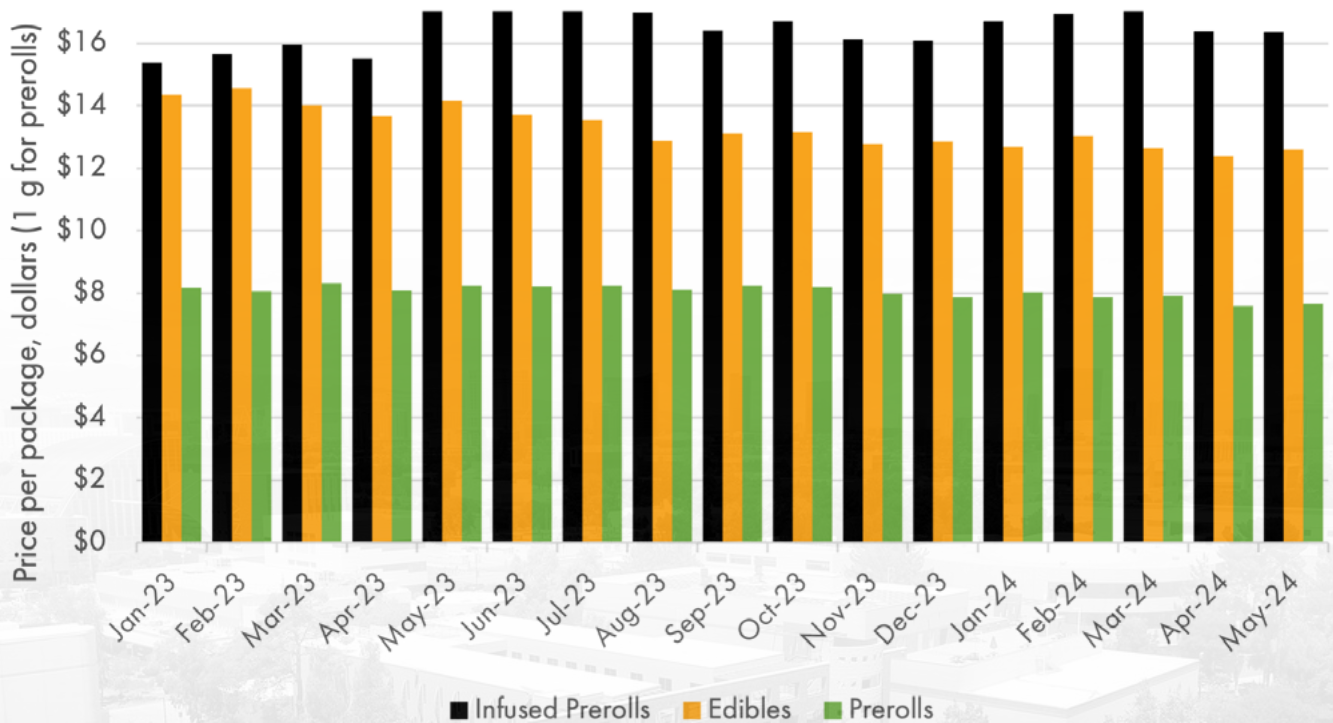
we found decreasing retail prices in ordinary pre-rolls.

Figures 13–15 compare retail price trends (Figure 13), total retail revenue trends (Figure 14), and retail volume trends (Figure 15) between the three most popular products that are portioned into individual serving sizes, in order of highest to lowest average retail price per gram: infused pre-rolls, edibles, and pre-rolls.

Figure 13

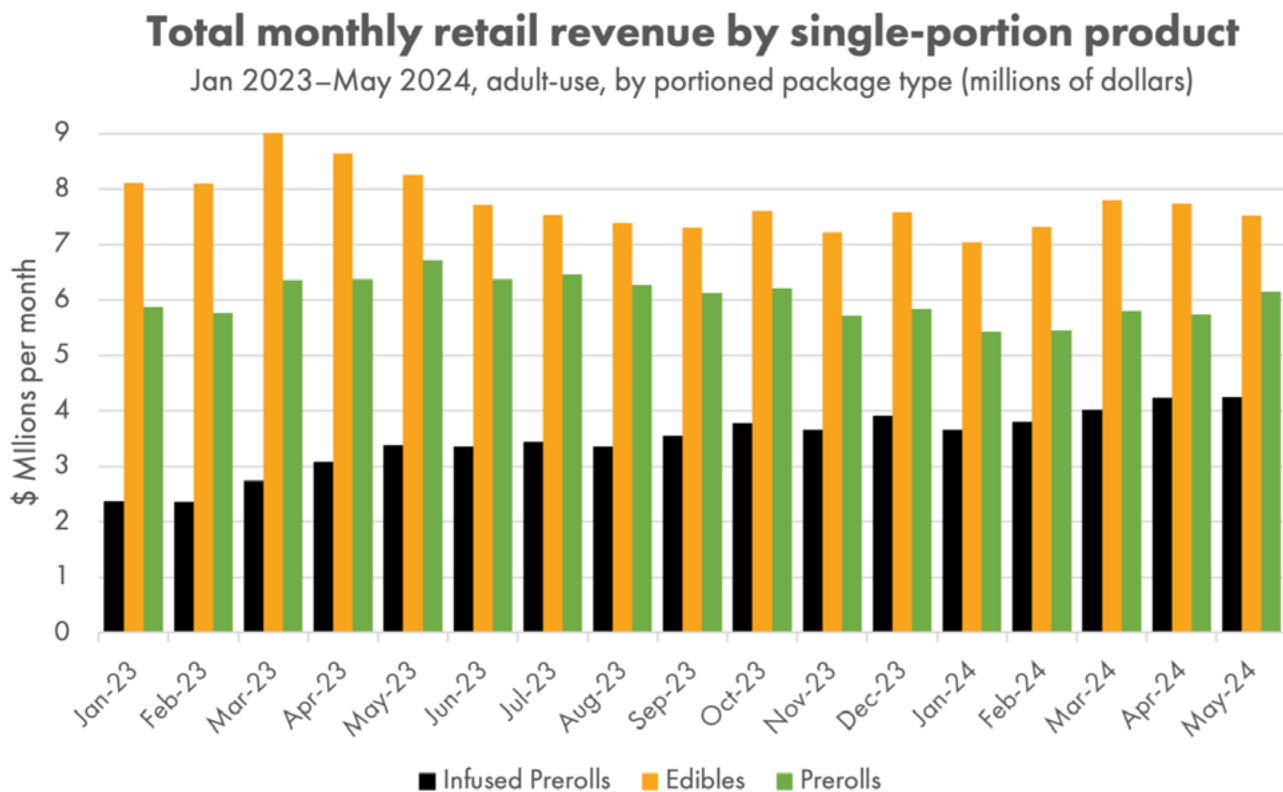
Avg retail price per gram by single-portion product

Jan 2023–May 2024, adult-use, by portioned package type



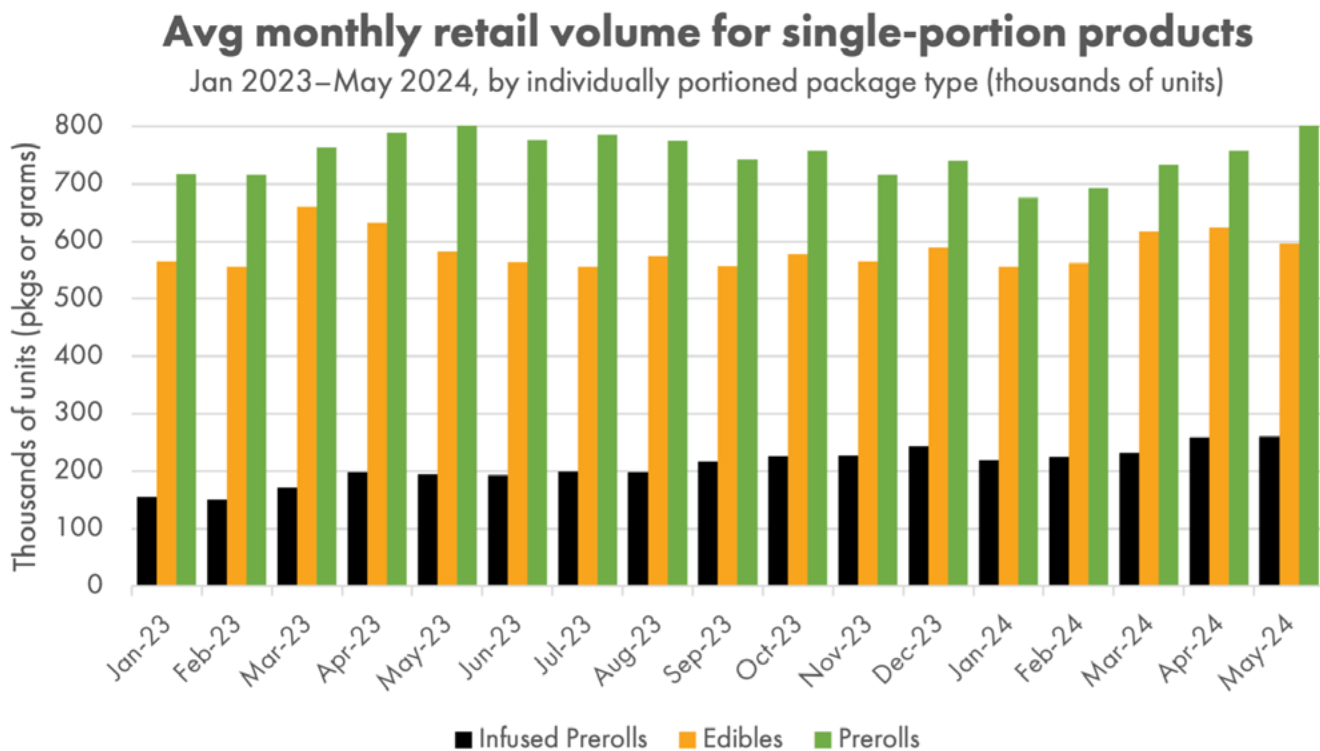
Source: Author calculations using anonymized data from state Metrc track-and-trace system.

Figure 14



Source: Author calculations using anonymized data from state Metrc track-and-trace system.

Figure 15



Source: Author calculations using anonymized data from state Metrc track-and-trace system.

In Figure 13, you can see that over the 17-month time span studied (January 2023 to May 2024), infused pre-roll prices rose, ordinary pre-roll prices fell slightly, and edibles prices were flat. In Figure 14, total revenue is rapidly increasing for infused pre-rolls, relatively flat (with some variability) for pre-rolls, and moderately decreasing (with some variability) for edibles. Figure 15 shows that total monthly volume—the number of units sold at retail across Nevada—is also rapidly increasing for infused pre-rolls, and roughly flat for ordinary pre-rolls and edibles.

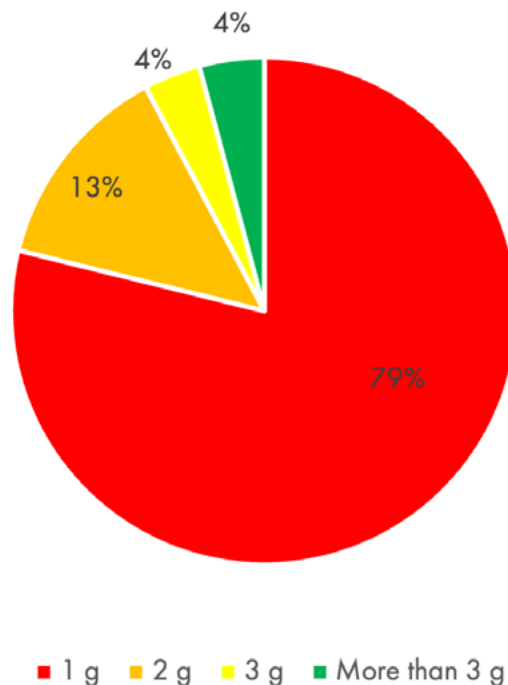
Overall, the pre-roll price decrease and infused pre-roll price increase counteract each other to generate a modest price decline in the pre-roll segment as a whole, as shown in

Figure 10 above, while the pre-roll quantity decrease and infused pre-roll quantity increase combine to generate a flat total pre-roll quantity.

Note that packages do not necessarily only include one serving—edibles commonly come in packages of 5, 10, or 20; pre-rolls commonly come in packs of 2, 3, 4, or 6; and so on. But all the products in this segment are packages of one or more consumption units (one pre-roll, one gummy, etc.) that are each in themselves made in single-serving sizes. But as shown by Figure 16, most pre-roll consumers purchase only one pre-roll per bill at the cash register, suggesting that the single-portion segment, at least for pre-rolls, is heavily weighted toward small purchases.

Figure 16

Grams per preroll purchase, Adult Use, Nevada, May 2024



Source: Author calculations using anonymized data from state Metrc track-and-trace system.

1.6. Trend 6: Increasing market pressure toward higher THC in cannabis flower

The movement toward infused pre-rolls we identified as Trend 5 is consistent with a general upward pressure on THC percent as it becomes a product characteristic of increasing concern—and in our data, of primary concern—to consumers.⁵ THC has risen, and consumers increasingly demand high-THC flower and pre-rolls.

We quantified this in ongoing work at UC Davis on a large retail price data set collected from Weedmaps, an online retailer, but we did not have access to 2023 or 2024 Nevada data sets that had THC-potency measurements, so we are unable to offer more precision in our analysis of this trend.

We can say with confidence, however, from our review of the industry in general, and our experience interacting with and interviewing market participants in Nevada and elsewhere, that the upward trend in THC demanded by consumer—and corresponding pressure on cultivators and wholesalers to provide higher-THC flower—is not only pronounced, but is having an increasingly important impact on Nevada’s and America’s legal cannabis markets.

Retailers report not being able to easily sell cannabis flower with less than 20% THC potency, and increasingly facing customers who

demand products with more than 30% THC. This pressure is rippling through the industry and putting increasing pressure on cultivators to raise THC potency if they want to sell at a good price.

One common market response to this phenomenon has been lab shopping, where producers seek out labs that use dubious or ambiguously legal methods to exaggerate THC measurements.⁶ In Nevada, one state crackdown on labs, by all accounts, resulted in a marked overall decrease in THC potency measurements of legal cannabis products on the Nevada market in the short term (although we have not analyzed specific data to document this), followed by a gradual return, over the following years, to THC levels above and beyond those seen earlier.

It is not clear at all whether today’s higher levels of THC are explained by testing-lab effects versus the market effects of cultivators’ growing higher-THC cannabis, or of choosing to extract more of their lower-THC flower into other product types, where THC content is pre-determined in manufacturing, rather than varying naturally (or unnaturally) between products.

Lab shopping comes from the pressure to sell higher-THC flower, are growing issues in the Nevada cannabis market that impact not just

5 Zhu, B., Guo, H., Cao, Y., An, R., & Shi, Y. (2021). Perceived Importance of Factors in Cannabis Purchase Decisions: A Best-worst Scaling Experiment. *International Journal of Drug Policy*, 91, 102793. <https://doi.org/10.1016/j.drugpo.2020.102793>

6 Zoorob, M. J. (2021). The frequency distribution of reported THC concentrations of legal cannabis flower products increases discontinuously around the 20% THC threshold in Nevada and Washington state. *Journal of Cannabis Research*, 3(1), 6. <https://doi.org/10.1186/s42238-021-00064-2>

producers and retailers, but also consumer safety. When there is pressure on labs to mis-report potency, and labs that do so thrive, one result can be high variability in what potency measurements mean. This can present a serious health and safety issue to cannabis consumers.

1.7. Trend 7: Market shares between larger product categories have been very flat

Some characteristics of the Nevada cannabis industry in 2023–2024 were quite stable. One of them was the division of market shares, both by volume and by total revenue, between overall product category types (when infused pre-rolls are combined with ordinary pre-rolls and viewed as a single category).

Figure 17 shows that total monthly retail adult-use revenue for all smokable cannabis flower types (including flower, small buds/popcorn, shake, pre-rolls, and infused pre-rolls) has been relatively flat at about \$36–40 million,

or about 55% of all adult-use retail revenue. Total monthly revenue for all cannabis extract products (including concentrates, resin/rosin, edibles, tinctures, and oils) is relatively flat at \$28–30 million, or about 45% of all adult-use retail revenue. This 55/45 relationship was remarkably stable over 2023 and the first half of 2024.

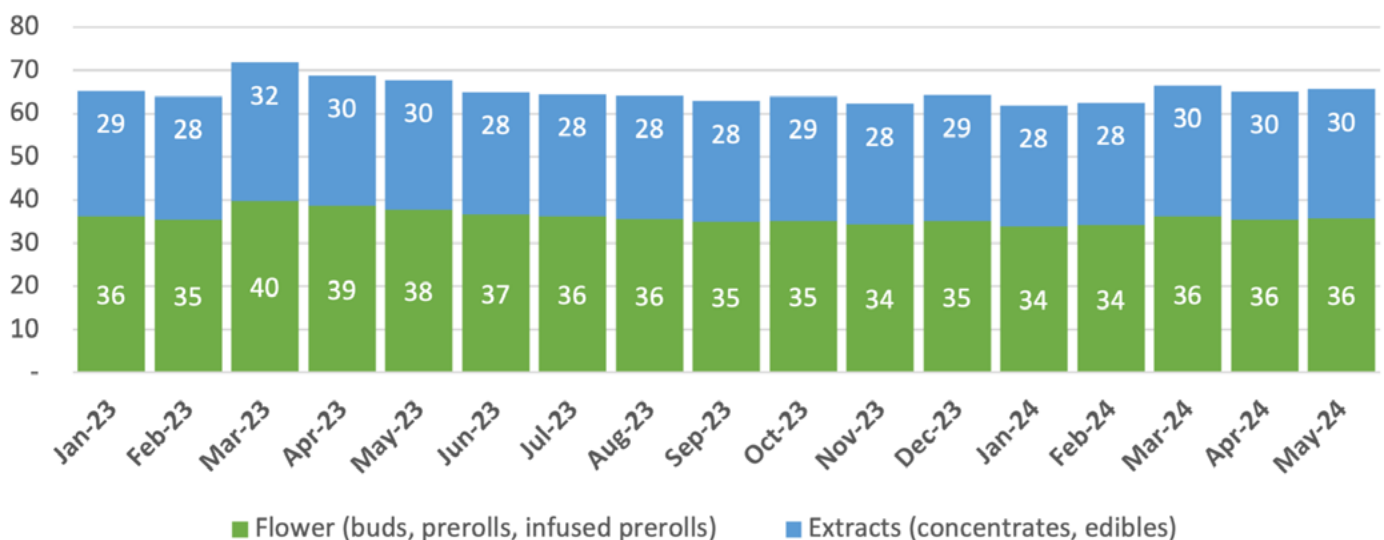
Next, Figures 18–20 partition the two broad product types in Figure 17 each into two smaller sub-categories, for a total of four product types: flower, pre-rolls (now including infused pre-rolls), concentrates, and edibles.

Figure 18 shows monthly revenue for these four product types for all taxable retail sales (not including medical revenue, for which due to privacy requirements we did not receive METRC data).

Figures 19 and 20 show percent market shares of the adult-use retail market by product type,

Figure 17

Monthly retail revenue, adult-use cannabis, Nevada
Millions of dollars, Jan 2023–May 2024



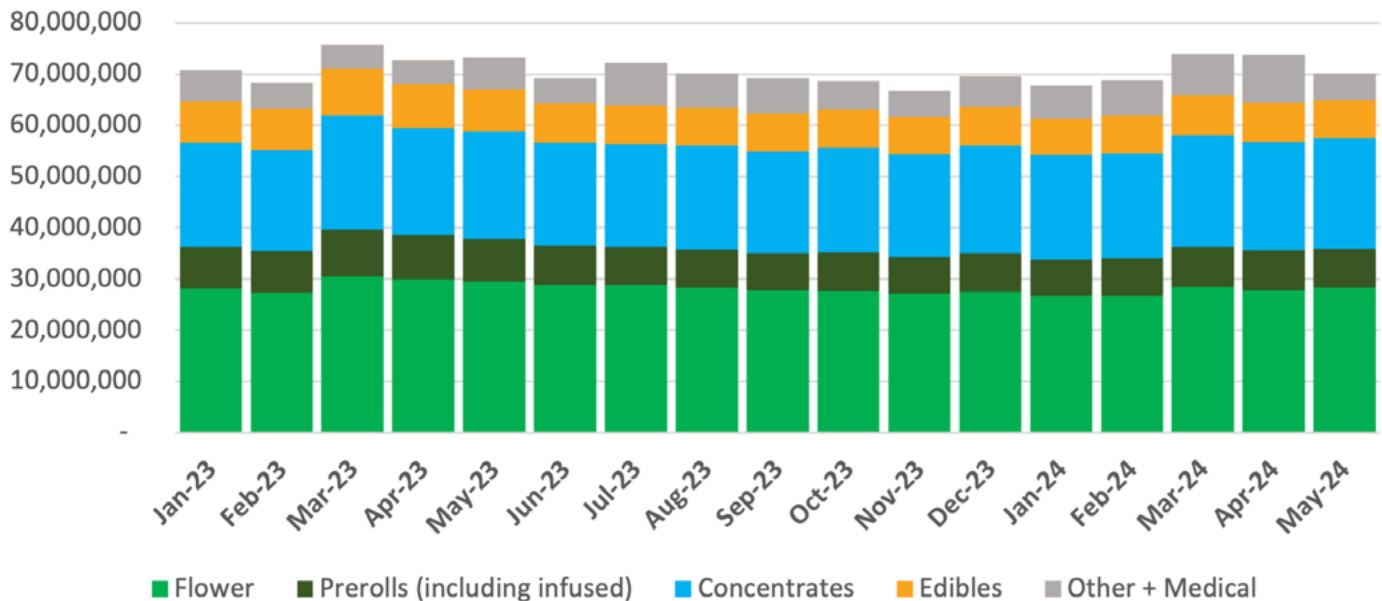
Source: Author calculations using anonymized data from state Metrc track-and-trace system.

such that total adult-use retail market totals 100%). Shares in Figure 19 are calculated as a percent of total retail revenue, and shares in

Figure 20 are calculated as percent of total retail THC.

Figure 18

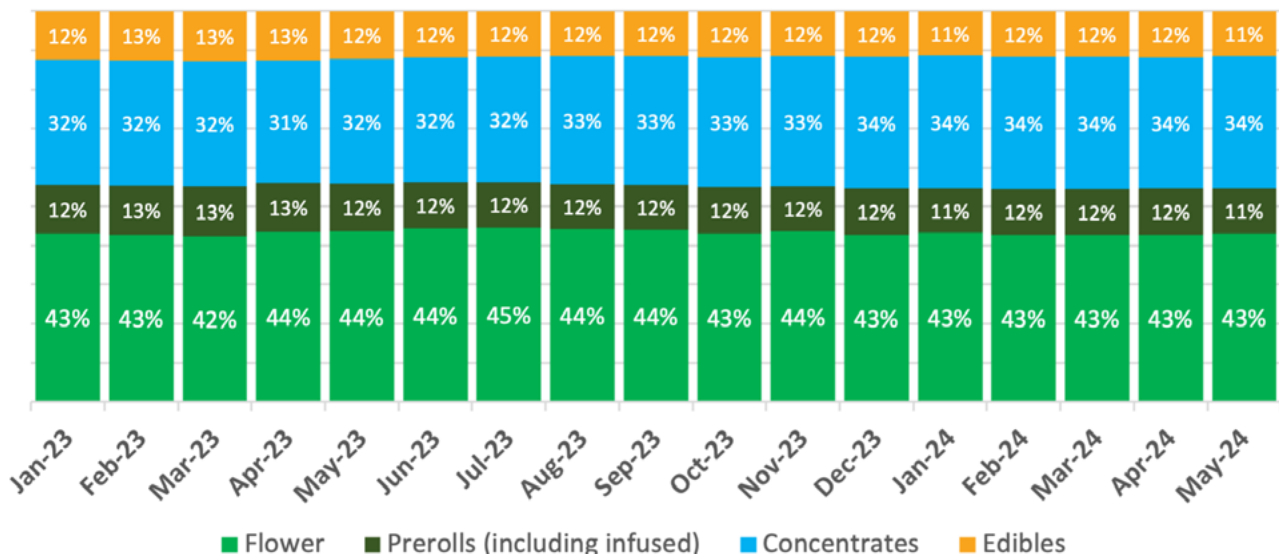
Monthly cannabis revenue by product type Jan 2023–May 2024



Source: Author calculations using anonymized data from state Metrc track-and-trace system.

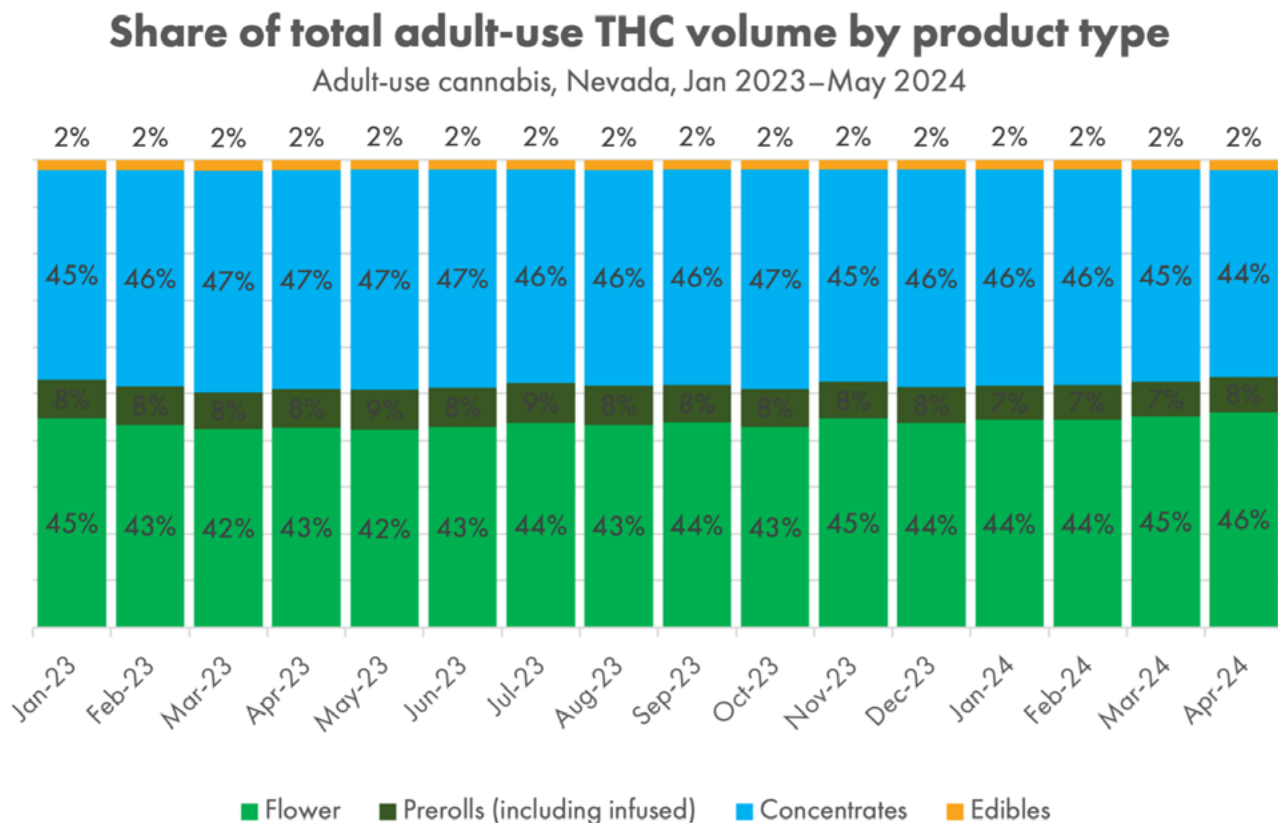
Figure 19

Share of total adult-use retail revenue by product type Adult-use cannabis, Nevada, Jan 2023–May 2024



Source: Author calculations using anonymized data from state Metrc track-and-trace system.

Figure 20



Source: Author calculations using anonymized data from state Metrc track-and-trace system.

2. OTHER FACTORS IMPACTING THE 2024 NEVADA CANNABIS INDUSTRY

We next proceed to descriptions of several other factors impacting the Nevada cannabis economy. We accompany these with more limited data analysis.

Over the course of researching this report, in spring and summer 2024, we conducted a variety of interviews and site visits to businesses in different cannabis industry segments in the Las Vegas and Reno metro areas, the two regions of greatest cannabis business density in Nevada.

We met with Nevada cannabis industry participants, stakeholders, lawyers, economists, and

lawmakers. We were connected with some of these interviewees by the UNLV Cannabis Policy Institute, and others we chose through other industry contacts. Our interviews were strictly confidential, and we do not report the names of interviewees or their businesses or organizations here.

Instead we integrate all the information we learned from interviews and site visits into our overall findings. Our conclusions after taking many different perspectives into account—as well as any inaccuracies or errors in this report—are ours alone. Information about the trends we describe below was not only gleaned from interviews and site visits but also from unannounced and un-hosted visits to a variety of cannabis retailers that we chose on

our own, without guidance from the Cannabis Policy Institute. We looked at prices, product assortments, retail presentation, sales methods, branding, and other patterns in the retail industry across the state in order to form overall impressions.

We interpreted what we learned with our ongoing research on the cannabis market across the U.S., and the findings we report below also depend on that body of past and present data and analysis.

2.1. Revenue per legal retailer is decreasing

We do not enumerate the number of businesses in the Nevada cannabis industry in this report, as those basic data are widely available elsewhere, including from the website of the Cannabis Compliance Board (CCB). We note, however, that the number of legal cannabis retailers in Nevada is still increasing, and revenue per legal retailer is thus decreasing.

We think this unsurprising for an industry that started out in 2018 with a highly concentrated retail organization (especially in central Las Vegas, where only a few licenses to open for business were initially granted), and that is still in the early stages of development. Revenue per legal retailer will likely continue to decrease for a few more years, although not indefinitely: some retailers will exit the market, others will merge, and the number of retailers will reach a saturation point and eventually decrease, as occurs in any mature market.

2.2. There is still a robust illegal cannabis market in Nevada

The illegal market still commands a substantial market share in the state, especially in tourist areas such as the Las Vegas Strip. Because of the law that legal cannabis retailers cannot be located within 1,500 feet of gaming establishments,⁷ illegal sellers have a 100% market share in those areas. It is not clear whether legal retail is gaining share from illegal retail, but it does not appear to be losing share.

Either way, in the context of falling prices nationally, falling legal prices in Nevada—and the falling total legal revenue that results—are positive signs for the future of the Nevada cannabis industry.

The biggest challenge for the legal cannabis market is to be competitive on price and quality with the illegal market, and falling legal prices mean that the legal market captures more share, even if its total retail revenue decreases. Illegal cannabis revenue, and total cannabis revenue (legal plus illegal), are currently decreasing because of falling prices.

2.3. Downward price pressures will likely continue

There have been and will continue to be winners and losers in the competition to win share at lower price points. Natural challenges arise as businesses adjust to the realities of having to produce and sell cannabis at lower prices. Market prices that are eventually tied to the actual costs of production are unavoidable, and the industry will endure more necessary growing pains as the industry matures and be-

⁷ NRS 678B.210(3)(a)(2)(II); NRS 678B.250(3)(a)(2)(II).

comes increasingly competitive in price with the illegal market.

2.4. Prices must fall much further for the legal market to dominate

When legal weed finally knocks most illegal weed out of the market, it will not likely be at its current price of \$40 per eighth (1/8 oz), nor at \$15 (around the current price in California), but probably at something closer to \$5 per eighth. Some pockets of the U.S. are already seeing prices that low, and no plausible government intervention in any state, or at the national level, will throw off the nearly continuous plunge from prohibition-era risk-premium prices to the eventual price of legal cannabis as an ordinary agricultural commodity.

2.5. Average Nevada wholesale cannabis prices are twice as high as wholesale prices in nearby states

Nevada wholesale prices for legal cannabis are about double the prices in the four neighboring Western states of California, Oregon, Washington, and Arizona (all between \$700 and \$900 per pound). This is partly because more than 80% of legal cannabis grown in Nevada is indoor-grown, the most expensive type. Nevada is the only state in this group to grow most of its cannabis indoors.

The cheapest legal flower in America, which is generally found somewhere in Northern Cali-

fornia or the Pacific Northwest, is priced somewhere in the neighborhood of \$100 to \$200 per pound—still perhaps 10 times the wholesale price of weed in Mexico. In the United States, and especially in Nevada, wholesale prices still have much further to fall, although to a large extent they are currently tethered to regulatory and tax costs that make up a very high percent of their total costs.

Table 3 shows average price differences between Nevada and the other Western states in trailing one-year average wholesale price.

In the future, integration with nearby markets, especially Humboldt County and southern Oregon, will eventually push legal Nevada prices closer into line with California prices. The decline will likely be nonlinear, with steep cliffs generated by regulatory changes such as interstate commerce or single-purpose retail.

Over time, as local taboos fall away and the federal government eventually legalizes interstate and international cannabis trade, we expect the farm price of cannabis to continue to fall dramatically—eventually to a point near the current price of industrial hemp.

2.6. The unavailability of outdoor-grown cannabis drives up Nevada cannabis prices significantly and jeopardizes competition

Table 3. Wholesale price per pound of greenhouse-grown cannabis from a selection of wholesalers in Nevada and other Western states, by grow type

Source: Cannabis Benchmarks, trailing average, 4/1/2022–3/31/2023

	Arizona	California	Oregon	Washington	Nevada
Price per pound	\$584	\$646	\$588	\$777	\$1,192

In California, Oregon, and Washington, average wholesale price per pound is brought down by the availability of much cheaper outdoor-grown cannabis, which cannot legally be imported into Nevada. However, even within the category of growing methods, Nevada prices were substantially higher than prices in the other Western states. Nevada greenhouse prices were about \$1,200 per pound (50–100% higher than the other states), and indoor prices were about \$1,700 per pound (40–70% higher than the other states). These prices were obtained from a non-random selection of producers who supplied data to Cannabis Benchmarks, and are not necessarily representative of overall average wholesale or farm prices. However, Cannabis Benchmarks data can be useful for between-states comparisons and, in particular, to support the broad observation that the presence of outdoor-grown cannabis substantially lowers average legal cannabis wholesale prices.

2.7. Some businesses will fail

The outlook will not be positive for many companies that did not anticipate falling prices and invested around business plans that targeted unattainable revenue growth. Legal cannabis licensees at all levels of the supply chain who anticipated falling prices and set up their operations to produce at the lowest costs possible over time, and auxiliary businesses who sell products or services that enable other companies to lower costs, will continue to thrive.

2.8. Nevada cultivators will be particularly threatened by interstate trade

When interstate trade is legalized and legal Nevada retailers are permitted to sell cannabis products imported from states where it is produced most efficiently and inexpensively, in-state cannabis cultivators will face a very challenging competitive environment. In the long run, cannabis cultivation is unlikely to become a significant industry in Nevada.

Currently, due to restrictions on interstate trade (under both state and federal law), legal Nevada cannabis cultivators command a 100% share of legal in-state retail sales. By comparison, very little of the tobacco sold in Nevada is grown or manufactured in Nevada. Like tobacco producers, cannabis producers in an interstate market are unlikely to be highly competitive because of Nevada's disadvantageous conditions for producing cannabis cheaply on a national scale.

Although land is inexpensive in parts of the state, and sunlight is ample, high temperatures, scarce water, and relatively expensive electricity and labor costs (compared to some regions) will make it hard for Nevada-produced cannabis to compete on price.

A small market for premium-priced local cannabis will persist, but like the market for craft beer, we do not expect it to maintain a retail market share of more than about 10% by volume and 15–20% by revenue. Many current Nevada producers will be competing for a small share of an interstate market, and relatively few will likely survive.

2.9. Risk premiums are falling for illegal cannabis, and rising for legal cannabis

In economics, the "risk premium" is named for

the extra money consumers pay for goods or services that incorporate known risks of adverse events into their prices. Risk premiums are often applied to illegal or partially illegal markets and used to explain the higher prices people pay for contraband. The bigger the relative risk, the higher the risk premium (relative to other costs of production or sale, such as material and operating costs), and the higher the consumer price rises. The biggest risk premiums are paid to providers who, if caught, would face severe criminal sentences, such as assassins, cocaine kingpins, or human traffickers.

Risk premiums can also cover accidental risks: for instance, a worker on an offshore oil rig or in a foreign war zone may be paid higher wages than they would command for equivalent work in a less risky situation. Risk premiums tend to increase in proportion to risk: for example, risk premiums are higher for heroin than for unlicensed cannabis. These could translate, for instance, to higher salaries for employees or dealers willing to take risks and/or higher profits for owners or managers willing to take risks.

In the cannabis industry through the process of legalization, risk premiums have undergone a transformation from being costs imposed entirely on the illegal industry (pre-legalization) to costs that, counterintuitively, may be imposed more on the legal industry than the illegal one. Legal businesses get frequent inspections and have many opportunities to make mistakes, including harmless mistakes and good-faith accidents, which can still get

them in trouble and result in loss of licenses or interruption of their ability to do business. At the extreme end of these risks are the possibility of imprisonment (for instance, for criminally negligent sales to a minor).

Being on the map as a registered cannabis business on the radar screen of the state, in sum, incurs some risk costs and likely reflects in a risk premium. Unlicensed cannabis businesses face different kinds of risks, but they are lower than before the decriminalization that accompanies legalization—for instance, possession under a certain amount is no longer a crime; in most states, unlicensed sale is not punished by imprisonment; and federal enforcement against cannabis in most states has slowed to a trickle.

So, in highly regulated adult-use markets, risk premiums have gone down for illegal producers and sellers, perhaps even to a level below the risk premiums now faced by licensed producers and sellers.

3. CHALLENGES AND OPPORTUNITIES FOR THE NEVADA CANNABIS INDUSTRY

3.1. A growing market for intoxicating hemp products with ambiguous legal status sold outside ordinary legal cannabis channels

Over the past five years across the U.S.—but somewhat less so in Nevada—legal weed and intoxicating hemp have been merging into one market. The merger has accelerated in 2023–2024. Since the 2018 U.S. Farm Bill, “marijuana” has been federally defined as “Cannabis sativa L. with a delta-9 tetrahydrocannabinol concentration of more than 0.3

percent on a dry weight basis.” All other cannabis products are federally legal “hemp.”

An upcoming research report in this UNLV Cannabis Policy Institute series, on interstate commerce, will include a more detailed discussion of the growth of gray-market (ambiguously legal) intoxicating hemp in the U.S. cannabis market in the context of interstate commerce.

In short, however, the reason intoxicating hemp is so impactful, generally speaking, is that it is being widely and openly sold by small, independent retail stores, especially smoke shops, in a wide variety of Delta-9 THC and closely related chemical forms that yield intoxicating effects equivalent to those of the ordinary Delta-9 THC cannabis that is regulated by the CCB in Nevada.

Some states, such as North Carolina, Texas, and Florida, have taken a relatively permissive view of this new industry. Others have taken the opposite approach, passing laws to narrow the ambiguous Farm Bill standard and explicitly prohibit a variety of intoxicating forms of “hemp.”⁸ Some, including Tennessee, have taken an initially permissive approach that may soon be narrowed by legislation.

Nevada, in its regulation of intoxicating hemp to date, has taken a more restrictive approach that has served to protect the interests of incumbent licensees. As of 2021, Nevada state law has closed several of the alleged loop-

holes in the Farm Bill. For instance, Nevada Statutes (Chapter 486, SB 49) specifies that THC includes delta-7, delta-8, and delta-10; and that testing must be done after pre-decarboxylation of THCA into THC, thus illegalizing the THCA flower market. However, there is still some legal ambiguity in Nevada around beverages, given that in statute, “hemp” and “marijuana” are still differentiated by percent weight without regard to serving size.

Oddly, given this, THC beverages do not appear to have proliferated in non-cannabis retailers in Nevada; they are widely available only at cannabis retailers, mostly licensed ones, where they are typically priced at about \$10 per can. This is about double the \$5 typically charged at a liquor store in Texas, where the product is regulated as hemp and not cannabis.

3.2. Single-purpose retail requirements limit the potential market for cannabis retail in Nevada

Eliminating single-purpose retail would have a major impact on the shares of legal and illegal cannabis in the market. In today’s retail marketplace, single-purpose retail is an anachronism. Few retail stores are able to survive selling just one product. In today’s market, this holds even in traditionally single-purpose retail categories: most liquor stores sell tobacco, and most shoe stores sell other clothing or sports items.

The separation of adult-use cannabis retail from other entertainment-oriented retail en-

8 Goldstein, R., and Sumner, D. (2024), High on Hemp: Implications of the Farm Bill for National Weed Markets. Seasonal Harvest, American Enterprise Institute, October 2024.

vironments, especially alcohol and tobacco, has had a considerable, chilling impact on total retail sales and the prospects for cultivators and manufacturers to move their products through the legal supply chain.

If Nevada were to relax its separation of cannabis retail from bars, restaurants, and stores selling alcohol and tobacco, it could see substantial growth in the legal cannabis market and an increase of the potential for the legal cannabis industry to thrive.

3.3. Opportunities to increase tourist and visitor spending

Legal cannabis presents an opportunity for growth among regular cannabis users who prefer to take vacations or business trips to places where they can consume cannabis legally. States with strong tourist industries have the most to gain by transitioning to a recreational system that, unlike most medical systems, allows sales to out-of-state and foreign visitors.

Nevada, California, and Colorado are the three U.S. legal cannabis states (not including intoxicating hemp markets) with the strongest pre-existing tourist industries, with the most substantial domestic and international tourist and visitor infrastructure, e.g. airports, hotels, transportation, dining, shopping, and entertainment.

Nevada, where tourism (including Las Vegas, Reno, and Tahoe) accounts for an unusually large percent of economic activity, is particularly well positioned to increase tourist and visitor spending through its legal cannabis market.

3.4. Opportunities to increase convention spending

Beyond stimulating individual tourists and visitors, cannabis legalization has the potential to bring in more business meetings and conventions for states who are well equipped to host them. Currently, Las Vegas hosts tens of thousands of visitors annually for MJBizCon, the world's largest cannabis industry conference; and thousands more for other meetings (such as FreedomFest and craft beer fairs) where many attendees are regular cannabis users.

In this way, convention-friendly cities in legal recreational cannabis states (e.g. Las Vegas, Denver, San Diego, Seattle) have an increasing advantage within some demographics, over competing convention locations without legal recreational cannabis (e.g. Atlanta, New Orleans, Orlando, Miami).

However, this trend may be impacted by the rapidly arising market for intoxicating hemp in southeastern states including Florida, Georgia, Louisiana, Tennessee, Kentucky, and North Carolina. The convention-friendly city of Nashville, for example, has a robust legal "hemp" market with a wide variety of intoxicating cannabis products, including flower, concentrates, gummies, and beverages that can be sold legally under state law at a wide variety of retail stores (e.g. smoke shops) with easy-to-obtain hemp licenses.

3.5. THC Beverages

THC beverages are playing an increasingly important role in the marketplace as alcohol consumption decreases across America, especially in younger age segments. This trend dovetails with increasing competition from the intoxicating hemp market (see section 3.1).

In many states, especially across the U.S. southeast, THC beverages are openly sold in bars, restaurants, and wine, beer, and liquor stores. Major beer distributors and alcoholic-beverage retail chains are carrying them in many states, including states without any formal cannabis legalization.

The Nevada THC beverage market is in its infancy. It will come to play a major role in consumption lounges, as will regulations separating alcohol from cannabis. THC beverages have a particularly important role in the success of cannabis in consumption-lounge (on-premise) sales and use contexts and, perhaps in the future, integrated into the offerings at bars and restaurants, as it already has been in Texas, Florida, Tennessee, and elsewhere.

3.6. Consumption lounges

To date, legal cannabis retail across the United States has essentially been on a packaged product that is meant to be taken home and consumed in private. But consumers like to go out and spend money in groups and, especially in Las Vegas, they spend large amounts on out-of-home food and beverage purchases. To drink an alcoholic beverage in a public social environment, consumers are willing to pay markups of three or even 10 times as much as they would spend for the same beverage at a store.

Alcoholic beverages that are consumed “on-premise” (i.e. at bars and restaurants) account for a large portion of total alcohol sales. The cannabis on-premise market, on the other hand, is miniscule. Although legal licenses have been granted under state law and some

on-premise locations are open, on-premise cannabis sales still account for a very small percent of total cannabis sales in Nevada.

One major reason for this is that in Nevada, as in other states, regulations currently prohibit the mixing of alcohol and legal cannabis sales in the same retail premises, which presents a big challenge to the growth of on-premise consumption in general, and especially of THC beverages (discussed above), which may eventually become an important element of on-premise consumption. Policy changes in the future could have a large impact on the prospects for growth in these sub-markets.

With or without alcohol sales, we predict that on-premise consumption will grow in the coming years in Nevada, and that THC beverages will increasingly drive their sales and profits. The most successful consumption lounges will likely be establishments that do not build their whole business around cannabis alone, but integrate cannabis consumption with the elements of success for any mainstream on-premise venue, such as entertainment, music, dining, and live DJs.

In short, we think the most successful consumption lounges will be the ones that would otherwise succeed as bars, restaurants, or concert venues even without the cannabis element.

3.7. Special-purpose cannabis zones

Finally, the idea of setting aside special, cannabis-friendly areas of cities or “Green Zones,” especially in Las Vegas and Reno, could boost the Nevada tourist economy (as well as the cannabis industry). This topic merits

a separate report, but from a bird’s eye view, we see particularly large potential for a pedestrian-centric cannabis-friendly area in Las Vegas where consumption is openly permitted outdoors and in some indoor areas of hotels, restaurants, bars, and entertainment venues.

Green Zones could attract investment and construction from within and outside the state, and could eventually make significant contributions to local and state economies.

One reason that cannabis zones (and cannabis in general) may become an increasingly important idea to consider in the years to come is decreasing alcohol sales among younger consumers. This trend poses a potential future threat to hotel, restaurant, entertainment, and gaming revenue. Cannabis retail in Green Zones—along with the potential integration of THC beverages into gaming and on-premise alcohol establishments—could help mitigate that effect as the “lower-alcohol” demographic comes of age and controls an increasing share of consumer spending.

A major gap in the cannabis market is not just the expansion of consumption lounges (and their integration with alcohol, as discussed above), but entire cannabis-friendly social environments filled with cannabis-friendly people who want to meet each other.

Two keys to the success of a Las Vegas Green Zone, also highly dependent on state and municipal policy, would be (1) pedestrian-only streets within the heart of the area; (2) safety and quaint walkability evocative of Amsterdam

or other European capitals; and (3) a lively assortment of venues, including hotels, resorts, and entertainment at a variety of price points. These three factors, we think, would be essential for a Las Vegas Green Zone to present tourists with a competitive alternative to the Strip.

A Green Zone in Las Vegas, especially if it were the first or largest one in the world, could draw in a new demographic of cannabis-friendly tourists who might not otherwise come to the city—or encourage business or convention visitors who pass through the city to extend their stays, spend more money, and stimulate the local economy.

4. RESEARCH TOPICS FOR FURTHER STUDY

There is much still to be understood about the Nevada cannabis market, legal and illegal, on a basic level. Important research topics that we think merit further exploration include the following:

4.1. Research on developing market trends

- Effects of THC potency and other product characteristics on wholesale and retail cannabis prices
- Interactions between heavily regulated cannabis markets and lightly regulated hemp markets in the context of rapidly changing state and federal regulations and enforcement practices
- Wastewater studies across the United States to measure total cannabis (and other drug) use by region over time, which would enable more accurate measurements of

legal versus illegal market shares and the impacts of prices and regulatory changes on cannabis use

- Growth and economic impacts of the THC-infused beverage market, including substitution between THC-infused beverages and alcohol

4.2. Research on important factors for Nevada cannabis industry development

- Effect of minimum distance between gaming and cannabis retail
- Effect of cannabis use on gaming behavior, gaming addiction, and spending on gaming, and associated financial impacts on gaming establishments
- Cannabis consumption lounges in Nevada: early results, successes, failures, current challenges, and keys to future success
- Cannabis tourism zone in Las Vegas: opportunities, current challenges, and keys to future success

4.3. Research that would help improve public understanding of the effects of cannabis use in the context of policy, harm reduction, and behavioral trade-offs

- Impacts of cannabis and intoxicating hemp legalization on total cannabis-related hospitalizations, total drug-overdose deaths, total alcohol-related deaths, suicides, and all-causes mortality
- Impacts of cannabis use on depression, suicide, murder and other crime rates, and drunk driving deaths
- Substitution between cannabis and other addictive drugs such as alcohol, tobacco, opioids, and cocaine

