CANNABIS INDUSTRY REPORT 2020:

DOWNTURN TEMPORARY

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What you will find in this report

We have filled this industry report - Seeking Alpha's first! - with everything you need to know to invest in the industry. We explain what cannabis is and what CBD and hemp are. We break down the various classifications of cannabis companies and ETFs (what is an MSO? Is it wiser to invest in ancillary players? What does it mean to be a pure-play ETF?) and offer up our best stock and ETF ideas in the sector. We discuss stock and industry catalysts, what makes good management and cover the legal and regulatory picture. We also dive deeper into the inherent risks in the sector as well as what metrics to focus on. We cover the U.S., Canadian, South American, European and International markets and even have a handy glossary at the end for any novice investors. Our goal here is to arm readers with clear, actionable information about an industry that we think has unique growth potential.

Sections

ALPHA THESIS

Let it be clear: we are bullish on the cannabis sector. Companies are only starting to capitalize on the vast potential associated with the sector and demand for cannabis continues to grow. Legislative encouragement has also arrived in the form of the SAFE Banking Act (the first piece of stand-alone cannabis legislation to be voted on in Congress), which passed the House with bi-partisan support in September. If it passes the Senate, it would act as a significant catalyst for the industry. It would protect banks and credit unions from being targeted by the federal government for providing services to the cannabis industry. Its passing would also show growing acceptance of the cannabis space as a serious sector for investors.

While we're not certain the U.S. will go federally legal in the near future, it's important to note that the U.S. cannabis market doesn't have to be legalized at the federal level in order for the market to soar in growth. The key here is that as long as the federal government doesn't start to battle the states concerning legalization, the U.S. cannabis market should enjoy long-term growth. The 2018 Farm Bill went into effect in 2019 which means hemp is no longer considered part of the Controlled Substances Act. It also gives hemp growers and CBD product manufacturers a boost though the FDA is still figuring out how to regulate hemp and CBD products so some uncertainty remains.

The Canadian market has had some recent positivity after a spate of bad news. At the end of 2019 Canada approved and began selling a number of derivative products such as concentrates, edibles, infused drinks and vapes for the first time since legalization. This will provide higher price points to work from and help generate better numbers even when the ceiling is reached for overall consumption in Canada. While this points to improved numbers in 2020, the impact likely won't be seen or felt until the second half of the year. The Canadian market is after all still hampered by oversupply and lack of retail outlets. Globally, estimates for the short term are that cannabis sales will reach between $15-$17 billion in 2019. In 2024, that number is set to jump to $40.6 billion. CBD sales in the U.S. are predicted to jump from about $5 billion in 2019 to approximately $23.7 billion by 2023.

Despite some encouraging news, it's clear to investors that the cannabis sector has been in a sector-wide decline for the better part of two quarters. What spurred on the decline were a few factors. One was CannTrust Holdings (CTST), the Canadian cannabis producer, which grew plants in unapproved facilities and were then told by management to cover it up. This decimated the company and its shareholders, and gave a huge black eye to the industry that had been gaining acceptance and building trust.

Another deleterious effect on the sector was the ousting of Bruce Linton in early July from Canopy Growth (CPG), the world's largest cannabis company per market value. After a $4 billion investment by Constellation Brands (STZ) into Canopy - seen as an extraordinary positive catalyst for Canopy - Constellation had effectively taken control and it wasn't long until it ousted co-CEO Linton, after a weak earnings report. The decline of Canopy, the loss of faith in Linton - once the face of the global cannabis industry - and the fact that Canopy took so long to replace him, brought doubt and fear to investors' minds and since that time the cannabis sector has taken a big hit and has yet to recover.

The recent vaping crisis, with thousands of lung injury cases now identified and 54 confirmed deaths, has also made cannabis observers nervous, but readers should be aware that while no singular product has been identified as the source of the outbreak, the majority of cases appear to be linked to *illicit* THC products. The vaping crisis - while tragic and preventable - isn't proof of any cannabis related side effects, but rather of the problems in the black market and the slow pace of regulatory guidance and implementation. If anything, it may drive black market consumers to licensed producers.

The risks to investing in the cannabis space are undeniable (yet another issue investors worry about is when cannabis companies will trade revenue growth for profitability) and for the most part unique to this sector. However, the risks are also part of the volatile trajectory of a burgeoning industry. Based on figures for expected growth in the market and the myriad upcoming catalysts, we think this is the time to get into the space; if we may paraphrase that great sage Warren Buffett: the time to buy is when there's fear in the streets.

With much of the world in lockdown and many people recently laid off, it's not entirely clear how this pandemic will affect the cannabis sector long-term. At the start of the lockdown in the US, there was definitely a rush on dispensaries and revenue soared, however, since that initial spike in sales - as many of those purchases were stockpiling - sales went back down. Many retailers are now offering increased home-delivery and curbside pickup and are reporting higher sales than the pre-virus average. However, many worry that with soaring unemployment, consumers could go back to the untaxed illicit market, or simply won't have money for cannabis at all. Depending on how long the current situation lasts, and the severity of any economic downturn or recession, will determine how much COVID-19 affects the industry.

What has certainly helped the sector has been the decision by most states that have legalized medical and/or adult use cannabis to deem it an 'essential' item, thus allowing stores to stay open and patients and customers to still receive their cannabis even in the midst of mandatory shut-downs. An exception has been Massachussettes, who has only deemed medical cannabis an 'essential' item, not adult use.

Before this crisis started, there were already issues of liquidity in the sector and there had been a number of failed transactions and deals. The pandemic has further brought M&A activity to a halt and was recently blamed for the much-heralded Harvest Health & Recreation-Verano Holdings deal being called off. The companies cited “prolonged obstacles” with the coronavirus crisis specifically blamed as the reason behind the termination.

Other issues which predate the crisis - layoffs and budget cuts - have been exacerbated by the fallout from COVID-19. We’ve also seen the cancellation or delay of nearly every industry conference, which are in many ways the lifeblood of the industry and where a lot of deals get made.

The uncertainty of when business and life return to normal furthers concerns over the availability of protective equipment such as gloves and masks and other cleaning supplies (for example, personal protective equipment is typically worn by cannabis lab workers and isopropyl alcohol is used to sterilize lab equipment and surfaces. Both are currently difficult to find in the U.S.). If the pandemic eventually causes issues in testing, that could slow the entire cannabis supply chain from seed to sale. Cannabis testing labs are currently servicing clients at a normal rate.

Another factor in how COVID-19 is affecting the industry is the method of how people are now using cannabis. Due to the nature of the virus and how it affects the respiratory system, many people are avoiding smoking cannabis, preferring to use edibles instead. Edibles sales have surged around coronavirus concerns, coming largely at the expense of pre-rolled joints, and to a lesser extent concentrates and topicals. Edibles also appear to be bringing in new customers, who don’t normally consume cannabis - as a method of reducing anxiety during lockdown and social distancing periods. But given that we’re still in the early days of this developing situation, it’s unclear if more change is coming or if sales will ultimately revert back to pre-crisis levels.

The Difference Between THC and CBD

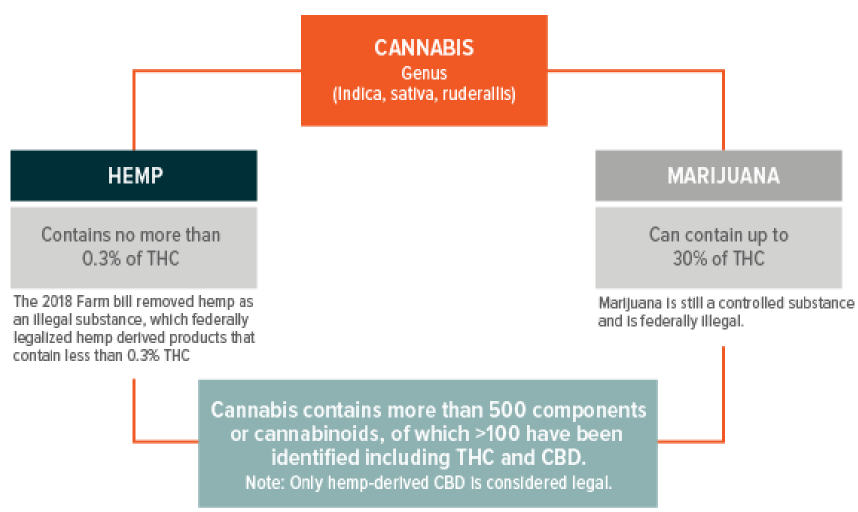
The cannabis industry can't be understood unless you understand the difference between THC and CBD. Although both come from the genus cannabis, they are very different.

What we call cannabis, or marijuana, and has been known by many other names throughout history, contains at least 0.3% tetrahydrocannabinol (THC), one of at least 113 cannabinoids identified in cannabis and the principal psychoactive constituent of cannabis. In other words: what makes a person 'high.'

Cannabidiol (CBD) on the other hand has almost none of the psychoactive properties THC has, and thus doesn't produce a high. CBD can be developed from hemp or cannabis plants. By legal definition, CBD isn't allowed to have more than 0.3 percent THC in it. This is why many companies tend to extract CBD from hemp, because it has more CBD in it than it has THC. Hemp is a strain of the cannabis sativa plant species that is grown specifically for the industrial uses of its derived products. It is one of the fastest growing plants and was one of the first plants to be spun into usable fiber 10,000 years ago.

CANNABIS HIERARCHY

Source: Global X Research, The National Center for Biotechnology Information.



Definitions:
THC (delta-9-tetrahydrocannabinol, the psychoactive cannabinoid)
CBD (Cannabidiol, essential component of medical marijuana)

Studies have found that there are over 100 different cannabinoids in cannabis, but at this time the two that have been studied and used the most are CBD and THC. We've started to see some hype about the potential of other cannabinoids, but the reality at this time is investors should take most of that with a grain of salt because it's going to take years before we know whether or not and in what ways these other cannabinoids are beneficial to people and/or animals.

SELECTED PIPELINE OF CANNABIS-RELATED DRUGS UNDER CLINICAL TRIALS

Source: GW Pharmaceutical, Tilray, MediPharm Labs

Company	Drug	Indication	Phase	Cannabis Use
GW Pharmaceuticals	Epidiolex	Tuberous Sclerosis Complex (TSC), Rett syndrome	3	CBD
GW Pharmaceuticals	Nabiximols (Sativex®) in the US*	Spasticity due to multiple sclerosis (MS), Neuropathic pain/ Other neuro symptoms	2/3	CBD, THC
GW Pharmaceuticals	CBDV (GWP42006)	Epilepsy, Autism spectrum disorders, Rett syndrome	1/2	CBDV
GW Pharmaceuticals	GWP42002/GWP42003	Glioblastoma, Schizophrenia, Neonatal hypxic-ischemic encephalopathy	1/2	CBD, THC
Tilray	-	Chemotherapy-Induced Nausea and Vomitting	2/3	CBD, THC
Tilray	-	Dravet Syndrome	2	CBD, THC
Tilray	-	Post Traumatic Stress Disorder (PTSD)	2	CBD, THC
MediPharm Labs	-	Opioid use disorder through anti-anxiety intervention	2/3	CBD

*Sativex is not approved in the US for any indication. It is approved for MS Spasticity in certain countries outside of the US

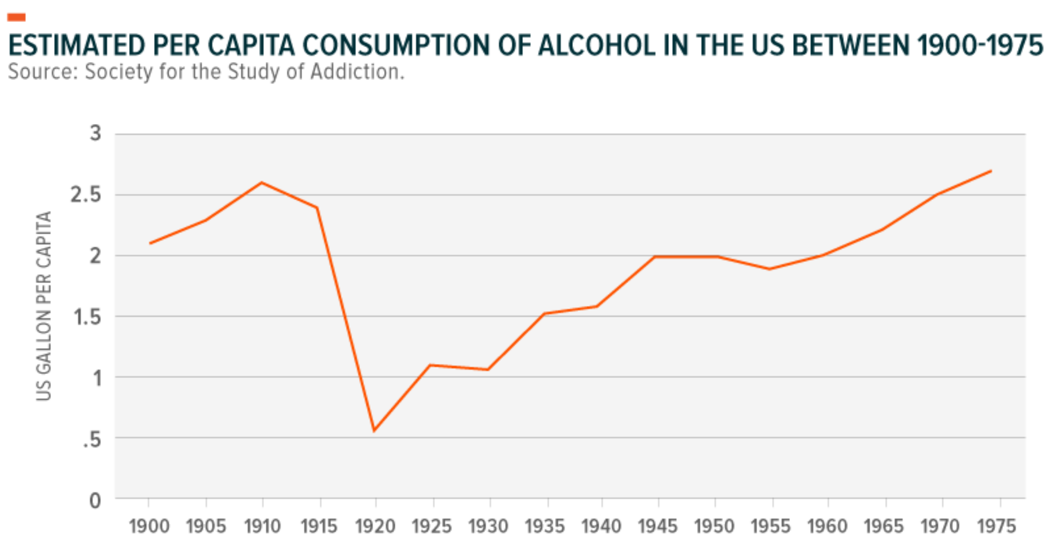
Source: Global X

Investors should primarily consider CBD to be part of the vitamin, supplement and herbal markets. From a legal perspective in the U.S., the FDA tends to look at it from that point of view. However, GW Pharmaceuticals (GWPH) changed that some when in June 2018 the FDA gave approval for the use of Epidiolex in the treatment of Lennox-Gastaut syndrome and Dravet syndrome, two severe forms of epilepsy as it helps manage seizures and some of the developmental disabilities associated with the conditions. That's important to understand because while it's a CBD product, Epidiolex brings it out of the vitamin and supplement realm into the pharmaceutical realm. We expect to see more of these types of treatments approved in the future, although it will take time. Without a doubt there will be pushback from big pharma when it starts to threaten drugs they developed to treat the same conditions.

Anyone walking around the streets of any major city (or perhaps more accurately, anyone walking around… anywhere) has seen the proliferation of CBD products and marketing and realized that the CBD market is developing rapidly. The Farm Bill passing meant the FDA cracked down on packaging and what CBD products can claim to achieve (ie, no claiming CBD cures cancer), as did Health Canada to the north. Some companies that ran afoul of regulations, like Curaleaf (CURLF), responded immediately to the offenses. Other companies, like CannTrust, were slow to address its issues. In addition to the cover-up fiasco mentioned in the introduction, CannTrust had its license to produce and sell suspended in September 2019 as a result of the failure to adhere to guidelines. Once it did take corrective measures, though, the stock recovered over 20%. The Brightfield Group projects CBD sales in the U.S. to jump from about $5 billion in 2019 to approximately $23.7 billion by 2023.

Global Cannabis Sales & Industry Catalysts

Cannabis is widely used in the United States and globally. The United Nations suggests that one in six adult Americans use cannabis each year. Canadians use cannabis at a comparable rate, while about 7% of Europeans use cannabis each year. According to one estimate, 263 million people consume cannabis worldwide each year, creating a $344 billion market. For comparison, the global alcohol market is approximately four times larger at about $1.3 billion. Most of the worldwide cannabis economy, however, is still underground after decades of cannabis being illegal. As you can see in the chart below, consumption of alcohol in the U.S. increased after prohibition; we expect the same to happen with cannabis as more states and countries continue to make it legal, and especially if it goes federally legal in the U.S.



Post-prohibition, data on per capita consumption of alcohol suggests that alcohol use in the US increased after 1933, as the act was no longer illicit and social norms evolved.

Source: Global X

Using data from Arcview Market Research and BDS Analytics' 2019 "State of the Legal Cannabis Markets" report, a handful of countries will account for the vast majority of the projected $40.6 billion in sales by 2024. It does need to be taken into account that these sales only represent licensed outlets. CBD products sold through regular retailers aren't included in the above number. The countries listed below are expected to generate $38.2 billion in revenue from licensed outlets by 2024.

U.S. Sales: North America will continue to lead the global cannabis market for many years, led by projected U.S. licensed sales of $30.1 billion by 2024. At the global level, the Arcview Market Research and BDS Analytics report concludes that would represent almost 75 percent of licensed revenue. Breaking it down, recreational cannabis sales would account for $21.1 billion of the total, and medical cannabis the remaining $9 billion.

What's important about the U.S. cannabis market is it doesn't have to be legalized at the federal level in order for the market to soar in growth. The key here is that as long as the federal government doesn't start to battle against the states concerning legalization, the U.S. cannabis market should enjoy long-term growth that exceeds all other markets.

The US cannabis market generated [$10 billion] of legal sales in 2018. Already the largest legal cannabis market in the world, it is expected to grow much larger as cannabis law continue to liberalize and as the legal sector marginalizes black market cannabis.

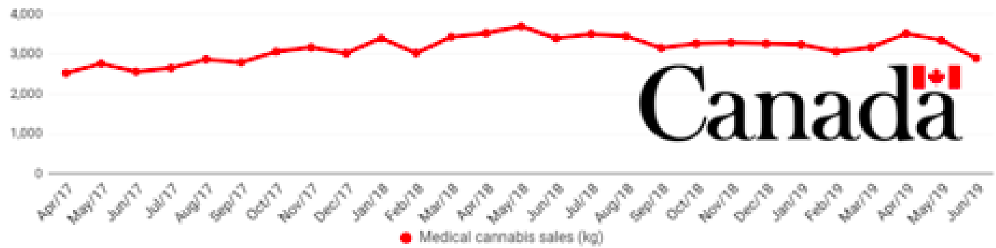
Estimates of the potential of the U.S. cannabis market vary. It is difficult to estimate its future size given uncertainty over the legal and regulatory landscape in years to come. However, most analysts forecast significant growth in the U.S. cannabis sector. For example, Cowen expects the market to grow at 19% per year up to an [$80 billion] market by 2030 while Marijuana Business Daily foresee a 24% annual growth rate up to [$30 billion] of sales by 2023.

Most of the growth in the cannabis sector is expected to come from marginalizing the black market. This will be achieved as more states legalize medical and recreational cannabis, as those markets develop, and as the federal government enacts laws which reduce the obstacles faced by cannabis businesses.

U.S. Catalysts: Federal lawmakers are pushing for more cannabis reform through three federal bills: The SAFE Banking Act, the STATES Act, and the MORE Act (more on these bills in our Legal section). Collectively, these bills seek to bring the cannabis industry into the mainstream by taxing and regulating the sector alongside other "sin" sectors like alcohol, gambling, and tobacco. These bills are gaining momentum, and The SAFE Banking Act passed the House with bi-partisan support in September. Still, none of them have been enacted and it is difficult to predict when or if they will become law.

In the meantime, cannabis legalization continues to proliferate which is good news for cannabis companies and investors. Illinois legalized recreational cannabis on January 1, 2020 and more states are [expected] to follow suit (for more on other states see Legal section). Still others will continue to legalize at least on the medical side.

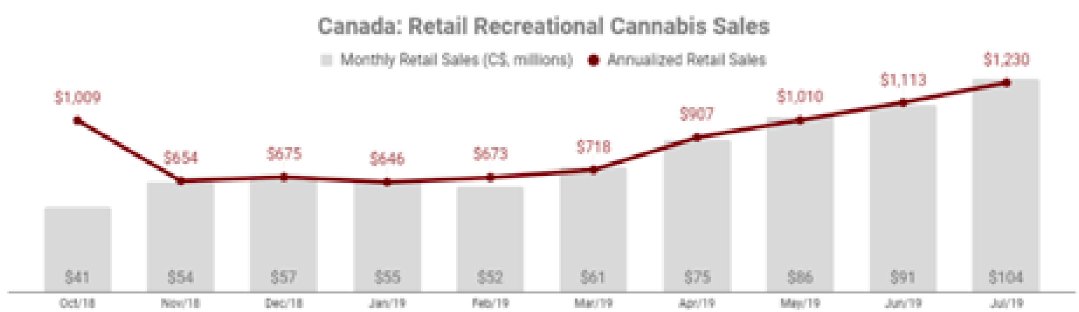
Canada Sales: A distant second in North American sales is Canada, where Arcview Market Research and BDS Analytics project cannabis sales of $5.18 billion by 2024. Of that total, estimates are about $4.8 billion of overall revenue will come from recreational cannabis, with the rest coming from medical cannabis. However, mainly because medical cannabis generates wider margins and better earnings than recreational cannabis, we think that total number could be even higher than predicted.



Source: Author based on data from Health Canada.

Canadian medical cannabis sales are relatively stable. It is likely that medical cannabis sales will continue to be stable or slowly decline with the expanding proliferation of recreational cannabis. The Canadian recreational cannabis market offers largely the same products at the same prices as the medical cannabis system. This system will likely lead to a shift towards the recreational cannabis marketplace until or unless there is an advantage to using the medical cannabis system, such as a superior product offering or lower prices.

The Canadian recreational cannabis market under-performed analyst expectations in its first year. Some analysts projected as much as [C$4.3 billion in first-year sales](). Through July 2019, Canadians have purchased [C$676 million]() of recreational cannabis at retail stores. These disappointing results have been blamed on a shortage of retail stores, an initial shortage of cannabis for sale, high prices compared to the black market, and limited police enforcement to stop unlicensed cannabis sellers.



Source: Author based on data from the Government of Canada.

Statistics Canada estimates that Canadians purchased [C$1.5 billion of cannabis in the second quarter of 2019](), but that nearly two-thirds of this was through the black market rather than from legal suppliers. Analysts expect the Canadian cannabis market to be worth [$5.2 billion by 2024]().

Canada Catalysts: The growth of the recreational cannabis market will be driven by [adding more retail stores](), the legalization of edibles and vaporizer oils in [December 2019](), which will provide higher price points to work from and by converting consumers from the black market to the legal market.

The launch of Cannabis 2.0 products is expected to cause a significant boost in sales. [Deloitte estimates] that the addition of edibles and alternative cannabis products could be worth C$2.7 billion per year in sales. Edibles will make up the bulk of this potential market at C$1.6 billion, with other major product categories including cannabis-infused beverages (C$529 million), topicals (C$174 million), concentrates (C$140 million), tinctures (C$116 million), and capsules (C$114 million).

Canadian cannabis demand for 2019 is projected to come in at 900 metric tons, and jump to 1,100 metric tons in 2020, according to Scotiabank. *For the year, the black market will account for approximately 71 percent of all recreational sales. In 2020, that percentage is expected to plummet to 37 percent.* Having a possible 34 percent gain in recreational sales from a drop in black market sales is a significant catalyst for the industry.

The bank also noted that constraints in the Canadian market are temporal, and we agree with that assessment. Most of this is related to the slow approval process for retail outlets, lack of compliant packaging, inspections from Health Canada, and in some cases, issues surrounding quality. Along with improving governance accountability and ongoing increases in demand for medical cannabis in Canada, 2020 promises to be a better year as supply is ready to meet demand.

Germany Sales: Next on the global stage for cannabis sales is Germany, which is projected to generate $1.35 billion in revenue by 2024. All of that will come from medical cannabis because there is no catalyst at this time driving interest in legalizing the recreational market in the country.

Germany Catalysts: Medical cannabis in Germany is covered by health insurance. Part of the reason for weaker sales in Germany so far comes from the lack of compliant cannabis required by the country. Aurora Cannabis (ACB) received five production licenses for Germany in 2019, which was expected to help meet the growing demand in this important global cannabis market. Each license grants Aurora the right to produce 200 kilograms annually over a period of four years. German sales, however, have been placed on hold because the company is waiting on local regulators to grant additional authorization related to its sterilization process.

Aphria (APHA) was awarded the same number of licenses, which will over the long haul provide solid and predictable revenue sources. Aphria is scheduled to supply medical cannabis to the German market by the early part of calendar 2020. It has a production facility of 8,000 square meters in Germany and also sells CBD products via its CannRelief unit in the country.

Mexico Sales: Not far behind Germany with global cannabis sales is Mexico, which is expected to generate $1.02 billion in revenue by 2024. One of the uncertainties concerning Mexico is whether or not legal sales will make as much headway into the illegal market as developed nations have enjoyed so far. On the CBD side of things, companies have been generating sales in Mexico since 2016, with Medical Marijuana, Inc. (MJNA) being the first. Even with the probable legalization of recreational cannabis in Mexico, its medical cannabis market also looks solid. Mexico has the potential to surprise to the upside.

Mexico Catalysts: Mexico is one of the few countries that are expected to legalize cannabis at all levels very soon. If/when it does so, the above number will be much higher. With a population of over three times that of Canada, and assuming a similar usage rate of one in six adults, it would make Mexico the largest cannabis market in the world, with a population of about 132 million. That would be far larger than even California, which is the current cannabis global leader. The numbers being put forth, while substantial, could easily be much higher with the potential that would come with Mexican legalization.

UK Sales: Last in the top five global cannabis markets according to revenue is the United Kingdom. Estimates there are that by 2024 it should generate $546.9 million in sales. While seemingly modest in comparison with the other large cannabis markets, cannabis sales in the United Kingdom are expected to soar. In 2018 it generated only $9.9 million in sales, which means it would grow at a CAGR of over 95 percent through 2024, based upon the $546.9 million in expected sales.

UK Catalysts: Much of the success and increasing positive sentiment in Britain can be attributed to GW Pharmaceuticals and its highly successful Epidiolex, and secondarily to Sativex, used to treat symptoms related to spasticity in multiple sclerosis patients. The latter is only available in the EU as of this writing.

Cannabis Genus Conclusion

Taking into account the North American and overall global cannabis markets, it's easy to see that the growth trajectory for the industry is likely to be steep over the next several years, and that doesn't include any of the probable states or countries that will open up further to recreational or medical cannabis.

As for sales projections in the future, there are a lot of statistics that have been thrown out that differ significantly in expected revenue. What we do know is sales in 2016 for the U.S. were $6.56 billion; for 2017 they were $7.97 billion; and for 2018, U.S. cannabis sales jumped to $10.82 billion. According to Statista, U.S. sales alone are expected to jump to $24.07 billion by 2025. By 2030 some analysts see U.S. sales climbing to as high as $80 billion. That could easily be a low estimate because of the high probability a number of states will legalize recreational or medical cannabis, or both. This will increase sales to a higher level than is now projected.

Globally, estimates for the short term are that cannabis sales will reach somewhere between $15 billion and $17 billion in 2019. According to Arcview Market Research and BDS Analytics’ 'The State of the Cannabis Markets,' sales in 2019 are expected to be about $14.9 billion. Based upon reported legal cannabis sales from 2014 to 2018, they also projected expected global cannabis sales from 2019 to 2024.

Here are their numbers:

- 2014: $3.4 billion
- 2015: $4.8 billion
- 2016: $6.7 billion
- 2017: $9.1 billion
- 2018: $10.9 billion
- 2019: $14.9 billion
- 2020: $19.3 billion
- 2021: $24.4 billion
- 2022: $30.7 billion
- 2023: $36.2 billion
- 2024: $40.6 billion

For that 10-year period, it represents CAGR of over 28 percent, and from 2019 through 2024, CAGR of 24.5 percent. For these reasons, along with the catalysts mentioned above and even with the challenges the industry faces, the future is bright for cannabis. We think the sector has a long-term growth trajectory ahead of it.

Cannabis Companies Trading in U.S.	Market Cap	Exchange	Focus
1933 Industries (TGIFF)	$57.94M	OTCQB	Cultivator
4Front Ventures Corp. (CNXXF)	$241.89M	OTCQX	Cultivator
Acacia Diversified Hldgs (ACCA)	$3.94M	OTCQB	Distributor
Acreage Holdings, Inc. (ACRGF)	$716.23M	OTCQX	Cultivator
iAnthus Capital Holdings Inc (ITHUF)	$308.82M	OTCQX	Cultivator
Agraflora Organics International Inc. (AGFAF)	$163.98M	OTCPK	Cultivator
Agritek Holdings, Inc. (AGTK)	$4.04M	OTCPK	Distributor
Aleafia Health Inc. (ALEAF)	$159.93M	OTCQX	Cultivator
Alliance Growers Corp. (ALGWF)	$1.64M	OTCQB	Cultivator
American Cannabis Company, Inc. (AMMJ)	$11.50M	OTCQB	Consultant
American Green, Inc. (ERBB)	$2.27M	OTCPK	Cultivator
AmeriCann, Inc. (ACAN)	$16.39M	OTCQB	Cultivator
Aphria (APHA)	$1.40B	NYSE	Cultivator
Aurora Cannabis (ACB)	$3.93B	NYSE	Cultivator
Bang Holdings Corp. (BXNG)	$8.52M	OTCPK	Marketing
Body and Mind Inc. (BMMJ)	$81.34M	OTCPK	Cultivator
C21 Investments Inc. (CXXIF)	$33.31M	OTCPK	Distributor
Canada House Wellness Group Inc. (SARSF)	$8.62M	Grey	Cultivator
Canadian Cannabis Corp. (CCAN)	$2.66M	OTCPK	Cultivator
Cannabics Pharmaceuticals Inc. (CNBX)	$28.06M	OTCQB	Medical
Cannabis Growth Opportunity Corp (CWWBF)	$7.69M	Grey	Investment
Cannabis Strategic Ventures (NUGS)	$27.80M	OTCQB	Investment
Cannabix Technologies Inc (BLOZF)	$48.19M	OTCPK	Technology
CannaGrow Holdings, Inc. (CGRW)	$21.01M	OTCPK	Consultant
CannaPharmaRx Inc (CPMD)	$69.76M	OTCPK	Medical
CannLabs Inc (CANL)	$4.39M	OTCPK	Cultivator
Canntab Therapeutics Limited (CTABF)	$9.68M	OTCQX	Medical
CannTrust Holdings Inc. (CTST)	$175.54M	NYSE	Cultivator
Canopy Growth (CGC)	$7.60B	NYSE	Cultivator
Canopy Rivers Inc. (CNPOF)	$251.46M	OTCPK	Investment
CB2 Insights Inc. (CBIIF)	$5.82M	OTCQB	Medical
CBD Unlimited, Inc. (EDXC)	$73.79M	OTCPK	Distributor

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Maple Leaf Green World Inc. (MGWFF)	$7.75M	OTCQX	Cultivator
Marijuana Company of America, Inc. (MCOA)	$9.31M	OTCQB	Distributor
MariMed Inc. (MRMD)	$214.83M	OTCQB	Cultivator
MassRoots, Inc. (MSRT)	$1.41M	OTCQB	Platform
mCig, Inc. (MCIG)	$20.15M	OTCPK	Cultivator
Medical Marijuana, Inc. (MJNA)	$94.26M	OTCPK	Distributor
Medicine Man Technologies, Inc. (MDCL)	$136.24M	OTCQB	Consultant
MedMen Enterprises Inc. (MMNFF)	$701.30M	OTCQB	Retail
MGC Pharmaceuticals Limited (MGCLF)	$32.64M	OTCPK	Medical
MJ Holdings, Inc. (MJNE)	$17.42M	OTCPK	Consultant
MJardin Group, Inc. (MJARF)	$35.13M	OTCQX	Consultant
MMJ Group Holdings Limited (MMJJF)	$31.39M	OTCPK	Cultivator
Mountain High Acquisitions Corp. (MYHI)	$1.86M	OTCQB	Infrastructure
MyDx, Inc. (MYDX)	$1.20M	OTCPK	Technology
MYM Nutraceuticals Inc. (MYMMF)	$13.83M	OTCQB	Cultivator
Namaste Technologies Inc. (NXTTF)	$98.57M	OTCQB	Platform
National Access Cannabis Corp. (NACNF)	$48.47M	OTCPK	Retail
Neptune Wellness Solutions Inc. (NEPT)	$325.78M	NASDAQ	Distributor
NewLeaf Brands Inc. (NLBIF)	$11.14M	OTCPK	Distributor
Novus Acquisition and Development (NDEV)	$5.52M	OTCPK	Insurance
Nutritional High International Inc. (SPLIF)	$33.42M	OTCQB	Distributor
OrganiGram Holdings Inc. (OGI)	$583.72M	NASDAQ	Cultivator
Origin House (ORHOF)	$283.80M	OTCQX	Cultivator
OWC Pharmaceutical Research Corp. (OWCP)	$2.18M	OTCQB	Medical
Peak Pharmaceuticals Inc (PKPH)	$1.02M	OTCPK	Distributor
Phivida Holdings Inc. (PHVAF)	$9.96M	OTCQX	Distributor
Planet 13 Holdings Inc (PLNHF)	$207.20M	OTCQB	Retail
Players Network Inc (PNTV)	$11.21M	OTCQB	Cultivator
Plus Products Inc (PLPRF)	$79.92M	OTCQB	Manufacturer
PotNetwork Holding, Inc. (POTN)	$23.69M	OTCPK	Investment
Profile Solutions Inc (PSIQ)	$7.75M	OTCPK	Distributor
Radient Technologies Inc. (RDDTF)	$131.46M	Grey	Extraction
Ravenquest Biomed Inc. (RVVQF)	$21.83M	OTCQB	Cultivator
Revive Therapeutics Ltd (RVVTF)	$2.77M	OTCQB	Technology

RISE Life Science Corp (MCUIF)	$3.88M	Grey	Distributor
Rocky Mountain High Brands Inc. (RMHB)	$5.30M	OTCQB	Distributor
SOL Global Investments Corp. (SOLCF)	$26.36M	OTCPK	Investment
Speakeasy Cannabis Club Ltd. (SPBBF)	$25.96M	OTCPK	Cultivator
STWC Holdings Inc (STWC)	$2.85M	OTCQB	Consultant
Sunniva Inc. (SNNVF)	$46.18M	OTCQB	Cultivator
Supreme Cannabis Company Inc. (SPRWF)	$219.63M	OTCQX	Cultivator
Surna Inc. (SRNA)	$17.12M	OTCQB	Manufacturer
Terra Tech Corp (TRTC)	$30.04M	OTCQX	Cultivator
TerrAscend Corp. (TRSSF)	$601.46M	OTCQX	Cultivator
Tetra Bio-Pharma Inc (TBPMF)	$32.60M	OTCQB	Medical
THC Biomed International Ltd (THCBF)	$17.16M	OTCQX	Cultivator
The Green Organic Dutchman Holdings (TGODF)	$229.99M	OTCQX	Cultivator
The Tinley Beverage Company Inc. (TNYBF)	$33.88M	OTCQX	Distributor
Therapix Biosciences Ltd. (TRPX)	$10.94M	NASDAQ	Medical
Tilray Inc. (TLRY)	$2.33B	NASDAQ	Cultivator
TILT Holdings Inc. (TLLTF)	$115.58M	OTCQB	Technology
True Leaf Medicine International Inc. (TRLFF)	$15.00M	OTCQX	Distributor
Trulieve Cannabis Corp. (TCNNF)	$1.16B	OTCPK	Cultivator
United Cannabis Corp. (CNAB)	$27.10M	OTCQB	Extraction
Valens GroWorks Corp. (VGWCF)	$288.69M	OTCQB	Extraction
Vitality Biopharma (VBIO)	$5.40M	Grey	Medical
VIVO Cannabis Inc. (VVCIF)	$67.97M	OTCQB	Cultivator
Vodis Pharmaceuticals Inc (VDQSF)	$2.50M	Grey	Medical
Wayland Group Corp. (MRRCF)	$134.47M	OTCQB	Cultivator
WEED INC. (BUDZ)	$43.51M	OTCPK	Investment
WeedMD (WDDMF)	$109.55M	OTCPK	Cultivator
Wildflower Brands Inc. (WLDFF)	$29.02M	OTCQB	Distributor
Zelda Therapeutics Ltd (ZLDAF)	$36.22M	OTCQB	Medical
Zenabis Global Inc. (ZBISF)	$41.54M	OTCKP	Cultivator
Zynerba Pharmaceuticals Inc. (ZYNE)	$188.97M	NASDAQ	Medical

As you can see from the above table, there are hundreds of various cannabis companies that trade on U.S. exchanges - but don't let that scare you off. Which isn't to say that investing in this sector is right for everyone. The cannabis sector is in a sector-wide decline. Share prices have fallen across the board. One of our outperform picks that we discuss below is Khiron Life Sciences (KHRNF), whose share price as of this writing is at $0.70 and was over $3 in March. If you are scared of that, it means you're paying attention and taking a real look at the risk in this sector. Caveat emptor is always the motto, but this is especially true in the cannabis space. Cannabis is not federally legal in a country where many of these stocks operate in - that's definitely not business as usual.

Only you can decide if cannabis belongs in your portfolio, but it's wise to first ask yourself some questions: can you and your portfolio handle the volatility? And if so, how much do you allocate to cannabis? Do you go long the entire sector like one investment manager we talked to? Do you hedge? Do you buy one ETF? All of them or none of them? Do you focus on the MSO space or a Canadian LP? Do you diversify and pick stocks from each part of the sector? We can't answer all these questions for you (only you can!), but we can help. Below, we give you some data and outside perspective for context; offer our own informed opinion and tell you what to look for and what to beware of. We clarify and contextualize the different company and ETF classifications as well as provide company catalysts, metrics to measure the various cannabis companies, along with our outperform picks at the end.

Let us note here that no matter what type of company you're looking at, *strong management is key.* As we know from stocks like Enron, soaring stock prices will crash spectacularly if led by corrupt or inept management. But, what makes for strong management? One of the first things you should look at is senior management's background - do they have experience in the field? If not (especially in the nascent cannabis sector, where very few executives have worked long-term), is their background in a similar space? Are they trustworthy? Anything shady in their background? If so, have they answered for it? What can they bring to the role they're presently in? Are they forthcoming on earnings conference calls? Are they disciplined in spending? Do they underpromise and overdeliver, or the opposite? Is their guidance for growth based in reality? Also look at insider buying. Management buying shares in their own companies engenders great faith in investors, but make sure management is holding onto shares and not just flipping them. Moreover, make sure their compensation matches up with industry standards.

Medical Cannabis Companies

Many people getting into the space aren't sure of the differences between medical and recreational, otherwise known as adult use, cannabis. We discuss the legal and regulatory aspects in the Legal section further down, but for investing purposes, let's quickly clarify any misconceptions. As can be seen in the Focus column in the table above, there are a handful of cannabis companies that only deal in the medical cannabis market, one of the biggest examples being GW Pharma. Medical cannabis companies are involved in the research and development of treatment for various health conditions such as Alzheimer's, different forms of cancer, epilepsy, various mental health conditions, multiple sclerosis, and nausea. Other companies, like Canadian company Organigram (OGI), got their start by focusing on medical cannabis, but have since pivoted into the health and wellness category, as well as adult use cannabis. Most cannabis companies deal in both medical and recreational cannabis.

Medical Advantages: Medical cannabis is legal in a lot more states and countries than adult use. Another advantage for Canadian medical companies is higher margins because while consumers pay similar prices for both medical and recreational cannabis, recreational cannabis prices include profit margins for both a distributor and a retailer while medical cannabis is sold directly from an LP to a consumer. Canadian LPs, therefore, tend to receive lower prices for recreational cannabis compared to medical cannabis, often resulting in lower gross margins.

Medical Disadvantages: Medical cannabis was legalized first and has more infrastructure behind it, but recreational cannabis caters to a much bigger audience and gets more of the attention. R&D for applicable treatments can take a long time and the process is still relatively new, so assume that ROI will be longer compared to recreational cannabis. Consider that GW Pharmaceuticals spent 19 years researching cannabis chemicals before getting its first drug approval earlier this year.

Metrics to Measure Medical Cannabis Companies: In evaluating medical cannabis stocks, focus on the same things you would if you were investing in the pharmaceutical industry. Look at the company's pipeline of drugs and spending on research. Also read up on the number of PhDs and head scientists they have on staff, and the background of senior management - this will help investors understand if this is the right team to go down the path and whether their background and expertise will help or hinder treatment developments. Investors also need to understand how far down the path a company is, noting what patents the company has filed (few will likely have been granted yet), and if they're likely to be approved.

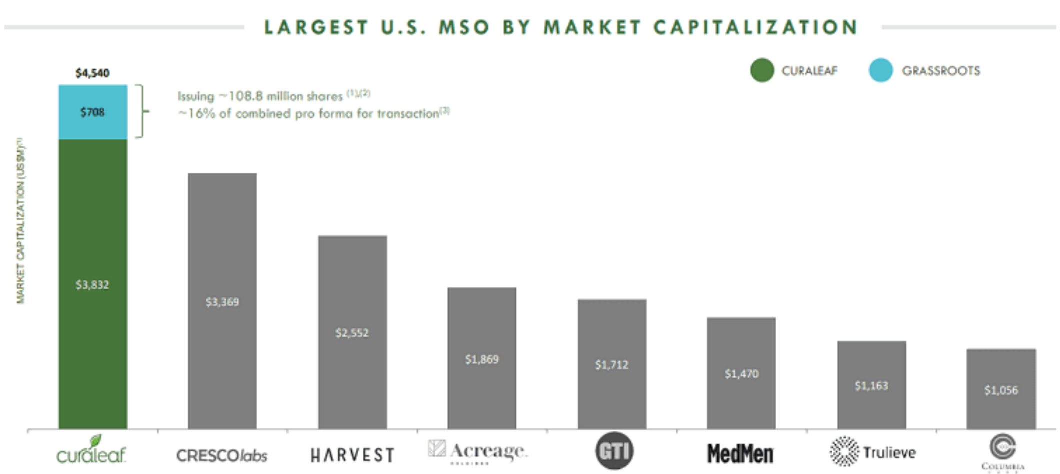
Medical Company Conclusion: While Canada is currently the biggest medical cannabis market, Germany is poised to overtake Canada within the next few years due to its bigger population and broader availability. More countries are set to legalize medically in the near future. While uncertainty remains, medical is likely to spread far and wide across the globe.

Multi-State Operators

U.S. multi-state operators, or MSOs, are companies which amass state cannabis licenses in states that have legalized medical or recreational cannabis. Companies must obtain licenses to legally operate in each state, or acquire a company that already has the licenses. MSOs can't transport cannabis across state lines, however, which means that for practical purposes they're typically vertically integrated, meaning they control the whole supply chain. It should be kept in mind that in certain states, including Washington, vertically integrated operations are not permitted. Because MSOs have had success obtaining licenses and streamlining procedures, one of the more recent shifts in the cannabis space has been from smaller scale businesses to these large multi-state operators. This movement has also brought further growth and more efficiency to the industry.

Multi-state operators also face unique challenges navigating diverse business and regulatory environments; in fact many companies set up as MSOs simply out of necessity. As Harvest Health & Recreation - currently one of the biggest MSOs - CEO Steve White said on a recent episode of The Cannabis Investing Podcast

> "For us, it's not so much about a choice, it's really a choice that was made for us by how these regulatory environments have been set up."



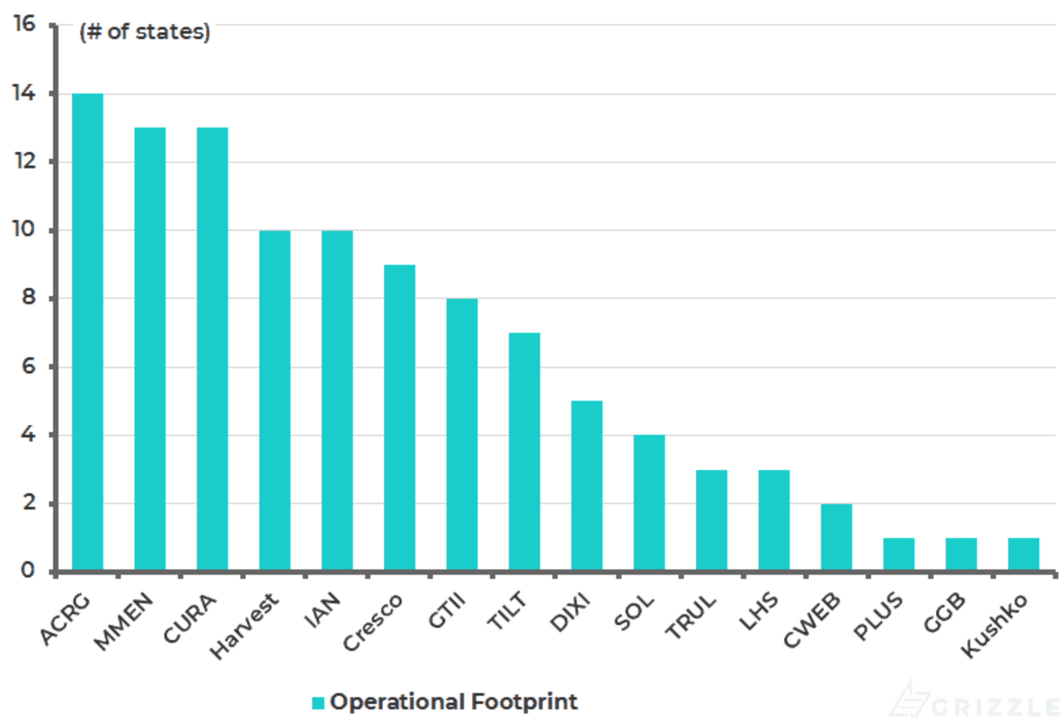
Source: Nanalyze

MSO Advantages: MSOs have a number of advantages over single-state operators. Namely, because of all the states they operate in, their branded products are more nationally recognized. Secondly, procuring state licenses and vertical integration means the company has had to develop a standard operating procedure which gives them a leg up, especially with the regulatory bodies, as more states - and in some cases countries - go legal. It also typically makes them more efficient.

MSO Disadvantages: For one, many announced acquisitions never end up getting done. It's important for investors to follow not just the announcement and excitement of the deals, but to see if they actually go through. For example, a lot of fanfare came with the blockbuster MedMen/PharmaCann acquisition announcement. A year later the deal was terminated and MedMen's strategy refocused; just recently, MedMen's CEO resigned. Another issue is high expense levels. Because they control the supply chain, MSOs must invest a lot of capital in each state in order to maintain a strong growth trajectory. This in turn has put pressure on balance sheets which the market is starting to take notice of. MSOs are in the midst of their acquisition phase, but concerns remain regarding the costs associated with their growth strategies.

Metrics to Measure MSOs: Only a few of these businesses are generating meaningful free cash flow. As such, they are valued for their *future potential* rather than their *current revenue and profitability*. Investors often look at the size of an MSO's footprint to determine its potential, the idea being that companies that operate in more states can potentially open more dispensaries and will be better able to build up a meaningful national presence and brand name.

Operational Footprint (# of states)



Source: SEDAR, Grizzle Estimates

Past those metrics, investors often look to EBITDA for an idea of current profitability and to dispensary count and dispensary licenses counts for an idea of the potential size of a U.S. MSO. Investors should also be aware of how much cash companies have and their operating cash flow – capital can be expensive for U.S. cannabis companies, so it can be beneficial to invest in companies which are better at growing their business while maintaining relatively robust operating and free cash flows.

Typically, cannabis company profitability is measured using EBITDA rather than net income. The majority of large cannabis companies report adjusted EBITDA which usually excludes share-based compensation and excludes one-time costs such as acquisition costs.

Net income is not usually used to measure profitability in the sector. Publicly traded MSOs are also traded on Canadian markets which mean they must follow Canadian IFRS accounting standards. Under those standards, net income can often be dominated by non-cash fair value adjustments (related to the fair value of cannabis inventory compared to its production cost) and by changes in the value of outstanding stock warrants. These non-cash items are reflected in net income and can skew net income so that it is no longer meaningful.

For example, in the June 2019 quarter, Trulieve (TCNNF) earned $58 million in net income on revenue of $58 million. This exceptionally high net income was the result of $66 million of non-cash fair value adjustments related to Trulieve ramping up its cannabis production. These non-cash items are required to be reported, but the results of net income figures are misleading – without fair value adjustments, Trulieve would have lost $9 million in the quarter.

While adjusted EBITDA is the standard profitability metric in the sector, investors should also be aware of its shortcomings. Adjusted EBITDA is a much easier metric for cannabis companies to improve, since it is not a GAAP (or IFRS) metric and they can exclude one-time costs, share-based compensation, interest expenses, and taxes. Because of these exclusions, it is often much easier to be profitable under adjusted EBITDA than it is under net income.

The two most significant exclusions from adjusted EBITDA are perhaps share-based compensation and income tax. Share-based compensation is used by companies to pay their employees using stock options and equity rather than cash. Given the difficulty and cost of raising capital in the U.S. cannabis sector, it can be beneficial to pay using shares rather than cash. However, while this compensation may be free from a cash flow perspective, this compensation also dilutes shareholders.

Income tax can be especially high in the cannabis sector due to IRS Section 280E. Stemming from the federal ban of cannabis, this provision forbids the deduction of ordinary business expenses from the income associated with trafficking Schedule I substances. Normal businesses are able to deduct both gross costs and operating costs from their revenue to calculate taxable income.

However, cannabis businesses are unable to deduct operating costs when calculating their taxable income: Their gross profit is their taxable income.

This can lead to profitable cannabis companies paying exceptionally high taxes. For example, in the June 2019 quarter, Trulieve generated $58 million in net income. They had 65% gross margins (excluding non-cash fair value adjustments) and generated $38 million in gross profit. Trulieve provisioned $28 million for income taxes, including $12 million in current taxes and $15 million in deferred taxes. Given these taxes, it may be difficult for U.S. cannabis businesses to generate meaningful cash flow even if they report adjusted EBITDA profits.

MSO Conclusion: It's difficult for the MSOs to provide a path to profitability when they're still acquiring strategic assets, but some have already done so. The multi-state operators are in the same place now that Canadian growers were about a year ago. They're going all out to position themselves as market leaders in order to enjoy the benefits of scaling operations. For that reason, most of their balance sheets are going to take time to improve. To succeed, they must scale and spend responsibly. MSOs firmly believe though that as the U.S. continues to legalize and especially if it goes federally legal, they'll already be established as industry leaders. For the best of breed MSOs - more on that below - we agree.

Canadian Companies

Most Canadian cannabis companies are not involved in retail sales. Instead, these companies grow cannabis, sell that cannabis to customers and to provincial distributors. Branding is already important in cannabis sales and has become more important with the launch of edibles and other cannabis products in December 2019. Those products are likely to be more differentiated from one another, which will increase the value of brands and is likely to lead to higher margins.

Canadian licensed producers (LPs) account for four of the five largest cannabis companies in the world, by market cap. These companies were the first to go public on major stock exchanges and operate completely legally in every country. Canadian LPs generate the majority of their revenue in Canada. Several of the larger LPs also operate in Europe and other legal medical cannabis markets, earning perhaps 3-10% of their revenue in Europe. Those external markets are relatively small compared to the Canadian market, but have the potential to be much larger than the Canadian market long-term due to much higher populations.

Canadian Advantages: Canadian companies often have much better access to capital than their U.S. peers and are able to borrow from banks with relatively low interest rates. Some Canadian companies are also profitable, and companies are not subject to punitive taxation through IRS Section 280E. Moreover, because Canada was the first major country to make both adult use and medical cannabis legal, Canadian companies have a certain leg up as they've had to evolve and grow along with the industry, learning lessons which have given them advantages over their US peers, where so much is still unknown about the future of the market.

Canadian companies have in fact already made big investments in the U.S. space since the Farm Bill was passed last year. Industry heavyweights like Aurora Cannabis, Canopy Growth, Tilray and Cronos Group have laid out plans to spend hundreds of millions of dollars in hopes of hitting the ground running in the U.S. cannabis market. They have been building out their global footprint while the U.S. companies have to be content to compete on a state-by-state basis. If the U.S. federal government does eventually legalize cannabis, these Canadian companies will already have a strong presence that will be difficult to overcome because of supply chains and partnerships with key companies already being in place. That would also be true of government licensing.

Canadian Disadvantages: Canadian LPs tend to receive lower prices for recreational cannabis compared to medical cannabis, often resulting in lower gross margins. While consumers pay similar prices for both medical and recreational cannabis, recreational cannabis prices include profit margins for both a distributor and a retailer while medical cannabis is sold directly from an LP to a consumer.

In the case of Canadian growers, they have been temporarily frustrated by growth because of the slow pace of retail licensing approvals due to Health Canada's licensing regulations. That has impacted their top and bottom lines, and they must wait until more stores are operational. That is especially important in Toronto and Ontario, as they're by far the largest Canadian markets. As of late summer 2019, Toronto only had five cannabis retail stores that were open for business. That has resulted in unsatisfied demand while the black market picks up the slack. It is now starting to change but we won't know true measures of growth until Canada's retail licensing picks up.

For Canada, regulations associated with packaging has also been detrimental to the cannabis industry there. Companies operating in Canada aren't allowed to brand their packaging. It goes back to the days of cigarette advertising that presented numerous products that attempted to differentiate themselves with a variety of dubious assertions. This obviously makes it difficult to develop a brand, but that hasn't stopped companies from developing compelling brands though it does make it harder for them to be discovered when most packaging looks the same. Canada also has a 10 percent excise tax - on top of the other taxes associated with doing business - that the industry wants done away with.

While some Canadian companies already have their tentacles in the U.S. market through partnership or acquisition, and while that could certainly be an advantage as we mentioned above, we've also seen how heavy spending can negatively impact companies and decimate share price. Case in point Aurora Cannabis, a company that until recently was seen as one of the top leaders in the space. After rampant spending and acquiring, their well-respected CCO, Cam Battley left the company and the stock has since cratered, with $1 price targets now attached to it. Some industry experts still believe in the company's strengths long-term, but the path of ACB definitely shows how spending and scaling at such a rapid pace can be a disadvantage to shareholders.

Metrics to Measure Canadian Companies: For Canadian companies, start looking at those that not only are able to grow revenue, but also prove they have the ability to consistently lower costs as they move toward profitability. Most of them still have a ways to go there, but they should be moving in that direction with the numbers to back it up. Revenue, margins and earnings are going to be key metrics because they're further along in the growth process than the MSOs. Companies have to prove they can grow revenue on a consistent basis over the long term. If they can't do that, cutting costs won't have a big effect, even if they start to generate small profits. Companies need to show they can increase revenue while cutting down on costs.

Cannabis revenue is a useful metric for comparing Canadian cannabis companies. It can be more useful than total revenue because several high-profile Canadian cannabis companies including Tilray (TLRY) and Aphria (APHA) purchased non-cannabis businesses. Their non-cannabis businesses (Manitoba Harvest and CC Pharma, respectively) have lower margins and are likely to offer significantly less growth than their core cannabis business, so are likely to be valued at a lower sales multiple.

Cannabis harvested and cannabis sold can also be useful metrics. Cannabis harvested can provide an indication of a company's production capacity and their maximum potential sales. This was especially useful early in Canadian legalization when there were supply shortages. However, since supply is ample (and some are even concerned about oversupply), cannabis harvested is not as useful. Cannabis sold can be useful as it provides an indication, alongside cannabis revenue, of each company's market shares in the Canadian cannabis sector.

Recreational cannabis sales and revenue can be useful metrics to track, over and above total cannabis revenue. The Canadian medical cannabis market is mature and its sales are declining while the recreational cannabis market is growing quickly. Growth in the Canadian cannabis sector is likely to come from the recreational side rather than the medical side, so it is important to know whether a company is successful in the growing portion of the market rather than making its money in the declining medical sector.

Supply agreements can be useful in determining the reach of a company's recreational cannabis platform. In order to sell in a given province's recreational cannabis market, an LP often needs a supply agreement with the provincial distributor in that province. For example, if a company does not have a supply agreement with the Ontario Cannabis Store, they will be unable to sell their products to recreational consumers in Ontario, which will limit their potential market share.

Production capacity also plays a big part in how a company will perform. Aurora Cannabis was recently the market leader, followed by Canopy Growth. Aurora was poised to reach production capacity of over 625,000 kilograms annually by the end of June 2020 before it suspended its Aurora Sun and Nordic 2 constructions, significantly cutting its capacity behind Aphria. Canopy Growth will have a more modest 500,000 to maybe 550,000 kilograms in annual capacity when it reaches its full potential. Aphria is next among Canadian production, with 255,000 kilograms. CannTrust, before its debacle, was on pace to reach as high as 300,000 kilograms annually. Companies that are expected to produce 100,000 kilograms a year or more are Aleafia Health (ALEAF), at 138,000 kilograms a year; Cronos Group at 120,000 kilograms a year; Organigram at 113,000 kilograms annually; and Tilray, at a little over 100,000 kilograms a year. Tilray could end up with about double that depending on how it implements its strategy of focusing primarily on the European and U.S. markets.

Considering the leading companies in costs per gram, it's apparent that the standard metric used is a cost of approximately $1.00 per gram. If a company is approaching that price point, it's performing at a competitive advantage. Firms like Organigram, Aphria, and Aurora Cannabis are among the leaders in costs per gram, and it's starting to show in company earnings reports.

Costs per gram must be accompanied by price support on the revenue side. But whether in a strong or weak pricing environment, companies that are able to reduce costs per gram will have an advantage over those that don't. The major things that have an impact on lower costs per gram are world class facilities, proprietary growth techniques, and in some cases, growing cannabis outdoors. Outdoor growing is riskier and potentially less reliable because of unpredictable weather and possible problems with pests, but it can produce low-cost cannabis at a fairly rapid pace.

Canadian Companies Conclusion: As with U.S. cannabis companies, Canadian cannabis companies operate in a growth sector. Canadian companies, because they've for the most part completed the acquisition phase of their growth strategy as well as being close to completing the build out of the majority of their facilities, have more need to develop and reveal a visible path to profitability than their U.S. counterparts. Sentiment is starting to turn toward investors wanting companies to display an accurate path to profitability, even if it may take time to get there. They also want to know how long it'll take.

Guidance about achieving profitability in general from companies has been too optimistic and that has weighed on stock prices as it's given the impression of uncertainty and not having a grasp on future potential outcomes. Canadian companies - especially those focusing on medical, where the margins are lower in Canada - that are making strides internationally and will have a footprint when those countries go legal will have an advantage over those companies not able to pursue similar growth strategies.

Ancillary Companies

Mark Twain once said, '"During the gold rush it's a good time to be in the pick and shovel business." Extending that logic, since we're in the heady days of the 'green rush', it might be a good time to be in the hydroponic or security sector. That is, not a cannabis company per se, but an ancillary company, or as they call it in the industry, 'non-plant touching'. As such, ancillary companies (of which there are hundreds) aren't subject to the same regulations or legislation that plant-touching companies are.

With scale and demand continuing to grow in the industry, many cannabis companies have turned to outside organizations that can handle other aspects of the business, be it in blockchain technology, ATM services, or industrial real estate. Some cater to the cannabis industry exclusively, while others serve clients in multiple markets.

Ancillary Advantages: The ancillary market has some big players, including Innovative Industrial Properties (IIPR), KushCo Holdings (KSHB), and Scotts Miracle-Gro (SMG). Because they don't 'touch' the plant themselves, they are going to be more stable than other cannabis stocks which rely on ever-changing legislation.

Ancillary Disadvantages: These ancillary services may, however, face some of the same risks as the primary and tertiary cannabis businesses. These risks include banking proceeds from cannabis businesses, as well as potentially advising a criminal enterprise. Enforcement of these offenses will depend on state and country regulations.

Metrics to Measure Ancillary Companies: Because these stocks are in different sectors, it's difficult to give out broad metrics for ancillary companies, but general investing principles still apply: make sure management checks out; plans for growth are realistic, spending is disciplined.

Ancillary Conclusion: For investors reluctant to get directly into the cannabis space, buying some ancillary players might be a good option. For those bullish on the cannabis space, this might be a nice additional way to go long the sector without adding on more risk.

General Cannabis Investing Metrics

Companies looking for scale are on acquisition sprees - they're focusing more on expansion and growth than being profitable and their spending is high. Other companies are in the process of reforming previous governance issues. In short, there are a number of important metrics to consider in the cannabis sector, and in many cases depends upon where the company is at in its trajectory or phase of growth. That said, there are also a couple general metrics with which investors can measure cannabis stocks.

Visible path to profitability Cannabis investors have been a patient lot for some time, as they have waited for cannabis companies to work on increasing revenue as a priority, and then looking at turning a profit afterwards. While that's still the case, sentiment is starting to turn toward investors wanting companies to display a visible path to profitability, even if it may take time to get there.

Most investors don't mind companies losing money at this stage of industry development because it's understood that it takes money to make money, and those that invest in growth will ultimately become the big winners in the long term, assuming they have the capital to ride out the cash burn.

Still, what investors do want companies to do now is show a path to profitability that is understandable and based in reality. They also want to know how long it'll take to get there. Guidance about achieving profitability in general from companies has been too optimistic and that has weighed on stock prices as it's given the impression of uncertainty and not having a grasp on future potential outcomes.

Differentiation The final metric to measure cannabis companies is their ability to differentiate from competitors. This can be done by the specific segment they're competing in, such as compliant packaging, producers, or pick-and-shovel plays that supply the tools needed to operate the various businesses related to the industry. That's the first area of differentiation: what business are they in?

Next will be how they differentiate within a specific segment of the market. In the case of Canada, even with limited branding allowance, Aurora Cannabis has been able to be one of the branding leaders based upon the quality of their products. Its cannabis brands are among the most recognized and they're market leaders in sales. Gaining that mind share at this stage will go a long way toward developing a moat in the country.

In the United States, Charlotte's Web Holdings (CWBHF), known for its high CBD and low THC content has done the same, as the overall consensus is that the Charlotte's Web strain is one of the most recognizable in the world. Add to that the fact it was awarded the first patent for a hemp strain by the U.S. Patent and Trademark office, and you can see how it's creating a brand that is building a nice moat against its competitors.

Many cannabis companies state they're a differentiated company, but understand what it is that practically separates them from their competitors. It can't be only theory, assertions or hype, as eventually the market will demand that what is stated must be backed up with performance.
Investors need to know that a company isn't susceptible to becoming a commodity business that will be forced to compete on price alone. Differentiation is the key to defending against that possibility.

Stocks Set To Outperform

As with any burgeoning market, there are many unknowns in the cannabis market. However, given what we do know about projected sources of growth, current management and companies' plans for the future, we think the following 3 stocks are primed for outperformance in the sector.

First up is **Aphria**, a large Canadian cannabis company. Aphria has operations spanning five continents, but the majority of their revenue comes from Canada and Germany. Last winter, Aphria purchased CC Pharma, a German pharmaceutical distributor, for €48 million ($70 million). CC Pharma makes up about three-quarters of Aphria's revenue while Canadian cannabis sales make up the remainder.

The Canadian cannabis market has seen some heavy losses and its share of bad news this year. We debated not having any Candian stocks on our outperform list, especially after seeing the somewhat surprising and rapid fall at Aurora. However, due to its experienced management, with its focus on responsible and measured growth, we think Aphria has earned its place as an outperform pick.

Aphria Management: 2019 began badly for Aphria. First came a short-seller report, centered on the idea that the company overpaid for its Latin American assets. The price declines from that report led to a hostile takeover bid from Green Growth Brands (GGBXF) - which was quickly resolved - as well as the departure of two members of Aphria's C-Suite, including former CEO Vic Neufeld.

Irwin Simon was hired soon after, first as interim CEO and in the Q2 earnings report, the company announced that Simon was no longer in an interim position, but was now officially Aphria's CEO. We see that as another bullish development for the company. Simon comes to the cannabis industry after many years at Hain Celestial, one of the largest natural food and personal care companies in the U.S. He has shown an ability to succeed in the consumer packaged goods space and has already brought that acumen to Aphria.

Carl Merton, Aphria's CFO, also brings the necessary financial discipline that a growing company needs. Formerly of Ernst & Young, he's helped the company right the ship. As Merton said on the recent earnings report:

> "In an industry full of cash burns and heavy adjusted EBITDA losses, our focus remains on generating positive EBITDA. For the quarter, we are pleased to continue our trend and report a third consecutive quarter of positive adjusted EBITDA. The consolidated adjusted EBITDA in the second quarter almost doubled to $1.9 million based on adjusted EBITDA from cannabis operations up $3.4 million and adjusted EBITDA from distribution operations of $2.1 million, but were partially offset by an adjusted EBITDA loss from businesses under development of $3.5 million. Most notably, adjusted EBITDA from cannabis operations almost tripled and the adjusted EBITDA loss from business under development decreased by almost 20% in the quarter. The increase in adjusted EBITDA is primarily attributable to increased sales in the company's cannabis business."

Aphria Catalysts: Aphria recently made two announcements that should encourage investors' bullishness. It announced that an unnamed institutional investor has agreed to purchase over 14M units at C$7.12 per unit, representing a total investment of C$100M. In addition, Aphria subsidiary ARA-Avanti Rx Analytics obtained a EU Good Manufacturing Practices certification from the Malta Medicines Authority, which has the most demanding and rigorous criteria in the EU.

Furthermore, we think Aphria has achieved a few distinct competitive advantages. Aphria currently has the second-largest capacity in Canada which helps to capture significant market share. Aphria has also been able to achieve its capacity without significant dilution. Aphria didn't require third-party investments and secured cheap non-dilutive debt financings to help finance its constructions. We see Aphria's ability to achieve attractive financing terms as a major competitive advantage, especially since the current downturn has made capital hard to secure for cannabis companies. Most LPs are still incurring huge losses and have an elusive path to profitability, whereas Aphria's positive EBITDA - while small - is a key competitive advantage as a result of its efficient operation and large scale. We expect this gap to widen in the coming quarters as Aphria reaches full production while others slow capacity due to limited liquidity and canceled transactions.

Aphria is also nearing the completion of its Extraction Centre of Excellence. As a result, we think Aphria has one of the most mature operational profiles in Canada and should incur limited amounts of capital expenditures in the future. Aphria's ability to complete most of its facilities last year provided a greater degree of flexibility for the company in 2020. It has also invested heavily in automation and is moving towards one of the lowest cost structures in the sector.

The launch of Cannabis 2.0 products should also provide additional revenue and improve margins due to better pricing for these products. Aphria expects vapes to make up 30% of its sales by FY2021 (beginning June 1, 2020).

Aphria Risks: Aphria's fate remains tied to the health of the overall Canadian market, which still looks fairly bleak in the near-term. We don't envision material improvements in Canada until the end of 2020 with Ontario's decision to allow up to 20 new retail stores per month. As a result, we think the first half of 2020 will see limited improvement in Aphria's financial results given the ramp-up at the Diamond greenhouse and continued oversupply in Canada. For the next few quarters, we expect margins to suffer initially from the commissioning of Diamond, but it should improve once the facility enters full production. As a result, we expect improvements to show up only in the second half of 2020.

Other headwinds include the fact that the Aphria Diamond greenhouse was not licensed until November, later than expected. As such, Aphria One's output was not enough in the quarter, and it wound up having to buy dried flower on the wholesale market to supplement at a higher cost than its internal cost. This will also leak into the current quarter.

There were also licensing delays for its Lesotho joint production venture and EU certification for Aphria One. This will also cause more wholesale purchases in the current quarter to supply its German medical operation. Germany also reduced the reimbursement rates for medical cannabis, which hampers profitability of Aphria's investment in CC Pharma, a German pharmaceutical distributor. Alberta has also halted the sale of vapes until there is more clarity on the deaths related to them, which may slow Aphria's plans for growth in that area of the market.

Second on our outperform list is **Khiron Life Sciences**. Khiron has first-mover advantage in the Latin American cannabis market, has its core operations in Colombia and is fully licensed for cultivation, production, domestic distribution, and international export of both THC and CBD medical cannabis. In May 2018, Khiron listed on the TSX Venture Exchange, becoming the first Colombian based medical cannabis company to trade on any exchange globally.

Khiron Management: One of Khiron's main assets is actually one of its board members, Vicente Fox, former President of Mexico and one of the earliest and most influential advocates for legalisation of cannabis. Fox also used to be President of Coca-Cola where he turned Coke into the #1 brand over Pepsi and so brings not only major legislative and governance experience but can also expertly advise on matters of retail and marketing. Khiron's VP of Compliance is the former Chief of Pharmaceutical Investigations for the DEA and has background in the regulatory and legal elements that will benefit a cannabis company seeking to export and set up shop in many different countries and jurisdictions. Khiron is in fact the only company of its peers to use DEA standards. Khiron's President, Chris Naprawa, brings financial and market expertise to the position, with 20 years of experience in institutional capital markets. Prior to joining Khiron Chris was managing director at Primary Capital, which advised and financed Canadian small cap growth companies with an emphasis on the junior resource and technology sectors. So he has good knowledge of what it takes for a small company to achieve growth. They also brought on Wendy Kaufman as CFO earlier this year who brings over 20 years of international finance with LatAm and European operations. Khiron has over 30% insider ownership, which shows belief in the company by management.

In November 2019, Khiron's Sidney Himmel resigned as Chairman. CEO Alvaro Torres will serve as interim chairman until a new independent director is confirmed. Torres is an entrepreneur and executive with over 15 years of experience in the Latin American market. He also headed up business development for SNC-Lavalin, Colombia, where he was instrumental in growing the company from two people to more than 2,000 over the course of three years.

Khiron Catalysts: Khiron already has people and infrastructure on the ground in Mexico, Peru, Chile and is ready for production and distribution when legalization in some form - either medical or adult use or both - happens in those countries, which is expected in the near term. Mexico is going to be a massive market, and a huge opportunity for Khiron. With around 124 million people (about 3.5 times more than Canada), it would be the largest federally legal market in the world. Khiron also received approval to commercialise its Kuida line of CBD cosmeceutical products in Peru last year. In June 2019, Khiron completed the acquisition of NettaGrowth and its wholly owned subsidiary CannaPur, a Uruguayan company which obtained the first license to produce and export medical THC cannabis for commercialisation in Uruguay, the first country in the world to legalise cannabis for both recreational and medical use. Through these acquisitions, Khiron entered its third cultivation jurisdiction; entering Uruguay also allows them access to an export market of Southern Brazil as Uruguayan regulations permit the international distribution of cannabis flower, and Brazil is projected to be the biggest cannabis market in Latin America. It's clear that Khiron is strategically positioned and establishing first mover advantage in the LatAm markets, but the plan for growth isn't limited to Latin America. Its recent joint venture with Dixie Brands (DXBRF) gives Khiron exposure to US markets as well. Dixie's experience with products, brands, and distribution in the U.S. will help Khiron succeed in those markets. In addition, Khiron's use of local production has a cost advantage over its U.S. and Canadian peers and we think it could potentially become an export powerhouse to markets like the EU and Asia. It was also added to The Cannabis ETF (THCX) in June 2019, which increases U.S. exposure.

Khiron Risks: Looking at the share price, it's clear that Khiron is a highly speculative play. It hasn't yet turned a profit and analyst expectations for that happening depend on high levels of growth. While the company does seem poised for tremendous growth, much of that depends on various legislation and regulations passing, which isn't wise to count on with any amount of certainty. Khiron has managed its capital cautiously, with debt making up 5.3% of equity and has largely funded its operations from equity capital. Its low debt obligation reduces the risk around investing in a loss making company. As mentioned in the management section, the recent resignation of the company's CEO was somewhat surprising to investors and this should be followed with diligence by investors.

Next on the list is **Trulieve**, our first - and only - multi state operator pick. There are other possible plays in the space that we like - for instance, Cresco Labs (CRLBF) and Green Thumb Industries (GTBIF) for their foothold on the recently legalized Illinois market. There are others that also may benefit from new states going legal, and still others that may benefit from a federal descheduling of cannabis. However, despite the other bullish scenarios, we still like Trulieve best of all MSO players. For one, it is one of the few profitable players in the space. While the stock incurred the wrath of a short seller at the end of 2019, the company's response was swift and strong while the crux of the short seller argument was known to any investor who had done their due dilligence.

Trulieve Management: When Grizzly released a short report against Trulieve, the stock cratered. The report mostly centered around the husband of Kim Rivers - Trulieve's CEO - that had left him at the wrong end of an FBI probe. The company quickly refuted the report and has a point by point rebuttal on its website. A few analysts also quickly came to the company's defense. If it's true that you don't know someone's character until they've faced adversity, we'd say the handling of this short report, showed a lot of grace from the company's CEO and should serve to encourage - not discourage - investors. Any investor interested in this stock should familiarize themselves with the details discussed in the short report, as all investing should be done with due dilligence. However, the company has shown repeatedly that it doesn't shy away from tough and honest disclosures, even when it the optics may scare investors away.

We point to Kim Rivers' recent interview on The Cannabis Investing Podcast (TCIP) to show why we're bullish on this company and its management. Especially in the wake of so many companies or their leadership going under due to excessive and reckless spending, Rivers' focus on financial discipline is one encouraging example:

> “Our company is founded on a core strength of financial discipline. We are founder funded so prior to going public the dollars that were put into the company were from our founders, and as a result of that, we have high expectations on return on investment for every dollar that we spend holding it accountable, ensuring that there is a true ROI delivered on dollars deployed… our job and my job is to get us to probability as quickly as possible and then continue to grow that and you operate within your financial means.
>
> And because we don't have the ability in the cannabis industry to have national distribution, right, we have to build these companies, you know, state-by-state, brick-by-brick and then operate within their borders. I'm a strong believer, and certainly, our Board is a strong - is of the belief that that financial discipline is critical.
>
> We don't know what the capital markets are going to do in our sector as we've seen and - a lot of that has to do with, quite frankly, again, the nature of this industry and that we aren't allowed to take advantage yet of the capital markets within the U.S., right. So, we are in the Canadian exchange. We are in the OTC… We don't have the availability of traditional bank lending, and certainly not the rates, right, of traditional bank lending sources. And so, we have to be extremely mindful and extremely disciplined of how we spend our capital and also the efficiencies that we're creating, again, along that supply chain.
>
> We've been very focused on what happens when a part of the supply chain becomes commoditized. How does that affect what it’s truly doing in our business model? Are we able to and do we want to compete if that scenario occurs and at what level? And so, continuing to be very strategic and continuing to be very mindful of the fact that capital isn't necessarily going to be readily available externally, so we need to make sure that we're able to generate it internally, and I've always said that I never want to be part of a business - and knock on wood I never have been - a part of a business where I'm concerned and I'm losing sleep over how we're going to make payroll. That's just not a responsible way in my mind to build a business and certainly to grow long-term shareholder value.”

Trulieve’s board and other executive leadership also has a nice mix of people who have had already success in the cannabis industry - like Chief Information Officer Jason Pernell as well as those with extensive background in the CPG space, like recent Board appointee Susan Thronson, formerly the CMO of Marriott.

Trulieve Catalysts: Trulieve was founded in Florida and that remains its main market. According to Marijuana Business Daily, the state has emerged as the second-fastest adopter of medical cannabis. (More on Florida in our Legal section below.) As of the week of Dec. 12, Trulieve leads Florida in flower sales *by far*, selling 10,289 oz while their nearest competitor sold 2,637 oz. Trulieve owned 20% of the dispensaries in Florida but sold 51% of the dry flower and 47% of the THC-based extract products (vapes and oils) in the state. While it's still unclear if Florida will make adult-use cannabis legal this year, the expected rates of growth are strong enough here that going fully legal is not essential to Trulieve's plans for growth.

Its continued expansion into key markets and areas should also be a source of growth in coming quarters. Rivers spoke about this expansion in her interview with TCIP:

> "In the next 12 months, we're really focused and excited about bringing our Massachusetts operations online… as we previously announced, we, through acquisition, purchase a licensed - a very early stage license in Massachusetts and are at the point now where we're building that out and expect for it to be a contributor to revenue in 2020. We're very excited not only about being in another market, but also being in a market where wholesale is allowable.
>
> In Florida, wholesale is not - it's actually prohibited, it's a very strict vertical in Florida with no additional inputs into the supply chain, both in or out. Whereby of course Massachusetts does allow for wholesale, and so, you know, we recently added our Director of Wholesale who comes with, you know, a career - career worth of experience in the wholesale B2B arena, most recently from Kellogg's and we're just super focused and excited about launching that platform because we do feel it's an important tool for us to have as we look at different markets and what levers we will need to pull in order to truly reach maximum, you know, penetration and brand awareness in the markets in which we choose to enter."

Trulieve Risks: Like most of the sector, Trulieve's stock has seen considerable volatility in the past year, and that could well continue as the industry figures itself out. It also doesn't trade on a major stock exchange, which results in less investor interest and lower trading volumes. Furthermore, while we don't think the short report mentioned above has any real damning or new information - there is risk associated with those allegations and associations. To know where you stand, we highly recommend reading the company's point by point rebuttal.

In addition to company specific risks, there are also broader MSO risks - the number of mind-boggling laws in the various states is in fact mind-boggling, and it's hard to stay compliant with all the regulations. Also, most MSO dispensaries rely on cannabis plants that they harvest themselves. If an MSO is unable to grow and/or harvest its plants because of disease, infestation or contamination, obviously sales for the MSO will suffer. Furthermore, one factor in playing the MSO space is betting that their expertise and footprint in the U.S. will pay off once cannabis becomes federally legal. Arcview Market Research/BDS Analytics estimates the U.S. market is set to control over 70% of the global market over the next few years. A bet on MSOs is partially a bet on legalization coming to fruition. If it doesn't happen as quickly (or at all), those numbers - and in turn Trulieve's projected revenue and profit - may not be realized. Still, we think Trulieve is well positioned in the landscape and is safeguarding against these industry unknowns.

Cannabis ETFs

A cannabis ETF functions in the same way any other ETF does. They're funds that track a basket of various companies competing in the cannabis sector; some are regular index ETFs and others are actively managed. So the question naturally becomes, what are the advantages to holding a basket of companies (ie, ETFs) vs. taking positions in individual cannabis companies (ie, stocks)?

When taking a look at a cannabis ETF, understanding its purpose, its major holdings, how actively it's managed and how the portfolios are weighted are keys to understanding its potential. Before taking a position investors should also check out the amount of capital under management and the daily trading volume to see how liquid the holding is. In cases of extremely low daily trading volume, an investor can become the market. Also concerning trading volume, it's not just the daily volume that needs to be taken into account, but what the volume is at the time you're considering a trade. An ETF with only a few thousand in volume a day may only be trading at a hundred shares or less at any one time.

ETFs mainly work for either newer investors, conservative investors whose risk profile doesn't allow them to own small or new companies or those investors that don't want to spend a lot of time checking their portfolio but do want to make a bet on the cannabis sector.

ETF Advantages: Cannabis ETFs are considered to be generally safer for investors that aren't comfortable or knowledgeable/experienced enough to invest in individual cannabis stocks. An ETF can make sense if you are bullish about the cannabis sector and want exposure to the industry, but uncertain which stocks are worth buying. ETFs allow investors to gain exposure to the sector (and in some cases to the ancillary sector) and its potential growth without having to invest copious amounts of time researching various companies or taking on the risk of investing in individual cannabis companies. ETFs can help insulate investors from the potential declines of particular companies while still allowing them to reap the benefits of the growth of the sector.
In terms of fee advantages, if you're investing in more than a few cannabis stocks, the combined commissions may be more than the cost of investing in one ETF.

ETF Disadvantages: It's important to remember that an ETF will obviously move up and down with the general cannabis market. On the other hand, even when bearish sentiment permeates the cannabis sector, as it is now, individual stocks can still go against the grain and enjoy price support and growth, while there's not the same possibility for ETFs. Some cannabis investors feel cannabis ETFs lower the risk, but also the possibility for reward.

With ETF holdings, there are also the added costs of expense ratios. The ETFs available have relatively high fees when compared to broader market funds like the SPDR S&P 500 Trust ETF (SPY) or the Vanguard Total Stock Market ETF (VTI). While both those funds have fees under one-tenth of a percent, the lowest-priced cannabis ETF has fees which are five times as high. Because of these relatively high fees, it may be less expensive for some investors - especially those investing a lot of money - to purchase a portfolio similar to those holdings of an ETF rather than purchasing cannabis ETFs. The largest low-cost ETF providers like Vanguard and Blackrock do not offer low-cost cannabis ETFs.

Alan Brochstein, founder of 420 Investor and New Cannabis Ventures on a May episode of the Cannabis Investing Podcast, cautioned ETF investors thusly:

> "Everybody needs to understand: you can't really make a great ETF yet because of federal illegality in the United States. It's really not the right structure yet. I think what everybody wants to see is a U.S. ETF that's highly liquid that focuses on U.S. names. The U.S. market is going to be a lot bigger than the Canadian market and this is a deficiency."

U.S./Canadian Exposure

Cannabis ETFs trade on both U.S. and Canadian stock exchanges. The most significant point of difference between cannabis ETFs is whether they offer exposure to the U.S. cannabis market, to the Canadian cannabis market, or to both markets. Some of the largest cannabis ETFs typically offer exposure only to the Canadian cannabis market or the ancillary market due to legal restrictions.

A few recent cannabis ETFs do offer exposure to the U.S. cannabis sector and trade on U.S. markets. These funds, most notably YOLO, achieve this exposure by using complex derivative swaps. These instruments allow investors to get exposure to some U.S. facing assets that could not otherwise be traded on U.S. markets, although this may introduce other risks such as counterparty risk. ETFs using these instruments only have about 20% exposure to U.S. MSOs, with the remaining exposure spread between Canadian cannabis companies and medical companies like GW Pharmaceuticals.

Active Management, Index Funds & Pure Plays

Index Funds: As in other sectors, some cannabis ETFs are indexed to a cannabis sector index while other ETFs are actively managed. There are no widely used cannabis indices equivalent to the Dow Jones Industrial Index or the S&P 500, so cannabis index funds each use a different, proprietary cannabis index. These indices vary in breadth and coverage.

Actively Managed Funds: Actively managed funds eschew the use of an index and instead use a management team that 'actively' selects companies which they believe will perform well. In many sectors, actively managed ETFs are more costly than index funds, but in the cannabis sector, fees tend to be approximately equal between these two classes of funds.

Pure Play Funds: Pure play ETFs have holdings that are strictly cannabis stocks, meaning no "related" companies, like tobacco or alcohol stocks. As the sector has grown and evolved, there's a higher number of pure play stocks that investors would be happy to have as part of a basket of holdings, which makes pure play ETFs more advantageous than they were even a year or two ago when the industry was less developed. If you're really bullish on the cannabis industry, it would make sense to focus on pure play ETFs as opposed to those ETFs diluted by non-cannabis stocks.

Another salient factor cannabis ETF investors should pay attention to - similar to stock investors - is management. Debra Borchardt, co-founder and Editor-in-Chief of Green Market Report, said in September on the CIP:

> "There are some ETFs that are actively managed monthly. There are some that are done quarterly. There is a bit of overlapping because [while] there are quite a few publicly traded companies… there are quite a few that are fairly small and for these ETFs to work efficiently the stocks have to have some amount of liquidity so there has to be a lot of volume to work with. So it kind of starts to make the pool of potential names a little tighter. I think you want to look for the portfolio managers that have been around cannabis for awhile not the ones that have just decided to jump in."

ETF	Expense ratio	AUM	Type	Concentration
MJ	0.75%	$720 million	Passive	56%
HMLSF	0.75%	C$518 million	Passive	74%
YOLO	0.74%	$46 million	Active	49%
HMUS	0.85%	C$15 million	Passive	76%
POTX	0.50%	$4 million	Passive	67%
THCX	0.70%	$19 million	Passive	62%
TOKE	0.42%	$10 million	Active	47%
CNBS	0.75%	$6 million	Active	50%

Major ETF Players

Below we go over the major (mostly) U.S. traded cannabis ETFs, ending with our ETF outperform pick. The two largest cannabis ETFs are the ETFMG Alternative Harvest ETF (MJ) and the Horizons Marijuana Life Sciences Index ETF (HMLSF). These ETFs are significantly larger than any other cannabis ETFs on the market. Both funds offer ample liquidity and indexed exposure to the Canadian cannabis market.

MJ is the oldest and largest cannabis ETF on the market, and is a general bellwether of the cannabis ETF market. This ETF doesn't truly track the industry as a whole though because of the other industries it holds in its portfolio. For example, as of September 2019, tobacco stocks represented over 17 percent of its holdings.

ETF:	**MJ**
Net expense ratio:	0.75%
AUM:	$720 million
Management type:	Passive

#	TOP HOLDINGS	WEIGHT	TYPE
1	GW Pharmaceuticals	7.6%	Cannabinoid medicine
2	Canopy Growth	7.6%	CAN cannabis
3	Cronos	7.4%	CAN cannabis
4	Aurora Cannabis	7.2%	CAN cannabis
5	Tilray	7.1%	CAN cannabis
6	Aphria	4.6%	CAN cannabis
7	Organigram	3.8%	CAN cannabis
8	Corbus Pharmaceuticals	3.8%	Cannabinoid medicine
9	Hexo	3.6%	CAN cannabis
10	Medipharm Labs	3.5%	CAN cannabis
	Top 10 Holdings	**56.2%**	

The most significant difference between these two funds is MJ is a U.S.-traded fund listed on the NYSE ARCA exchange while HMMJ is a Canadian-traded fund listed on the Toronto Stock Exchange which also trades over-the-counter in the U.S under the ticker HMLSF. Aside from that difference, these funds have more similarities than differences.

ETF:	**HMMJ/HMLSF**
Net expense ratio:	0.75%
AUM:	C$518 million
Management type:	Passive

#	TOP HOLDINGS	WEIGHT	TYPE
1	Canopy Growth	10.8%	CAN cannabis
2	Cronos	10.5%	CAN cannabis
3	Aurora Cannabis	9.5%	CAN cannabis
4	Tilray	8.2%	CAN cannabis
5	GW Pharmaceuticals	8.2%	CAN cannabis
6	Aphria	7.7%	CAN cannabis
7	Scotts Miracle-Gro	6.9%	Fertilizer
8	Charlotte's Web	5.6%	U.S. CBD
9	Hexo	3.2%	CAN cannabis
10	Organigram	2.9%	CAN cannabis
	Top 10 Holdings	**73.6%**	

- Both funds contain only Canadian cannabis holdings, and do not have exposure to the U.S. medical or recreational cannabis sector. This limitation is because both funds trade on markets which do not allow exposure to federally-illegal businesses.
- Both funds are index funds rather than actively managed funds. These funds track different indices, with MJ tracking the Prime Alternative Harvest Index while HMLSF tracks the North American Marijuana Index.
- Both funds have identical 0.75% expense ratios.

As you can see above, the holdings of these funds are also quite similar to one another. These ten holdings include eight of the same companies, including the same seven Canadian licensed producers and GW Pharmaceuticals. HMLSF's holdings also include Scotts Miracle-Gro, which is seen as more of a pick-and-shovel cannabis bet, and Charlotte's Web. Charlotte's Web is a CBD company which has a listing on the Toronto Stock Exchange but has not yet received a listing on a major U.S. stock exchange. It is likely that when or if Charlotte's Web receives a major U.S. listing, it will also be included in MJ's portfolio. HMLSF's top ten holdings are a more concentrated part of its portfolio compared to MJ, which runs a slightly more diverse portfolio.

Given their heavily-overlapping portfolios, it is little surprise that MJ and HMLSF offer very similar returns. Both ETFs offer good exposure to the Canadian cannabis sector and a decision between the two funds is most likely to be based on an investor's preferred currency and market rather than based on the holdings of each fund.

Investors who prefer actively-managed funds or who would like exposure to the U.S. cannabis market will need to look at other funds.

ETF:	**YOLO**
Net expense ratio:	0.74%
AUM:	$46 million
Management type:	Active

The AdvisorShares Pure Cannabis ETF (YOLO) is the largest actively-managed cannabis ETF and the largest fund that has holdings in the U.S. cannabis sector. Its market exposure is to Canada and the United States, with ~20% exposure through derivative swaps. The fund launched in April 2019 and was the second cannabis ETF listed in the U.S. It's managed by Dan Ahrens and Robert Parker of AdvisorShares. As of mid-September 2019, U.S. cannabis companies make up 43.1 percent of companies YOLO tracks.

YOLO has a daily volume over 22,000. Most of the newer cannabis ETFs have much less in the way of capital under management, or in volume, which tend to range only in the 2,000 to 3,000 per day range. One thing to consider with YOLO is approximately 17 percent of its exposure to cannabis is via the use of swaps and derivatives. That's important to understand because it can make it hard to price into the bid-ask spread.

YOLO trades on the NYSE Arca exchange, which does not allow federally illegal businesses to be listed. However, by using derivative swaps, the fund is able to provide its investors with exposure to the U.S. cannabis sector. This may be particularly interesting to investors who seek U.S. cannabis exposure but cannot trade over-the-counter stocks, as YOLO offers exposure on a more accessible market.

#	TOP HOLDINGS	WEIGHT	TYPE
1	Village Farms	7.1%	CAN cannabis/U.S. CBD
2	Innovative Industrial Properties	5.9%	U.S. cannabis REIT
3	Trulieve (swap)	5.8%	U.S. cannabis
4	Organigram	5.4%	CAN cannabis
5	GW Pharmaceuticals	5.0%	Cannabinoid medicine
6	Valens GroWorks	4.4%	CAN cannabis
7	Green Thumb (swap)	4.2%	U.S. cannabis
8	Curaleaf (swap)	4.1%	U.S. cannabis
9	Aphria	3.9%	CAN cannabis
10	Corbus Pharmaceuticals	3.4%	Cannabinoid medicine
	Top 10 Holdings	**49.2%**	

YOLO offers a more diversified portfolio than either MJ or HMLSF, with exposure to more sub-sectors of the cannabis industry and with a less concentrated portfolio. The top ten holdings of YOLO include only two holdings from the top tens of each of MJ and HMLSF. These holdings include Innovative Industrial Properties (IIPR), which is a real estate investment trust, or REIT that specializes in sale-and-leaseback deals to U.S. cannabis companies for their cultivation facilities.

YOLO's top ten holdings also include derivative swaps for three U.S. cannabis companies and includes Village Farms (VFF), which has converted some of their vegetable greenhouses in Canada to grow cannabis and is also growing hemp in the United States. Across its portfolio, YOLO offers approximately 20% exposure to U.S. multi-state operators including Curaleaf, Trulieve, Green Thumb, Harvest Health, Cresco Labs, and iAnthus.

ETF:	**HMUS**
Net expense ratio:	0.85%
AUM:	C$15 million
Management type:	Passive

The Horizons US Marijuana Index ETF (NEO: HMUS) is the largest pure-play U.S.-focused cannabis ETF. It's also one of the more desirable cannabis ETFs, based upon its net assets of $676 million, and an average 12-month trading volume of 1,032,119, as of the end of August 2019. HMUS trades on Canadian markets and does not have an over-the-counter stock ticker, which is likely to make it difficult to purchase for many American investors. U.S. investors will need an account that can trade on the Aequitas NEO Exchange so best to check with your broker first.

As with Horizons' other ETFs, this fund is an index fund. It seeks to track the U.S. Marijuana Companies Index. HMUS has a relatively concentrated portfolio, as with Horizons' Canadian ETF, HMLSF. The top ten holdings represent nearly three-quarters of the funds' total portfolio and include nine top U.S. multi-state operators plus Charlotte's Web.

#	TOP HOLDINGS	WEIGHT	TYPE
1	Cresco Labs	12.1%	CAN cannabis/U.S. CBD
2	Trulieve	10.8%	U.S. cannabis REIT
3	Green Thumb Industries	9.2%	U.S. cannabis
4	Harvest Health	8.9%	CAN cannabis
5	Charlotte's Web	8.5%	Cannabinoid medicine
6	Curaleaf	7.9%	CAN cannabis
7	MedMen	6.1%	U.S. cannabis
8	Columbia Care	5.9%	U.S. cannabis

9	Acreage Holdings	3.1%	CAN cannabis
10	CannaRoyalty	3.1%	Cannabinoid medicine
	Top 10 Holdings	**75.5%**	

Given the concentrated nature of this portfolio, and the complications for U.S. investors, some may prefer to save on management fees and obtain comparable performance by replicating this portfolio on their own rather than purchasing shares of HMUS.

ETF:	**POTX**
Net expense ratio:	0.50%
AUM:	$4 million
Management type:	Passive

The Global X Cannabis ETF (POTX) was launched in September 2019 and tracks the Cannabis Index. The most notable aspect of POTX is its relatively low cost. After fee waivers, POTX has a net expense ratio of 0.5%, which is two-thirds that of its larger ETF peers.

#	TOP HOLDINGS	WEIGHT	TYPE
1	Hexo	9.4%	CAN cannabis
2	Canopy Growth	9.0%	CAN cannabis
3	Aphria	7.9%	CAN cannabis
4	GW Pharmaceuticals	7.7%	Cannabinoid medicine
5	Aurora Cannabis	7.7%	CAN cannabis
6	Cronos	7.6%	CAN cannabis
7	MediPharm Labs	4.7%	CAN cannabis
8	Tilray	4.6%	CAN cannabis
9	Organigram	4.5%	CAN cannabis
10	Charlotte's Web	4.4%	U.S. CBD
	Top 10 Holdings	**67.5%**	

POTX's portfolio is very similar to the portfolios of both the ETFMG Alternative Harvest ETF and the Horizons Marijuana Life Sciences Index ETF, but with 0.5% fees instead of 0.75%. That's a decent fee cut, although you also lose a lot of liquidity in moving from MJ's nearly $800 million AUM to POTX's $4 million AUM. POTX features eight Canadian cannabis companies alongside GW Pharmaceuticals and Charlotte's Web.

ETF:	**TOKE**
Net expense ratio:	0.43%
AUM:	$10million
Management type:	Active

The Cambria ETF Trust - Cambria Cannabis ETF (TOKE) was launched in July 2019. This actively managed ETF is Cambria's first dip into the pool of thematic ETFs. Cambria founder Mebane Faber, a titan in the ETF industry but newbie to the cannabis sector, is the portfolio manager.

#	TOP HOLDINGS	WEIGHT	TYPE
1	Medipharm Labs	6.9%	CAN cannabis
2	Aphria	5.8%	CAN cannabis
3	Aurora Cannabis	5.7%	CAN cannabis
4	Constellation Brands	5.2%	Alcohol
5	GW Pharmaceuticals	4.8%	Cannabinoid medicine
6	Canopy Growth	4.3%	CAN cannabis
7	British American Tobacco	4.1%	Tobacco
8	Village Farms	3.5%	CAN cannabis/U.S. CBD
9	Organigram	3.4%	CAN cannabis
10	Cronos	3.1%	CAN cannabis
	Top 10 Holdings	**46.8%**	

As you can see, the fund invests in stocks of companies operating across the cannabis sector and companies in the "related" alcohol and tobacco space. The fund uses quantitative analysis to pick its holdings. The biggest differentiator for TOKE is its cost, with an expense ratio of only 0.42%. The fund targets cost-conscious investors.

ETF:	**THCX**
Net expense ratio:	0.70%
AUM:	$19 million
Management type:	Passive

Spinnaker ETF Series - The Cannabis ETF (THCX) also launched in July 2019. It's a passive fund that tracks the Innovation Labs Cannabis Index. THCX rebalances on a monthly as opposed to quarterly basis.

#	TOP HOLDINGS	WEIGHT	TYPE
1	Canopy Growth	7.6%	CAN cannabis
2	Aurora Cannabis	7.4%	CAN cannabis
3	Aphria	7.2%	CAN cannabis

4	Tilray	7.1%	CAN cannabis
5	Cronos	7.1%	CAN cannabis
6	Scotts Miracle-Gro	6.7%	Fertilizer
7	Charlotte's Web	6.3%	U.S. CBD
8	GW Pharmaceuticals	6.2%	Cannabinoid medicine
9	Arena Pharmaceuticals	3.3%	Cannabinoid medicine
10	Sundial Growers	3.3%	CAN cannabis
	Top 10 Holdings	**62.2%**	

While the fund offers quality exposure to the legal cannabis, hemp and CBD space, because it's passively managed, it won't be as quick to reflect evolving sector sentiment. For instance, even after CannTrust Holdings went through its regulatory breach and subsequent firing of its CEO, THCX still held the stock. While it did sell in mid-August during a portfolio rebalancing, this highlights one of the disadvantages that passive ETFs have in the space given the volatile and dynamic nature of the industry.

ETF Outperform Pick: CNBS

ETF:	**CNBS**
Net expense ratio:	0.75%
AUM:	$6 million
Management type:	Active

Another recently launched ETF is the Amplify ETF Trust - Amplify Seymour Alternative Plant Economy ETF (CNBS). This ETF is actively managed, trades on the NYSE and is run by analyst Tim Seymour, a veteran of the cannabis industry. As mentioned above, good management is key - especially for an actively managed fund - and part of that means sector experience. Tim Seymour certainly has that. Seymour found fame on CNBC's Fast Money and is the Founder and Chief Investment Officer of Seymour Asset Management. Tim has over 20 years of general investment experience and was an early-stage investor and continues to be a recognized voice in the cannabis industry. He also serves on the board or in an advisory role for several private cannabis companies. Bottom line, he knows the industry and his belief in its growth is reflected in CNBS's holdings. 80% of the fund's holdings get 50% or more of their revenues from the cannabis industry, a strategy that makes it one of the purest plays in the space.

Echoing some of the concerns quoted above, because of current federal laws, CNBS doesn't own any MSOs. Seymour agrees that ideally, his ETF would be able to profit more off of the U.S. market. As Seymour said on an October episode of the CIP:

> "Right now, it's a case where we have more Canada than I think we should have in the scheme of the global marketplace. We have the ability to invest in U.S. companies that are not violating the federal constructs so we can own a Charlotte's Web, we can own companies that are involved in ancillary. The portfolio method that exists now is not solely representative of where we want to be. So right now we're invested where we can invest. We're investing where we have a federally legal dynamic."

#	TOP HOLDINGS	WEIGHT	TYPE
1	Canopy Growth	6.9%	CAN cannabis
2	GW Pharmaceuticals	6.5%	Cannabinoid medicine
3	Medipharm Labs	5.5%	CAN cannabis
4	Aurora Cannabis	5.0%	CAN cannabis
5	Aphria	4.9%	CAN cannabis
6	Organigram	4.7%	CAN cannabis
7	Canaccord Genuity	4.7%	CAN investment bank
8	Cara Therapeutics	4.6%	Cannabinoid medicine
9	Canopy Rivers	3.8%	CAN cannabis
10	Charlotte's Web	3.7%	U.S. CBD
	Top 10 Holdings	**50.2%**	

Seymour does get exposure to the States in other, less direct, ways. For instance, one of its holdings is Canopy Rivers (CNPOF). Canopy Rivers is Canopy Growth's investment fund and it has more than 30% invested in TerrAscend, an impressively run and critically acclaimed North American operator, which has gained a footprint in the mature California market through popular brand acquisitions.

Unlike its peer YOLO, Seymour won't use derivatives in the form of total return swaps in order to gain access to the U.S. markets. As he mentioned on the CIP:

> "Before I do a total return swap, I'm gonna make sure the regulators say it's ok. I still think this is an area that hasn't been approved yet. The obvious goal for the industry is to have it be backed appropriately so the SAFE Banking Act - that's gonna open it up for us... There's no question that the U.S. market is the biggest in the world; there's no question that having exposure through some of these companies now is not as easy as we'd like it to be."

While there's obvious drawbacks to investing in CNBS and the ETF space in general for an ETF manager to be so transparent about the process - and be clear about what he won't engage in to get a perceived edge - should encourage investors. It's clear that while frustrated by the limitations, Seymour is confident that with time, this more cautious strategy will pay off. Seymour also does a weekly audio blog with updates on the ETF's portfolio and the sector at large. Such engaged management is certainly a point of differentiation and should be a vote of confidence for investors.

Additionally, we think actively managed funds make the most sense in a space that is as ever changing and evolving as the cannabis space. Indexed holdings - or even those changed on a monthly basis - might mean missing some of the more dynamic opportunities in the sector.

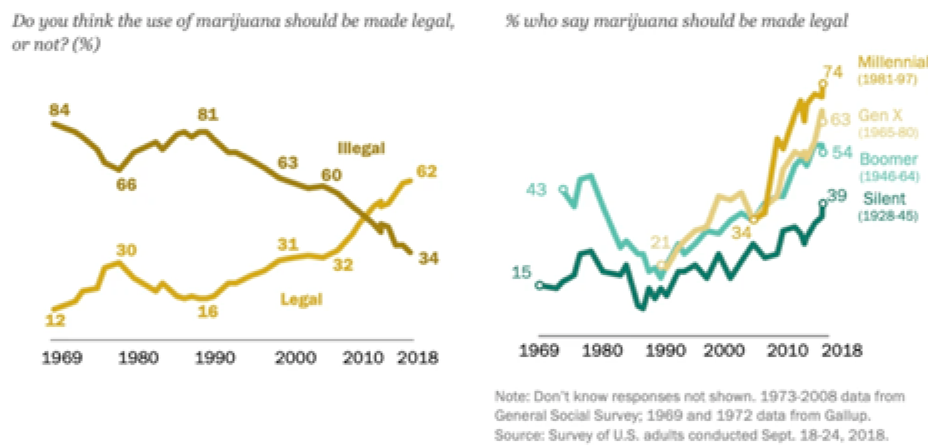
Investing in Cannabis Conclusion

With the steep correction in the cannabis sector and some of the companies and ETFs getting crunched, there has been a huge sell-off for the better part of this year. But well positioned companies and well managed ETFs are likely to rebound nicely once the market finishes punishing the sector. Valuations look better than ever with some sector leaders trading at reasonable multiples of sales or projected EBITDA. And in the broad sell-off, some less widely followed cannabis stocks have been taken to levels that could appeal to value investors.

Impatience concerning profitability, combined with some of the more negative industry events that were featured in the news, has weighed heavily on the cannabis industry, but there's no stopping growth - not even negative sentiment. Industry and stock catalysts should push the sector back up, but in the meantime, expect lots of volatility.

History of Legal Cannabis

Until very recently, the vast majority of cannabis trade has been illegal. The United States passed the [Controlled Substances Act](#) in 1971. This act codified five different "schedules" of controlled substances, from Schedule I to Schedule V. Schedule I is the most strictly banned category of substances: Substances with a high potential for abuse and with no accepted medical uses. Cannabis is a Schedule I substance alongside drugs like fentanyl, heroin, LSD, ecstasy, and psilocybin mushrooms.



Source: Pew Research

Public opinion on cannabis legalization is changing rapidly in favor of legalization. In 1990, only 16% of Americans believed that cannabis should be legal after nearly two decades of the War on Drugs, while four out of five Americans favored keeping cannabis illegal. Since then, public opinion has sifted in favor of cannabis legalization. By 2018, more than three out of five Americans favored cannabis legalization. This trend has been aided by demographics, with younger Americans much more likely to favor cannabis legalization.

Cannabis laws are following public opinion. In 1996, California became the first state in the United States to legalize medical cannabis through the Compassionate Use Act. This act was passed using direct democracy: Voters approved Proposition 215 with a 55.6% approval rate. In November 2012, Colorado and Washington became the first two states to vote for legal recreational cannabis. As with California, legalization was again selected through direct democracy: Voters in both states decided to legalize recreational cannabis through Colorado Amendment 64 and Washington Initiative 502.

Today, medical cannabis is legal in 39 states and in Washington, DC. Recreational cannabis is legal in 11 states. Most of these states legalized cannabis through ballot initiatives, but in 2019, Illinois became the first state to legalize recreational cannabis through the legislative process rather than a ballot initiative. Researchers, however, expect the pace of cannabis legalization to slow. Aside from Illinois, most of the legalization efforts in the United States have been accomplished through ballot initiatives. But the majority of states which have a ballot initiative process have already legalized cannabis, which means that future progress must be made through the legislative process.

Cannabis legalization is also spreading outside the United States. Canada legalized medical cannabis in 2001 and legalized recreational cannabis in 2018. Medical cannabis is legal in many countries in Europe, including Germany and the United Kingdom. Luxembourg may become the first European nation to legalize recreational cannabis, and Australia's Capital Territory has legalized personal use of cannabis, although not commercial sales.

Growing Legal Markets

The majority of the growth of the cannabis sector will come from legal cannabis competing with the black market rather than from attracting new cannabis users. For example, California's legal cannabis market is not expected to rival its black market until 2024 with black market sales approximately seven times higher than legal sales.

In 2018, global legal cannabis sales totalled about $11 billion, with most of these sales coming from the United States. California generated $2.5 billion of sales in 2018 while Colorado accounted for $1.5 billion of legal sales.

Analysts expect enormous growth from the legal cannabis market. The extent of this growth will vary depending on future cannabis legalization efforts. Analyst estimates for the potential of the legal market vary, but some analysts expect sales of $40 billion in 2024 (24% CAGR) to as much as $194 billion in 2025 (51% CAGR) in a blue-sky scenario. Investors are hopeful that this growing market can lead the larger publicly traded companies to strong revenue growth and to profitability.

Canadian Medical Cannabis

Canada legalized medical cannabis in 2001 when Health Canada started a medical marijuana program. Originally, this program allowed users to grow their own cannabis or purchase cannabis directly from Health Canada. This program was amended in 2013 to shift towards licensed commercial growers to supply cannabis. Most of the largest Canadian cannabis producers, including Canopy

Growth, Aurora Cannabis, Tilray, and Aphria, received their first cannabis licenses in late 2013 or in 2014 after this amendment.

Six years after this change, Canada's medical cannabis market is both mature and stable. Potential patients must seek a prescription for cannabis from their health care practitioner. Prescriptions are available for a wide variety of conditions including chronic pain, wasting syndrome, multiple sclerosis, and epilepsy. The same process is used to prescribe cannabis products high in THC, CBD, or both cannabinoids.

After receiving a prescription, patients purchase cannabis directly from Canadian LPs which have licenses to sell medical cannabis. Nearly all large Canadian cannabis companies sell medical cannabis directly to consumers through this program. While patients purchase medical cannabis products directly from LPs, the products and pricing of these products are comparable to what is available through the recreational cannabis market. Medical patients can purchase dry flower, cannabis oil, and cannabis softgels through the medical system, with edibles and vape products set to be legally sold in late 2019.

Canadian Recreational Cannabis

Canada legalized recreational cannabis in October 2018. This legalization included the legalization of dry flower, cannabis oils, and cannabis softgels. Other products, like edibles, vaporizer oils, and cannabis beverages were not legalized, with the government citing a need for further study to regulate those products. These "Cannabis 2.0" products were legalized in December 2019 after regulations went into effect in October 2019.

The Cannabis Act was enacted in June 2018 after approval by both the House of Commons and the Senate. This law legalized recreational cannabis in Canada on October 17, 2018 with cannabis going on sale nationwide in a limited number of retail outlets and through online stores run by each province for their own residents.

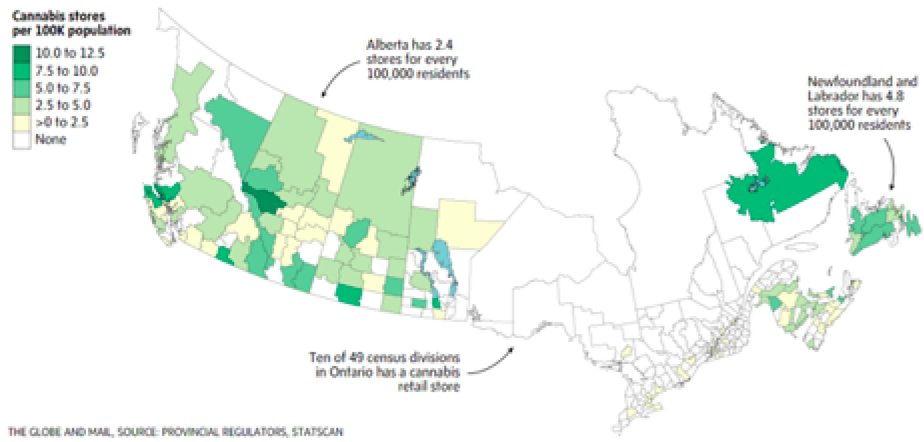
Under these laws, cannabis is federally legal in Canada. Each province and territory controls the distribution and sales of cannabis within its territory. Typically, cannabis sales and regulations are overseen by provincial liquor authorities.

Provinces vary in how they regulate and sell cannabis, but there are some similarities. In most provinces, all cannabis distribution is handled by a province-owned distributor. Canadian LPs sign supply agreements with the provincial distributor and sell recreational cannabis products at wholesale to the distributor. In most provinces, the provincial distributor also sells products directly to consumers via its website, such as the Ontario Cannabis Store.

Provincial governments also regulate retail cannabis sales and stores. Retail stores are a mixture of public and privately-owned stores, with the retail system varying by province. For example, the province of Quebec runs its own cannabis stores: the Société québécoise du cannabis ("SQDC") cannabis stores while provinces like Ontario and Alberta use privately-owned cannabis stores. In both cases, these retail stores purchase cannabis from the provincial distributor rather than directly from Canadian LPs.

The early roll-out of cannabis in Canada was plagued by supply shortages. Within weeks of legalization, cannabis stores in Quebec were forced to close three days a week due to insufficient cannabis - stores could not keep enough cannabis in stock to stay open. Similarly, Alberta was forced to suspend their cannabis store licensing program in November 2018 because they could not keep enough cannabis in stock to supply their stores.

That supply shortage has been alleviated. In May 2019, Quebec's cannabis stores resumed regular hours and Alberta began licensing new cannabis stores.



Source: The Globe & Mail in June 2019.

Canadian cannabis sales have, however, been limited by a slow roll-out of retail stores. While there's a false impression that the Canadian market currently has too much supply, in reality it's a supply chain issue related to the slow approval process of Health Canada.

Canadian retail store density varies heavily by province, with store densities the highest in Atlantic Canada and in Alberta and Saskatchewan and the lowest in Canada's most heavily-populated provinces of Ontario, Quebec, and British Columbia. Alberta is often cited as a model for the rest of Canada, with nearly 300 retail stores for a population of 4 million.

Analysts suggest that Canada needs 3,640 cannabis stores nationwide to match Colorado's store density.

> "'To date, the largest provinces in Canada have issued a small number of cannabis retail licenses relative to their estimated potential,' AltaCorp Capital said in a recent research note, pointing to such markets as Ontario and Quebec."
>
> The Globe & Mail, Sep 24, 2019

Ontario is Canada's largest province and is home to nearly 40% of Canadians. Ontario did not open its first cannabis store until April 2019, more than five months after cannabis was legalized. As of September 2019, Ontario only has 24 cannabis stores open, with another 50 stores expected to open in October 2019.

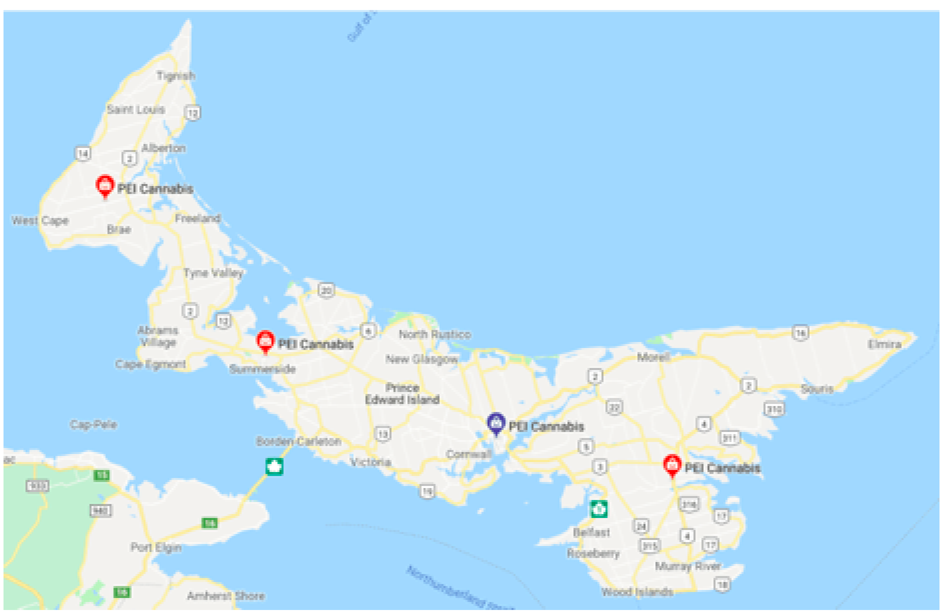
For comparison, Ontario has over 1,600 stores which sell alcohol and the State of Colorado has nearly 600 cannabis stores serving a population of 5.7 million, or 40% as many residents as Ontario.

Cannabis sales and stores	Ontario	Alberta	Prince Edward Island	Colorado
Population	14,320,000	4,307,000	153,244	5,696,000
Cannabis stores (9/30/19)	24	291	4	574
Stores per 100,000 residents	0.17	6.76	2.61	10.08
Recreational cannabis sales, July 2019	C$29.6 million	C$21.3 million	C$1.5 million	C$180.0 million
Sales per capita (annualized)	**C$25/year**	**C$59/year**	**C$116/year**	**C$379/year**

Source: Author based on various data.

The provincial roll-out of cannabis stores has varied by region. This roll-out has had significant impact on cannabis sales. In general, provinces which have more cannabis stores and cannabis stores placed closer to population centers have higher legal cannabis sales.

Alberta has the most cannabis stores of any province in Canada. As of September 30, 2019, the province has licensed 291 cannabis stores. All of Alberta's cannabis stores are privately-owned. Many of these stores were not open in July 2019, as Alberta placed a moratorium on cannabis store licenses in November 2018 which was not lifted until May 2019.

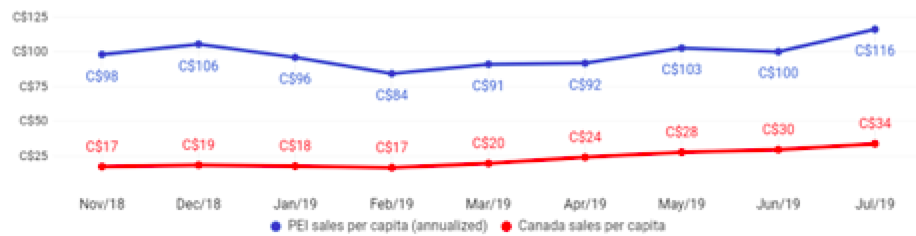


Source: Google Maps.

The small island province of Prince Edward Island has perhaps the most vibrant cannabis market in Canada. PEI is about 190 kilometers from end to end and has four cannabis stores.

The four stores cover the province well: There are stores in PEI's two largest cities of Charlottetown and Summerside and no one in PEI lives more than about 60 kilometers from a cannabis store. For comparison, Thunder Bay, Ontario, has a population of 110,000. Residents of Thunder Bay would need to travel 1,000 kilometers to Sudbury to reach their nearest legal cannabis store in Ontario.

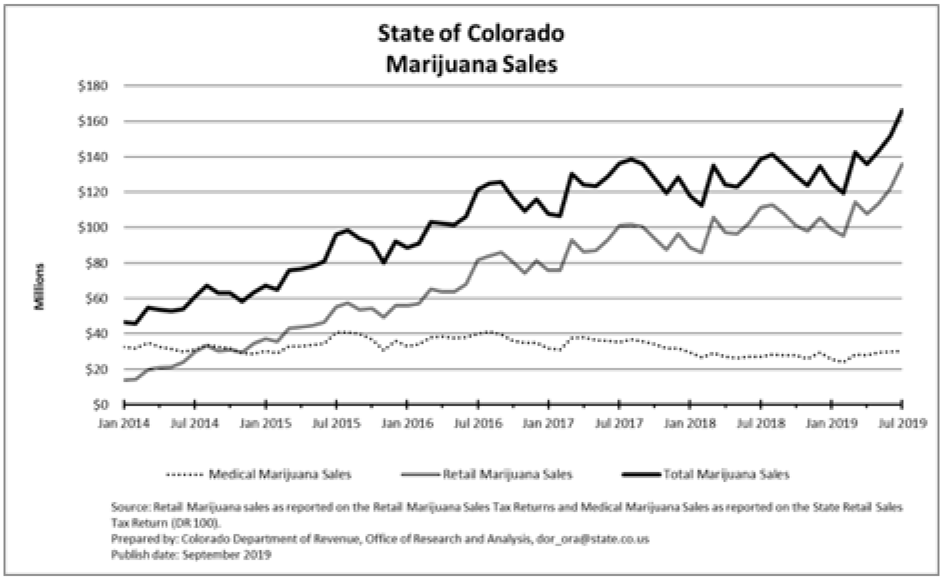
All four of PEI's cannabis stores are government-owned and three of the four stores were open when cannabis was legalized in October 2018 while the westernmost O'Leary store opened in January 2019.



Source: Author based on data from Statistics Canada

Canadian consumers in PEI purchase much more legal cannabis than the national average. In July 2019, PEI consumers purchased C$1.5 million of cannabis for an annualized per capita rate of C$116/year. This was 240% higher than the rate for Canada as a whole. These sales are likely due to the relative convenience of purchasing cannabis at a retail store in PEI.

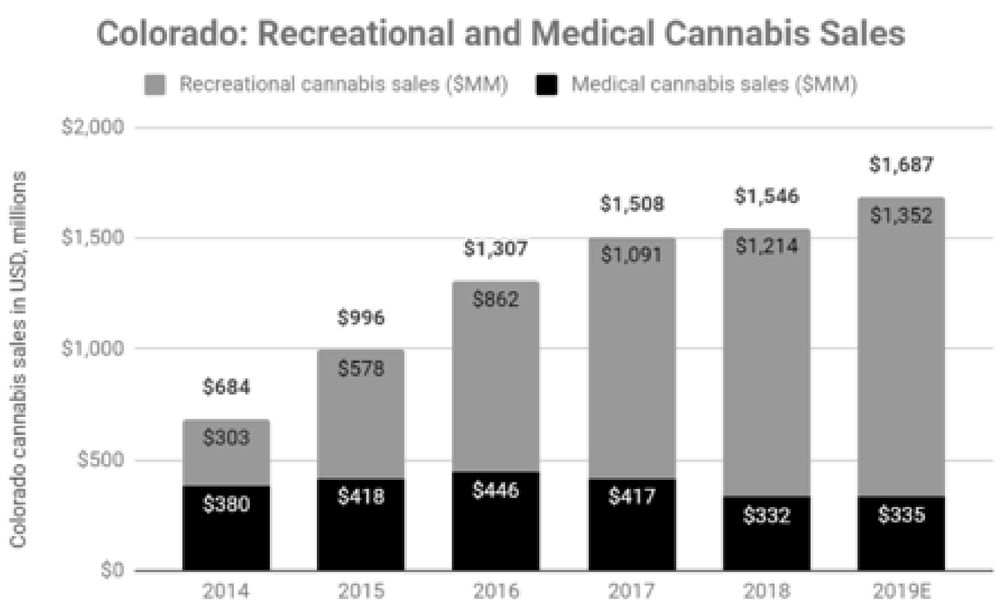
Colorado



Source: State of Colorado.

Colorado is the most mature legal recreational cannabis market in the world. Recreational cannabis launched in Colorado in January 2014, and per capita sales in Colorado are higher than in any other state.

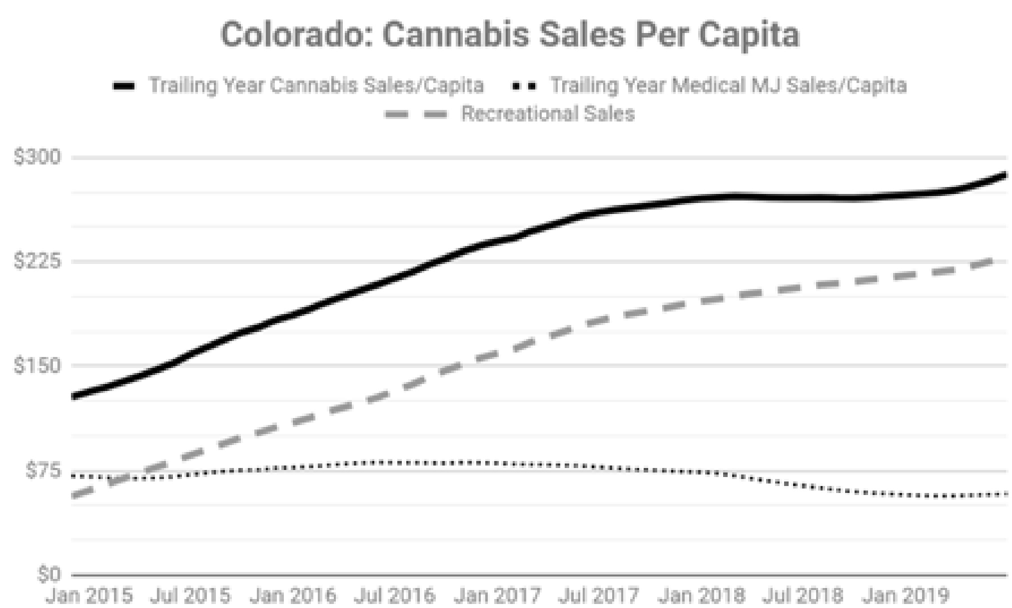
Colorado's cannabis industry is much less heavily regulated than in Canada. Colorado has no cap on cultivation or dispensary licenses and fewer regulations on product offerings, including a robust and mature edibles sub-sector. This relative deregulation has allowed Colorado's cannabis sector to flourish in the five years since its launch.



Source: Author based on data from State of Colorado. Sales for 2019 are based on sales through July 2019.

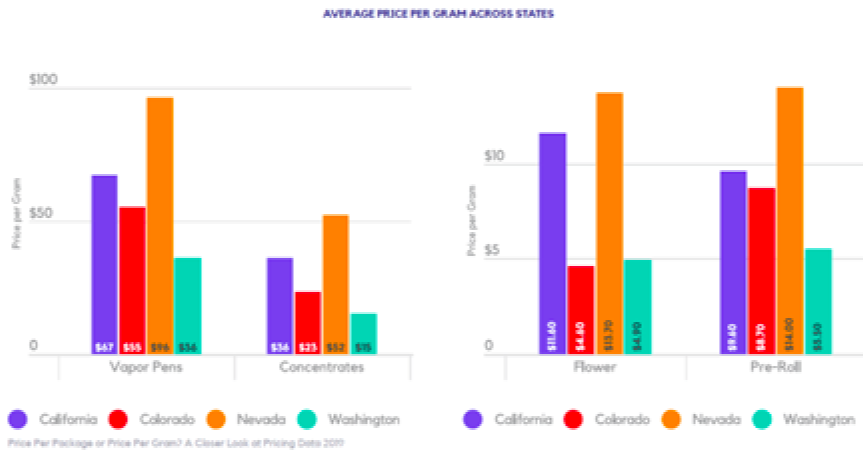
Colorado's market may be a model for the rest of the United States, showing the potential size of the legal cannabis market. Colorado allows both medical and recreational sales and does not have a cap on store licenses. As of September 2019, Colorado had [574 licensed retail stores and 694 licensed cannabis growers](#).

Colorado's mature and relatively unregulated market has led to five consecutive years of rising cannabis sales. In 2018, Colorado sold $1.5 billion of cannabis including $1.2 billion of recreational cannabis and $332 million of medical cannabis. Sales in the first seven months of 2019 suggest that Colorado's recreational cannabis sales may rise 11% to about $1.35 billion while medical sales are likely to remain flat. In July 2019, Colorado's cannabis market generated $166 million in revenue, including $30 million in medical cannabis sales and $136 million in recreational cannabis sales. On an annualized per capita basis, Coloradans purchased $64/year of medical cannabis (C$84/year) and $286/year of recreational cannabis (C$379/year).



Source: Author based on data from State of Colorado

Recreational cannabis sales in Colorado have been steadily rising since legalization. The market appeared to be plateauing in 2018, but growth resumed in 2019. The recreational cannabis market has also cannibalized some sales from the medical cannabis market. Medical cannabis sales have fallen 26% since their 2016 peak. It is likely that this decline has been caused by users switching from medical cannabis to recreational cannabis due to the convenience of purchasing through a retail store.



Source: Leafly

Colorado's relatively laissez-faire system has resulted in some of the lowest cannabis prices in the country. Dry flower in Colorado is among the cheapest in the country at a price of $4.60/gram. This is approximately one-third the price of cannabis in Nevada, while medical cannabis in Chicago, IL, costs between $15 and $20 per gram. In general, cannabis prices tend to be higher in more heavily-regulated east coast markets, especially those with a license cap for dispensary licenses and for cultivation licenses.

Colorado's cannabis sales may be seen as a guide for what cannabis sales in the United States may look like in a mature, relatively unregulated market. For example, if cannabis is legalized in 2030, Cowen expects national sales to reach $80 billion. Given a population estimate of about 360 million, this suggests that analysts foresee that cannabis sales per capita could reach about $220.

Legal Launch: Colorado Vs. Canada

Through its first nine full months, the Canadian launch of recreational cannabis has trailed Colorado's per capita sales and growth rate.

During the first full month of cannabis legalization, Canadians purchased cannabis at a C$17/capita annualized rate whereas residents of Colorado purchased cannabis at a C$42/capita ($32/capita) rate.

After nine months of legalization, in July 2019 in Canada, Canadians purchased C$104 million of cannabis or C$34/capita on an annualized basis. Sales rose 94% from November 2018 to July 2019 as more retail stores were opened and as cannabis shortages ended.

Nine months after recreational cannabis was legalized in Colorado, consumers purchased $30 million of recreational cannabis, or $68/capita (C$90/capita) on an annualized basis. Colorado cannabis sales grew 115% in the first nine months of legalization. Colorado's cannabis sales began much higher than those in Canada on a per capita basis and grew at a slightly faster rate than sales in Canada.

Medical Businesses	January	February	March	April	May	June	July	August	September	October	November	December
Centers	493	493	489	490	493	493	496	496	493	497	501	505
Medical Cultivations	713	717	715	719	727	729	731	735	725	737	739	748
MIP (Infused Product Manufacturer)	129	130	134	139	144	149	152	155	154	158	158	163
Total	**1,335**	**1,340**	**1,338**	**1,348**	**1,364**	**1,371**	**1,379**	**1,386**	**1,372**	**1,392**	**1,398**	**1,416**
Retail Establishments												
Retail Stores	156	169	188	197	205	212	221	242	282	292	306	**322**
Retail Cultivations	204	220	243	259	272	279	293	316	347	359	375	397
Product Manufactures	36	39	49	54	58	63	66	73	85	89	92	98
Testing Facilities	3	3	4	7	7	8	13	13	15	15	15	16
Total	**399**	**431**	**484**	**517**	**542**	**562**	**593**	**644**	**729**	**755**	**788**	**833**
Total Licensed Premises	**1,734**	**1,771**	**1,822**	**1,832**	**1,906**	**1,933**	**1,972**	**2,030**	**2,101**	**2,147**	**2,186**	**2,249**

Source: Colorado 2014 annual cannabis report.

Several factors have likely contributed to Colorado's higher sales figures. First, Colorado allowed the sale of edibles, vapes, and other products from the outset of legalization. The edibles market was however under-regulated, increasing cannabis sales but leading to some inexperienced users having poor experiences after consuming over-powered edibles. This led to Colorado implementing testing standards for edibles in May 2014.

First month cannabis sales	Colorado	Atlantic Canada	Canada ex-Atlantic Canada
Population	5,351,000	2,394,362	34,313,721
Cannabis store at launch	152	59	37
Stores per 100,000 residents	**2.84**	**2.46**	**0.11**
Recreational cannabis sales, first month	C$18.6 million	C$13.3 million	C$40.5 million
Sales per capita (annualized)	**C$42/year**	**C$66/year**	**C$14/year**

Source: Author based on various data.

Perhaps more importantly, Colorado had significantly more retail stores and those stores were more available to Colorado's residents. Colorado had 156 retail stores in January 2014 and this figure increased to 282 retail stores by September 2014, the ninth month after recreational cannabis was legalized. On a per capita basis, Colorado launched recreational cannabis with 2.8 stores per 100,000 residents and had 5.3 stores per 100,000 residents after nine months of legalization.

Colorado's cannabis stores were also located so that Colorado's residents could get to them. More than half of Colorado's residents live in the Denver metropolitan area, which had ample access to retail stores. The Denver metropolitan area represented a majority of cannabis sales in the state during 2014, suggesting that there was no shortage of legal cannabis in Colorado's major population center.

Province/Territory	Population (2017)	Cannabis Stores (Oct 17, 2018)	Stores Per 100,000 residents	Sales per capita (Nov 2018)
Yukon	38,459	1	2.6	C$ 134
Prince Edward Island	152,021	3	2.0	C$ 99
Nova Scotia	953,869	12	1.3	C$ 80
Newfoundland and Labrador	528,817	24	4.5	C$ 59
Northwest Territories	44,520	0*	0*	C$ 59
New Brunswick	759,655	20	2.6	C$ 48
Manitoba	1,338,109	4	0.3	C$ 40
Alberta	4,286,134	17	0.4	C$ 31
Saskatchewan	1,163,925	4	0.3	C$ 24
Quebec	8,394,034	12	0.1	C$ 17
Ontario	14,193,384	0	0	C$ 8
British Columbia	4,817,160	1	0.0	C$ 3
Nunavut	37,996	0	0	n/a
Canada	**36,670,087**	**98**	**0.3**	**C$ 18**
Colorado (Jan 2014)	**5,300,000**	**152**	**2.9**	**C$ 42**

Source: Author based on various data. Sales for Manitoba, Northwest Territories, and Yukon are estimated. The Northwest Territories offered cannabis through select alcohol stores in November 2018, but did not have dedicated cannabis stores.

In contrast, Canada had approximately 96 retail stores open on October 17, 2018. Of these stores, there were 59 stores in Atlantic Canada:

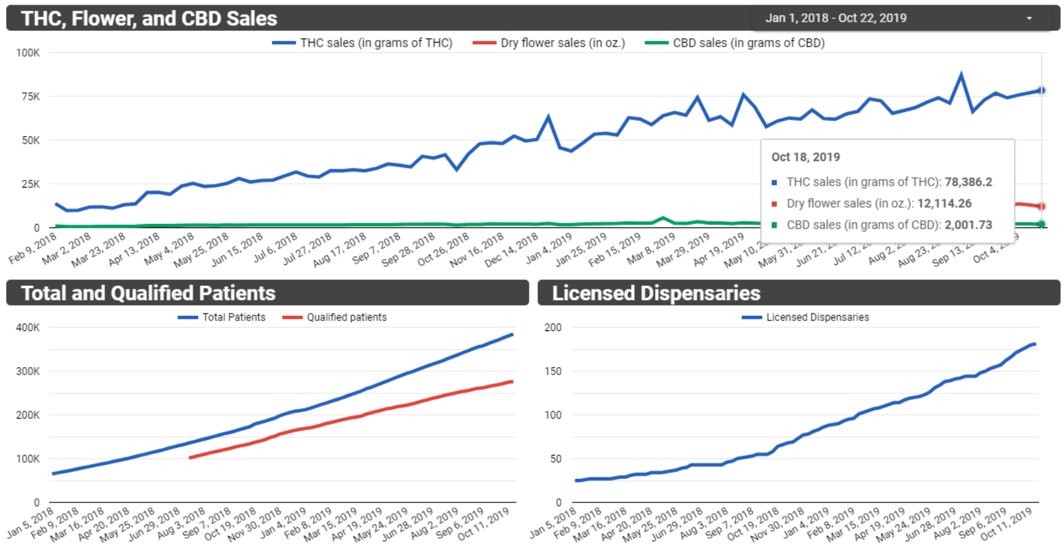
- New Brunswick: 20 cannabis stores.
- Nova Scotia: 12 cannabis stores.
- Prince Edward Island: 3 cannabis stores.
- Newfoundland and Labrador: 24 cannabis stores.

Outside of Atlantic Canada, Alberta and Quebec were the only provinces with a significant number of cannabis stores. Two of Canada's three largest cities, Toronto, Ontario and Vancouver, British Columbia, did not have retail stores and both cities were approximately 500 kilometers from the nearest retail store.

This lack of retail stores likely hurt cannabis sales, given a 62% correlation between retail stores per capita and cannabis sales per capita.

Given a tighter regulatory structure than Colorado, higher cannabis prices, and a lower GDP per capita, it is likely that Canadian per capita sales will not match those of Colorado.

Florida



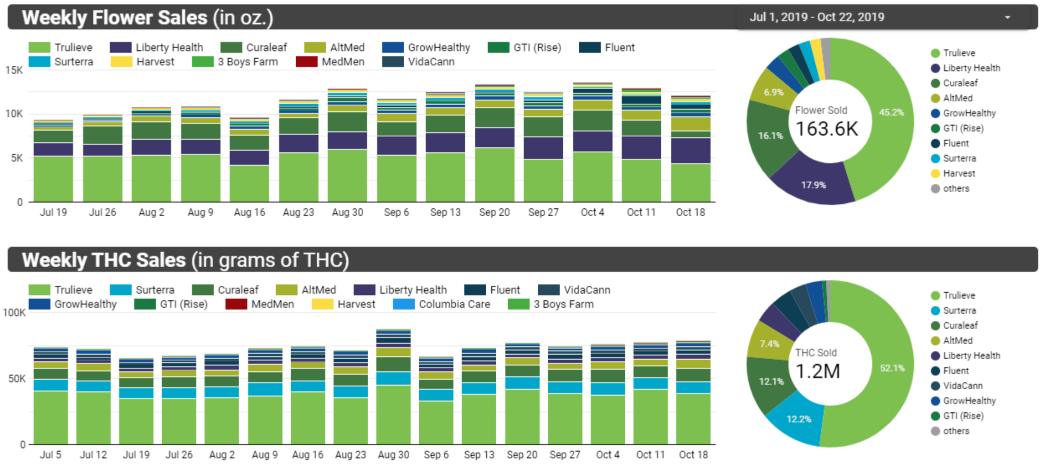
Source: Author based on data from State of Florida.

Florida has one of the most competitive recreational cannabis markets in the United States. The majority of multi-state cannabis companies have operations in Florida and the state has 174 dispensaries serving nearly 270,000 active patients.

Florida's licensing structure is unique. Florida has a cap on the number of medical licenses it will grant, with 22 licenses granted. Each cannabis license permits the licensee to grow and process cannabis and also allows the licensee to open up to 35 dispensaries. The 35 dispensary limit is temporary: It will increase to 40 dispensaries when the number of active patients reaches 300,000 and the cap will be eliminated in April 2020.

This dispensary limit is much higher than the limits in other capped states. For example, New York allows each company to open four dispensaries while Illinois allows a maximum of five dispensaries per company. This high dispensary cap allows the largest Florida operators including Trulieve, Surterra Wellness (private), Curaleaf, and Liberty Health Sciences (LHSIF) to achieve good scale in the state with a combined 111 dispensaries between those four companies.

Florida's market is also unique in that it requires vertical integration. A cannabis company may be considered vertically integrated if they own the plant from seed to sale: Growing their own cannabis and selling it in their own stores. Florida does not allow cannabis to be sold at wholesale to other cannabis producers, requiring operators to sell cannabis they grew themselves. This requirement raises the barriers to entry for the cannabis market, requiring that new participants establish both cannabis cultivation and cannabis retail stores simultaneously. A Florida court recently found this requirement unconstitutional under the state Constitution. That ruling is being appealed, but it is likely this requirement will be lifted in the coming year.



Source: Author based on data from State of Florida.

Florida's cannabis market is also unique in that the state publishes weekly sales data broken down by company. This sales data allows for unmatched clarity into the week-to-week trends of the market.

Florida legalized dry flower sales in [March 2019](). Prior to that, cannabis was sold in concentrates and other formats intended for ingestion or vaporization rather than through smoking. Since flower sales were legalized, dry flower represents about one-third of the Florida cannabis market (by estimated revenue) while sales of THC concentrates makes up about two-thirds of the market. Sales of CBD concentrates are also reported, but likely make up less than 5% of total statewide revenue.

U.S. MSOs	Market Cap	Florida Operation	Dispensaries
Curaleaf	$3.6 billion	Curaleaf	26
Cresco Labs	$2.1 billion	VidaCann	13
Green Thumb	$1.7 billion	Rise Dispensaries	5
Harvest Health	$1.5 billion	Harvest	6
MedMen	$1.2 billion	MedMen	4
Acreage	$1.0 billion	Acreage Florida	0
Columbia Care	$0.9 billion	Columbia Care	2
Trulieve	$0.9 billion	Trulieve	35
iAnthus	$0.4 billion	GrowHealthy	9
Liberty Health	$0.1 billion	Liberty Health	17

Source: Author based on data from State of Florida and other sources. Market caps are pro forma and some Florida operations are pending deals that have not closed yet.

Because of the state's exceptional transparency, Florida may be a key market for observers to watch. The first-movers in the market, including Trulieve, Surterra Wellness, Curaleaf, and Liberty Health, have very strong market shares, but major national companies like MedMen and Green Thumb Industries are quickly moving into the state and making the market more competitive.

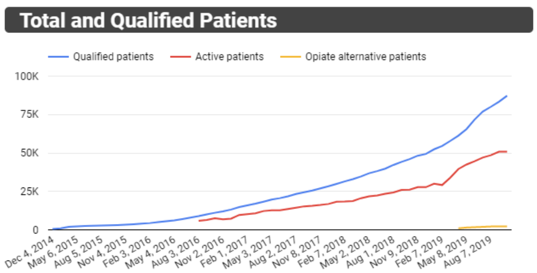
Florida will continue to be a key battleground state for many of the largest publicly-traded cannabis companies.

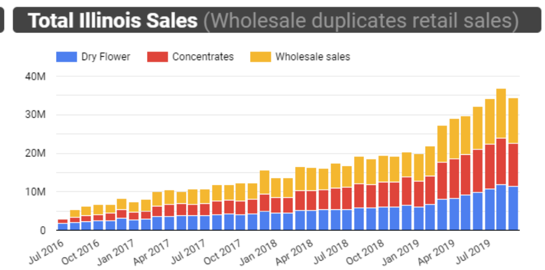
Most of the other key battleground states for publicly-traded companies are also limited license states. The first states to legalize recreational cannabis, including Colorado, Washington, Oregon, and California has relatively liberal cannabis laws and do not have caps on the number of cannabis licenses statewide. This has sometimes led to a surplus of cannabis and very low cannabis prices.

Partly due to this structure, Colorado, Washington, and Oregon are not key states for most publicly-traded cannabis companies. California is an important state for a couple cannabis companies, including MedMen and Origin House, but are not the primary focus of other MSOs.

Instead, most MSOs are focused on those markets with limited licenses, high populations, and often emerging recreational cannabis markets.

Illinois





Source: Author based on data from State of Illinois

Illinois is a state to watch as they legalized recreational cannabis on January 1, 2020. The state is capped at 55 cannabis dispensaries, but each dispensary licensee will be allowed to open an additional retail store when recreational cannabis is legalized, increasing the cap to 110 stores. Licensees will also be allowed to convert their existing dispensaries to adult-use cannabis stores provided they receive approval from the municipal government.

Illinois is an important market for Cresco Labs, Green Thumb Industries, Curaleaf (through Grassroots), and Harvest Health (through Verano Holdings). Each company, once it has completed its pending acquisitions, will have at least four dispensaries in Illinois, enabling them to open at least four more dispensaries in January.

New York

New York is a very competitive medical cannabis market because of its high population and because it only has ten cannabis licenses, each permitting four dispensaries. While New York Governor Andrew Cuomo recently revived prospects for legalizing adult-use cannabis sales in 2020, cannabis experts are taking a more measured approach after legalization efforts failed a year ago and the same sticking points remain. Nine of the ten New York licenses are owned by publicly-traded multi-state operators, provided that pending acquisitions are approved.

New York Licensee	Publicly-traded Owner	Acquisition Date	Acquisition Price
Empire State	Vireo Health	*None*	
PalliaTech	Curaleaf	*None*	
Fiorello Pharma	Green Thumb	Aug 2019	$60 million
Valley Agriceuticals	Cresco Labs	Oct 2018	$128 million
NYCANNA	Acreage	Aug 2018	$46 million
Citiva Medical	iAnthus	Feb 2018	$18 million
Bloomfield Industries	MedMen	Oct 2016	$27 million
Columbia Care	Columbia Care	*None*	
Etain LLC	*(Independent)*	*None*	
PharmaCann	MedMen*	Oct 2018	n/m

Source: Author based on company filings. Note that the PharmaCann - MedMen deal was terminated.

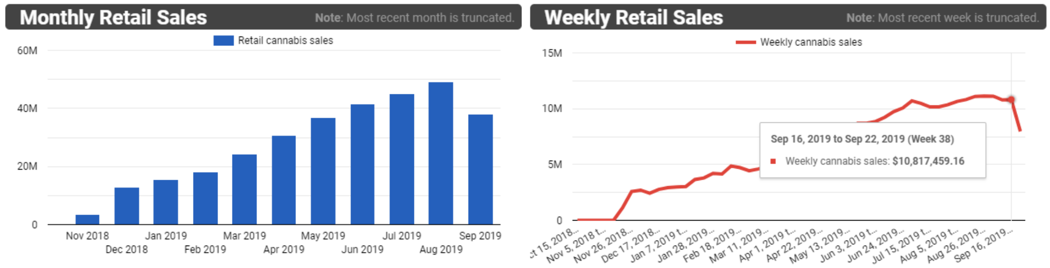
These licenses cost between $18 million and $128 million to be acquired. Most recently, Green Thumb Industries purchased Fiorello Pharmaceuticals for $60 million in August 2019 which gave them one of the ten licenses.

> "New York Public Health Law, which allows marijuana for medical use only, prohibits a registered marijuana organization from owning and operating more than four dispensaries in the state. The provision was designed to prevent market domination, even as some argue it limits access for patients who must travel to far-flung destinations to get their medicine."
>
> The Times Union

More States to Watch: Pennsylvania, Massachusetts, and Ohio

Massachusetts legalized recreational cannabis in 2018 after a 2016 ballot initiative and has seen sales grow from $12.8 million in December 2018 up to $49.2 million in August 2019. Among other companies, Cresco Labs, Acreage Holdings, Columbia Care, Curaleaf, Green Thumb Industries, Harvest Health, iAnthus, MedMen, and Trulieve each have cannabis licenses in Massachusetts.

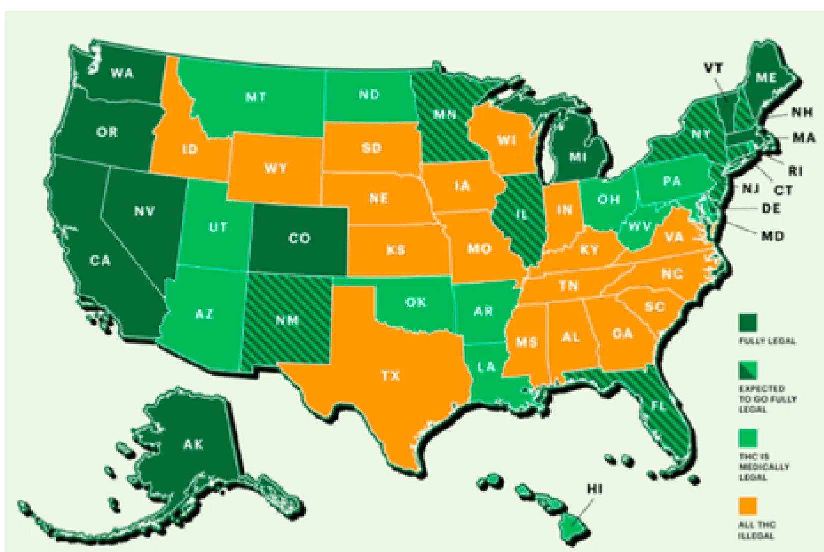
Massachusetts cannabis sales



Source: Author based on data from State of Massachusetts.

Pennsylvania legalized medical cannabis in 2016 and is considering legalizing recreational cannabis. Among other companies, Cresco Labs, Acreage Holdings, Columbia Care, Curaleaf, Green Thumb Industries, Harvest Health, and MedMen have cannabis licenses in Pennsylvania. Curaleaf and Green Thumb are especially heavily invested in the state, with 19 open dispensaries between the two companies including management services agreements.

Ohio legalized medical cannabis in January 2019 and awarded licenses through a points-based system. Among other companies, Cresco Labs, Acreage Holdings, Columbia Care, Curaleaf, Green Thumb, Harvest Health, and MedMen have operations in Ohio. The operations of Harvest Health and Acreage Holdings faced some regulatory scrutiny earlier this summer due to minority ownership claims and ownership changes, respectively.



Source: Rolling Stone, June 2019.

Proposed Federal Legislation

U.S. cannabis businesses face additional costs and risks because cannabis is federally illegal. Revenue and profits from cannabis businesses are proceeds from an unlawful activity under the *Money Laundering Control Act*. Tax credits are not permitted for costs of carrying out a cannabis business under *IRS Section 280E*. Tax requirements also play a big role in the performance of companies in the sector. California has also been awful in this regard, with taxes so heavy that even after it legalized adult use it lost about $500 million in sales the following year. The costs of cannabis jump so high as a result of taxation that the illegal market grabs a lot of share because of its lower costs.

There are, however, a number of bills in motion in the U.S. that seek to amend the more restrictive elements of what it means to operate as a cannabis company.

	SAFE Banking Act Focus on Banking and Payments	STATES Act Defers to State Law	MORE Act Nationwide Descheduling
Bipartisan Sponsors	✓	✓	✗
Contains Social Justice Initiatives	✗	✗	✓
Places a Special Tax on Cannabis	✗	✗	✓
Encourages Development of an Interstate Market	✗	✓	✓
Permits Bank Accounts for Cannabis-Related Businesses	✓	✓	✓
Permits Payments and Money Transmission	✓	✓	✓
Permits Capital Markets Activity	✗	✓	✓
Permits Investment Activity	✗	✓	✓
Contains Directions to Regulators	✓	✗	✓
Protects Insurers	✓	✓	✓

Source: Davis Polk presentation, September 2019.

Three bills have been proposed which would reshape the legal status of U.S. cannabis:

- Secure And Fair Enforcement Banking Act ("SAFE Banking Act") of 2019
- Strengthening the Tenth Amendment Through Entrusting States Act ("STATES Act")
- Marijuana Opportunity Reinvestment and Expungement Act of 2019 ("MORE Act")

Each of these bills, if passed, could act as a significant catalyst for the US cannabis industry. The MORE Act, especially, would transform the cannabis industry and usher in a new era of legal cannabis. This bill would likely lead to consolidation of the United States and Canadian cannabis sectors, as U.S. cannabis companies improve their access to capital and transform from multi-state cannabis operators into global cannabis companies.

The SAFE Banking Act was introduced by Reps. Ed Perlmutter (D-CO), Denny Heck (D-WA), Steve Stivers (R-OH), and Warren Davidson (R-OH). The bill seeks to normalize banking for cannabis-related businesses by providing a safe harbor for banks.

Because cannabis is federally illegal, banks have been reluctant to provide banking services to state-legal cannabis companies. Banks that service cannabis companies risk penalties from federal banking regulators, such as the termination of deposit or share insurance. As a result, many state-legal cannabis businesses are forced to operate on a cash-only basis. This increases the risk of theft and robberies and can make day-to-day tasks like paying bills more time-consuming and expensive.

The SAFE Banking Act would provide a safe harbor for banks which offered services to cannabis companies. These banks would not need to fear penalties from federal regulators. This would allow banks to work with state-legal cannabis businesses, including offering bank accounts to businesses and permitting payment and money transmission.

The SAFE Banking Act would help state-legal cannabis businesses of all sizes, from independent dispensaries to publicly traded multi-state cannabis companies. The Act may improve access to capital in the cannabis industry and reduce artificially-high banking costs faced by state-legal businesses. This could potentially foster the growth of more cannabis businesses, including local dispensaries, which would provide additional outlets for cannabis growers to sell their products.

The SAFE Banking Act passed in the House of Representatives by a vote of 321 to 103 on September 25, 2019. The bill received bipartisan support, including virtually every House Democrats and nearly half (47%) of House Republicans. The bill has not passed the Senate and may face more difficulties in the Republican-controlled Senate than it faced in the Democrat-controlled House.

The STATES Act was introduced by Senators Elizabeth Warren (D-MA) and Cory Gardner (R-CO). This bill is more expansive than the SAFE Banking Act. It seeks to amend the *Controlled Substances Act* ("CSA"), providing that the CSA would not apply to marijuana-related conduct that is legal under state law.

Marijuana is a Schedule I substance under the CSA. This scheduling is the most serious under the CSA, indicating that marijuana has a high potential for abuse and no medical value. The CSA prohibits the manufacture, production, possession, distribution, dispensation, administration, or delivery of marijuana.

Under the STATES Act, conduct which is legal under state law would be permitted under the CSA. This change would allow cannabis to be shipped across state lines between states where cannabis is legal, and where state law permits import and export of cannabis. Under the STATES Act, proceeds from the sale of cannabis would not be deemed to be proceeds of an unlawful transaction under the *Money Laundering Control Act* or other laws.

The STATES Act would be a significant boon to the U.S. cannabis industry. The bill would allow cannabis companies to ship cannabis over state lines, which could rapidly reshape cultivation in the sector as companies would move to centralized cultivation facilities in the most efficient locations. That could make cannabis significantly cheaper nationwide, which would help the legal sector compete with the black market on price.

The STATES Act would also help cannabis companies by removing the penalization of IRS Section 280E. Under Section 280E, companies may not deduct business expenses from their taxable income when calculating federal income taxes. This interpretation meant that one cannabis business had to pay tens of millions of dollars more in taxes, and leads to companies paying extraordinarily high tax rates.

The STATES Act has not been passed in either body of Congress. Executives at Acreage Holdings have expressed confidence that the bill may be passed in late 2020 or early 2021.

The MORE Act was introduced by Senator Kamala Harris (D-CA) in the Senate and Rep. Jerrold Nadler (D-NY) in the House of Representatives. Unlike the SAFE Banking Act and the STATES Act, this bill does not have bipartisan support and no Republicans have sponsored the bill.

The MORE Act would legalize cannabis, removing "marijuana" and "THC" from the *Controlled Substances Act* as Schedule I substances. The bill would allow states to enact their own licensing and permitting schemes for cannabis, enabling states to retain control over the industry in their boundaries.

The MORE Act would also put a federal 5% tax on cannabis products manufactured or imported into the United States. Proceeds from this tax would be used to fund three grant programs, aimed at helping people harmed by the War on Drugs, funding certain small businesses in the cannabis industry, and funding state cannabis licensing programs. The MORE Act would also expunge and re-sentence individuals who have been convicted of cannabis-related offenses. This would be retroactive.

The MORE Act is a very ambitious bill that would make cannabis fully legal. All cannabis companies would benefit from the passage of this bill, and it is likely that cannabis legalization in the United States would lead to a surge of M&A activity and the consolidation of U.S.-based MSOs with Canadian LPs and the creation of global cannabis companies.

It is unclear when or if the MORE Act will be passed. The bill does not have support of Republicans in either the House or the Senate. It is very unlikely that the bill will be passed prior to the 2020 election.

Legal Conclusion

It greatly behooves cannabis investors to pay attention to what laws are in the hopper and what laws pass as these regulations are an essential factor in deciding what companies will have sustained growth and profitability going forward. If you’re talking about investing in the MSO space and keeping abreast of what states are going legal and in which ways, if you’re talking about the CBD space and the passing and application of the Farm Bill or if you’re looking at the Cannabis 2.0 catalysts for Canada, monitoring cannabis laws is a salient part of understanding how to invest in the sector.

RISKS

Vaping Health Crisis

Recently, the FDA and Centers for Disease Control have been investigating a widespread vaping crisis in the U.S.. Over 2,000 confirmed and probable lung injury cases have now been identified, with 54 confirmed deaths. While no singular product or ingredient has been identified as the source of the outbreak, all the cases so far appear to be linked to illicit THC products as opposed to traditional e-cigarettes and notably, many of the cannabis products tested for vitamin E acetate, the oil derived from vitamin E that is most often found in supplements and skin creams. While it's still not clear whether vitamin E oil is the only culprit, the FDA, CDC, and the Department of Health and Human Services are urging people to avoid buying THC cartridges off the street until further testing is conducted. This epidemic highlights the need for further transparency and regulation surrounding cannabis products, as all tainted products were bought illegally.

Legal Risks

As mentioned in the previous section, the cannabis sector faces large legal and regulatory risks. Cannabis is federally illegal in the United States. While political momentum appears to be carrying cannabis towards increasing legalization, that momentum can quickly shift directions. If momentum stops and if cannabis is never legalized nationally, IRS Section 280E taxation may mean that cannabis companies are unable to provide meaningful cash flow for their investors. Without federal legalization, profitability may be very difficult or impossible on an after-tax basis. Cannabis being federally illegal means there are not only limitations on companies operating in the U.S., but also foreign companies wanting to compete in the U.S. cannabis sector.

Legal risks are not limited to the U.S. Even with legalization, companies are running afoul of Health Canada and even international regulations can be difficult to parse. Moreover, Canadian companies getting into the U.S. space through acquisitions need to make sure regulatory issues don't affect their overall bottom line.

Sub-Sector Uncertainty

The legal cannabis sector is a new sector, and it is unknown whether the sector will be profitable over the long-term, or which parts of the sector may deliver strong margins. Even in a blue-sky scenario of full cannabis legalization, we do not know what places in the value chain (if anywhere) may be profitable. For example, MedMen - at least before its CEO and co-Founder resigned - believe that retail is the best position in the value chain and markets its desire to be the Whole Foods of the sector, with customers drawn to the MedMen retail stores and ability to sell store-brand products. But it isn't assured that retail space may be valuable: cannabis could eventually just be sold alongside alcohol and tobacco in every grocery and convenience store, rendering retail chains essentially worthless.

Other companies focus on cultivation capacity. Aurora was building out perhaps the largest cultivation capacity, able to grow over 600,000 kilograms of cannabis per year, before it stumbled recently. However, some observers believe that cannabis will prove to be a relatively easy crop to grow at scale and that consumers will treat cannabis like a commodity with consumers unable to distinguish between brands or even strains of cannabis. In that environment, the top cannabis brands may be those with the best marketing and growing cannabis could potentially be outsourced to farmers rather than creating value for major cannabis companies.

This sector uncertainty is exemplified by the two examples above - Aurora and MedMen. Once touted as high-flying players in the industry, a rarified space they may still reach once again, these stocks have both suffered mightily from heavy spending and expansion. Investors should be reading beyond the headlines and promises and really dig into a company's financials as factors change and cash can evaporate as quickly as it came.

Bubbles and Volatility

Cannabis stocks have been prone to enormous bubbles and declines as investor sentiment quickly shifts. Canopy Growth was among the first cannabis stocks to go public in early 2014. Since then, and in a consistently strong economy with no recessions, shareholders have suffered from four separate declines of 40% or more.

Even more dramatically, Tilray shares IPOed in July 2018 at $17/share, closing at $22/share on their first day of trading. In a wave of euphoria and due to a small float, shares quickly formed an enormous bubble, reaching an intra-day high of $300 per share on September 19, 2018. Since then, shares have fallen back to earth, losing more than 90% of their value from that intra-day high.

Canadian Risks

In the case of Canadian growers, they have been temporarily frustrated by growth because of the slow pace of retail licensing approvals. That has impacted their top and bottom lines, and there is nothing they can do to manage it but wait until more stores are operational. That is especially important in Toronto and Ontario, as they're by far the largest Canadian markets. As of late summer 2019, Toronto only had five cannabis retail stores that were open for business. When considering the millions of people that live in the metropolitan area, it’s no surprise that low number has resulted in unsatisfied demand while the black market picks up the slack.

Capital Risks & Share Dilution

Access to capital in the U.S. is limited because of the unwillingness of banks to take on the risk of lending money to what the federal government considers an illegal enterprise. This would change with the SAFE Banking Act, which - pending approval in the Senate - will provide financial institutions protections if they work with cannabis companies. It will allow banks to provide services without fear of being prosecuted.

The current lack of access to capital is problematic because of the increasing amount of cash burn companies are experiencing as a result of spending on organic expansion and growth via acquisitions. Companies need to show investors they have the capital available to engage in a prolonged growth strategy that will take time to generate a profit.

But when it comes to financing operations, there aren't a lot of options available. Most of the time companies will use their stock to make deals, although companies like Canopy Growth and Cronos Group (CRON) have attracted cash infusions from large competitors, with Cronos landing a $1.8 billion investment from Altria Group (MO). While a cash infusion looks good because of the relatively few companies that have been fortunate enough to attract it, as Canopy Growth has proven, it isn't necessarily a guarantee of immediate success.

For instance, even Canopy’s decision to invest in Acreage Holdings (ACRGF) could very easily come back to haunt the company. While the market celebrated it at the time, and in many cases still does, it may never pay off. The rights to acquire Acreage Holdings by Canopy was extended over a 90-month period. That means Canopy has locked itself into a long term, expensive deal, at the expense of other possible deals it could have made. All of this has come about because the narrative for some time has been that it's not a matter of *if* the U.S.

legalizes, but *when*. Even if federal legalization does come about, it may not be for years, or it could take years to implement - beyond the time frame of the deal Canopy made with Acreage. Now its value is predicated upon something that is outside the control of Canopy Growth and Acreage Holdings.

The majority of cannabis companies are unprofitable, and virtually none generate positive free cash flow. Many cannabis companies rely on their continued ability to raise money through debt or equity to fund their expansion. This can potentially put these companies at risk of insolvency if capital becomes more expensive, such as a prolonged bear market, either for the sector or across the economy.

With little if any free cash flow coming in, the only other meaningful way to raise capital has been to use shares as capital. This of course brings about concerns over dilution, but the alternative, beyond raising capital at the IPO and tapping into deep-pocketed founders, would be to use shares as a growth strategy.

As the industry gradually matures, some companies were able to secure financing through credit facilities. Another creative way some have raised capital, as in the case of Zenabis Global (ZBISF), was to secure prepaid supply agreements. It received $40 million from Tilray (TLRY) and Starseed. This gives the company operating capital without overly diluting its stock.

Some, like OrganiGram and Aphria, have managed to grow without overly diluting shareholders, but they also have had to limit their production capacity. That has forced them to find ways to cut costs per gram in order to compete against larger producers that are able to lower costs because of scale and the building of world-class facilities which are able to grow cannabis at increasingly lower costs per gram. Our take on dilution is there wouldn't be anywhere near the capacity to meet rapidly growing demand if companies didn't use their stock as a major way to get deals done or pay to build facilities.

Producer Risks

One of the major risks on the growers' side of the business is what companies will do with supply once domestic demand is met - whether it is in Canada or in the U.S.. This is where smaller companies will be at a distinct disadvantage.

On the other hand, companies going aggressively after growth have to do so with the added risk of increasing cash burn. Essentially, it becomes a race between growth in demand, production capacity, distribution being in place, and whether or not they can accelerate sales growth and earnings quicker than they're burning cash.

Another risk associated with production is the increasing amount of cannabis grown cheaply in South America. This will be the case especially with dried flower that's on the lower price range of the recreational segment. This isn't likely to be as disruptive for the companies already lowering their cost per gram and growing high-quality cannabis.

By the time this becomes an issue, the larger producers will have moved on to cannabis that is differentiated from the low-cost producers. There could be some loss of business there, but considering it would be on low-margin products, it will likely be beneficial on the earnings side of the business, even if some revenue is lost. By that time the EU and other markets will be more mature concerning medical cannabis, and producers that are EU GMP compliant will have a lot more cannabis to sell into that growing market. This should make up for any loss of low-end dried flower revenue.

On the other hand, companies with little if any markets outside their region or locality could be easily overwhelmed by low-cost cannabis that has been commoditized within the recreational segment. Cannabis producers without a presence in other states, in the case of the U.S., or without international markets they can sell into, such as in the case of Canada, will struggle as more supply comes to the market and demand starts to be met.

Explicit Bear Case

It's not difficult to imagine all the ways in which the cannabis sector might come crashing down. In fact, we pretty much just laid them all out for you. If the SAFE Banking Act doesn't pass the Senate or if the President doesn't sign it into law or if the 2020 election means months and years of more uncertainty. If corporate governance in the sector continues to selectively implode. If more big players act in ways that are detrimental to shareholders and investors. If more big players continue to get taken to task by the CDC or Health Canada or the FDA. If stocks can't recover from decimated share prices. If well-intentioned companies spend beyond their means; if they rack up more acquisitions than cash and are forced to fold or be acquired for unfavorable terms. If companies lose their competitive edge for the sake of cutting costs. If proposed acquisitions continue to fall apart. If the deals go through but there's no capital to take advantage of growth. If big tobacco, alcohol and pharma come in and edge out the cannabis veterans, over regulate, over commoditize, damage the sector and lose consumers.

These are the whatifs of a cannabis realist and should be in the mind of any serious investor in the space. This is a nearly brand new industry that is still figuring itself out - with that comes uncertainty and volatility and the possibility that the bull case may not in fact play out, or certainly not when you think it will/want it to. Preparing for that outcome is essential.

Risk Section Conclusion

Cannabis stocks are likely to continue to be extremely volatile investments due to the uncertainties of the cannabis market, including its eventual size, achievable profit margins, timelines for cannabis legalization (if ever), and which companies may become the brand names of the sector (if any). Given these risks, cannabis stocks are best held in small quantities as part of a speculative growth portion of a larger, diversified portfolio.

CONCLUSION

Everybody knows there are only two sure things in this world, and cannabis isn't one of them. Still, we think it comes close. The drawback is having to be patient and wait out the volatility, only natural for a sector growing both rapidly and exponentially. You also need to be able to withstand the risk inherent in such volatility.

The cannabis industry isn't a short-term fad, but a sector that has strong growth prospects for many years to come. With the legalization of cannabis in Canada and in some U.S. states, Europe, and beyond, it has resulted in the sector having even more potential, as consumers that weren't willing to take risks associated with illegal marijuana, are now more than willing to give legal cannabis a try, especially concerning the treatment of diseases and other health and wellness issues.

For Canadian companies, start looking at those that not only are able to grow revenue, but also prove they have the ability to consistently lower costs as they move toward profitability. Most of them still have a ways to go there, but they should be moving in that direction with the numbers to back it up. Revenue, margins and earnings are going to be key metrics because they're further along in the growth process than the MSOs.

On the U.S. side of things, the multi-state operators are in the same place now that Canadian growers were about a year ago. They're going all out to position themselves as market leaders in order to enjoy the benefits of scaling operations. For that reason, most of their balance sheets are going to take time to improve. Look primarily for revenue and the ability to endure significant cash burn if needed, as companies spend on growth across a number of different states.

Unless a company can differentiate and build a moat, we don't see how smaller firms with a single footprint, or only a couple, will be able to last against the growing number of mid- and high-end competitors, which can not only differentiate, but also compete on price. In general, investors should look at burn rate, access to capital, and how it measures against the pace of revenue growth and how long it will take to improve bottom lines. Expectations should be moderate in the near term, but companies need to show they're able to lower costs as they increase market share.

At the macro level, there is no question this is going to be a booming industry. One of the major challenges now is government regulations, which in some cases have stifled the industry. Much of that comes from the failure of government agencies such as Health Canada to expedite the approval process for potential retailers, widely disparate laws from state to state and municipality to municipality in the U.S., and the heavy tax burden that has made it difficult for many producers and sellers to gain market share from the black market.

In Canada the increase in licensing of retail outlets should help companies going forward, as will the expected increase in market share for adult use from the black market in 2020. For the U.S., if the SAFE Banking Law passes the Senate and gets signed into law, it means a dramatic change in having access to various banking services that are not currently available. That will help increase efficiencies on the operational side and likely lower costs. Those interested in cannabis ETFs should look for high-quality managers, and pay special attention to actively managed holdings.

The bottom line is investors should have at least a small percentage of their holdings in cannabis, as it's without a doubt going to be a long-term growth story.

Glossary

THC - Tetrahydrocannabinol

CBD - Cannabidiol

MSO - Multi-State Operator

Schedule One - The law that makes cannabis federally illegal in the U.S.