

The Investment Case for Cannabis



Executive Summary

Amid the evolving public perception of cannabis—from largely *recreational to medicinal, to both*—is the creation of new markets spurred by increased demand globally. This trend may present a compelling investment opportunity. As legal use continues to spread worldwide, political momentum and public pressure to legalize cannabis for medical and recreational purposes have also gained traction. These factors have fostered technological and scientific breakthroughs leading to the development of a variety of product-related and service areas for new and innovative uses.

Cannabis has come a long way from its days of “Reefer Madness¹” prohibition. Today, cannabis and its chemical derivatives are no longer viewed as a recreational novelty, but as an effective therapeutic remedy to treat ailments such as anxiety, chronic pain, seizure disorders, PTSD and more. It is now partially or fully legalized in 21 countries and 47 U.S. states. According to Arcview Market Research and BDS Analytics,² global spending on legal cannabis is expected to grow **230%** to \$32 billion by 2022, up from \$9.2 billion in 2017. Many investors have recognized the growth potential of this emerging industry. While some remain wary of investing in an industry that is still federally illegal, the macroeconomic and regulatory landscape has nonetheless continued to rapidly transform.

Public acceptance of cannabis has increased to the level that the majority of people in the United States now support its legalization. Moreover, given that it is now legal in some form in almost every state, there seems to be no turning back as the industry’s infrastructure development continues in earnest, bringing with it the potential for millions of dollars in state tax revenue. A key consideration for investors is that momentum seems to remain on the side of federal legalization, suggesting that we may be at a very important industry inflection point.

Many cannabis-oriented companies are not listed on major stock exchanges or they are listed in Canada where it is federally legal. This lends itself well to a basket-investment approach, as pooled products (as opposed to individual stocks) can provide diversification and broad global access to companies in this emerging industry. It is also important to note that navigating the cannabis investment space is fraught with complexity as the industry continues to develop. This means that a professionally managed, diversified approach may be the best way to gain exposure to this investment opportunity.

¹ *Reefer Madness* was a 1936 American anti-cannabis propaganda film.

² Shell, Adam. *USA Today*, September 27, 2018.

A Long History

The use of cannabis is nothing new, as it dates back to Ancient empires of China, Egypt and Rome. Throughout history, the plant has been widely used medicinally by different cultures worldwide. However, in the early 20th century, its use went out of favor with both regulators and Western culture. In the United States, a wave of regulations made access more difficult starting in the late 1900s. This culminated in the Marihuana Tax Act of 1937, which effectively made cannabis use a federal offense. Similarly, it was prohibited in Canada for the last 85 years until its recent legalization.

The trend of 20th century opposition to cannabis is just a sliver of time when considering its 6,000-year history:



A Timeline of the Long History of Cannabis Use

CANNABIS CULTIVATION

Dating back to the Ancient Empires of China, Egypt and Rome, the cannabis plant has been used by different cultures around the world in many ways. The trend of 20th century opposition to cannabis is just a sliver of time when considering its **6,000 year** history.



Earliest Uses

Major food crop and known as one of the five grains of China. First known use for medicine was in 2037 AD, referenced by the Chinese Emperor Shen Nung as a treatment for over 100 ailments and medical purposes. It was also used for textiles, rope and oil.



Sacred Grass

Considered one of the five sacred plants of India by Hindus. Mentioned in Hindu sacred text Arthava-Veda as "joy-giver" and the "source of happiness". Used during daily devotionals.



Trade Routes

The Scythians—a large group of Iranian nomads in Central Asia began inhaling the smoke from smoldering cannabis via pipes. Hashish became accepted through the Middle East and parts of Asia through trade routes.



Medical Use

Cannabis extracts were commonly sold in pharmacies and doctors' offices throughout Europe and the U.S. to treat stomach problems and other ailments. Used frequently during the Civil War as a remedy and for ropes and textiles.



Regulation Grows

In 1906, the FDA was founded and began to regulate cannabis. The 1910 Mexican Revolution started to spread its recreational use in the U.S. as the Great Depression stoked unrest. Cannabis became known as "the Evil Weed."



Reefer Madness

By 1931, during the Prohibition Era, over 29 states outlawed its use. The Marihuana Tax Act of 1937 was the first federal U.S. law to criminalize use nationwide. The Act imposed an excise tax on hemp products, for all but industrial uses.



War On Drugs

The Controlled Substances Act of 1970 repealed the Marihuana Tax Act. Cannabis became a Schedule I drug, like heroin, LSD, and ecstasy, it was deemed at high potential for abuse with no medical exceptions. In 1989, a NORML* petition for medical use failed.



Legalization

In 1996, California became the first state to legalize cannabis via The Compassionate Use Act. 29 other states soon followed. In 2012 Washington and Colorado legalized cannabis for statewide adult recreational sale and use.



Global Acceptance

At least 49 states and 21 countries have partially or fully legalized cannabis. Canada became the second nation in the world to legalize it completely for adult use. New and modern methods of cannabis consumption continue to evolve.



Sources: Wikipedia.com, MedReleaf, History.com

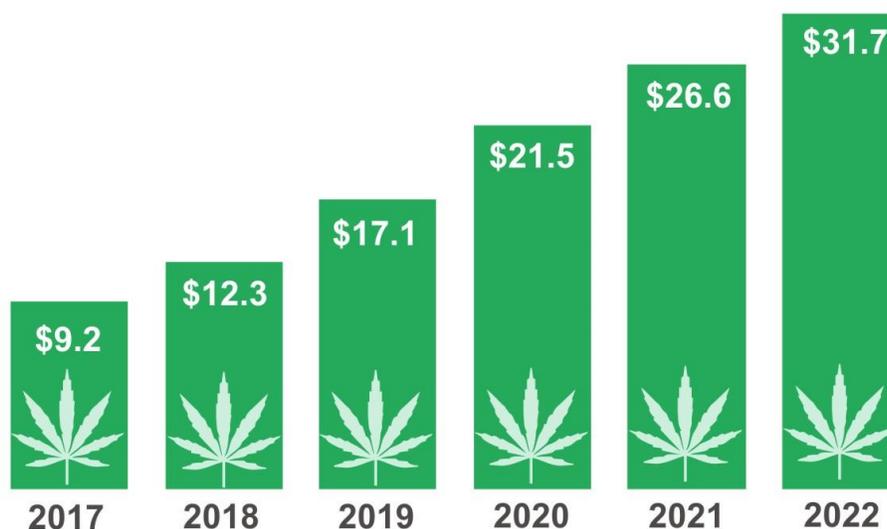
*NORML - National Organization for the Reform of Marijuana Laws

Solid Industry Growth Globally

The trend toward global cannabis legalization is expected to drive tremendous growth. According to Arcview Market Research and BDS Analytics,³ global spending on legal cannabis is expected to increase **230%** to \$32 billion by 2022, up from \$9.2 billion in 2017.

Legal Global Cannabis Spending Set to Rise

Legal Global cannabis spending is expected to surge by 2022. *(in billions)*



2018-2022 - *Estimated*

Source: Arcview Market Research & BDS Analytics

Worldwide spending is forecasted to grow 39% in 2019, averaging a 26% compound annual growth rate (CAGR) during the 5-year period from 2017 to 2022.

³ Arcview Market Research/BDS Analytics, *The State of Legal Marijuana Markets, 2019 Update*.

Legalization: A Worldwide Trend

Cannabis has created new markets globally as its use continues to spread. Increased political momentum and public pressure to legalize its use for medical and recreational purposes have led to new and innovative applications in product-related and service areas, driving global technological and scientific breakthroughs.

Cannabis is now legal in some form in 21 countries and 47 U.S. states.



Sources: Wikipedia.com, EQM Indexes

As of April 1, 2019

Aside from the United States and Canada, countries where cannabis use is legal in some form (i.e., legalized, partially medically legalized or decriminalized) include: Argentina, Australia, India, Israel, Italy, Mexico, Poland, Uruguay and Turkey.⁴

⁴ Source: <https://www.cannabisbusinesstimes.com/article/cannabis-legalization-world-map/>

The Shifting Tide of Public Opinion

Public acceptance for legal cannabis use continues to increase. According to the results of a 1,000-person poll by the Center for American Progress (CAP)⁵, a public policy research and advocacy group, 68% of voters supported legalization when asked, “Do you support or oppose the legalization of marijuana?” This includes 40% who “strongly support” legalization and 28% who “somewhat support” it.

Other recent polls⁶ also show a high level of support. One CBS poll puts the number of Americans who believe the use of marijuana by adults “should be legal” at 65%. This is a full 6% above last year’s total and the highest percentage of support ever recorded in the CBS survey. These results are consistent with other recent polls such as those by Gallup (66%) and Pew (62%) showing support for legalization at record or near-record highs.

Tax revenue is a factor causing voters to rethink the legalization of cannabis. According to Leafly, Washington state generated \$319 million in tax revenue in 2018, while California made \$300 million in its first year of commercial sales. Those figures did not include some of the additional economic benefits, such as job creation. Even though the U.S. Bureau of Labor Statistics does not break-out cannabis job creation, a report from Leafly⁷ claims that the number of direct and indirect jobs created by cannabis legalization totaled 296,000 last year.

Marijuana Brought in Millions in Tax Revenue Last Year

Estimated 2018 tax revenue in states where recreational marijuana use is legal.



Source: Leafly

⁵ Center for American Progress and GBA Strategies, June 20, 2018. <https://www.americanprogress.org/press/release/2018/06/20/452451/release-new-polling-cap-gba-strategies-shows-68-percent-voters-support-marijuana-legalization-73-percent-support-automatic-sealing-marijuana-offenses>

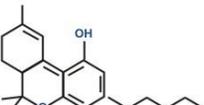
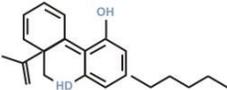
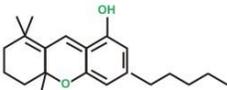
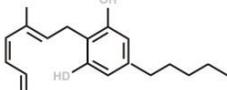
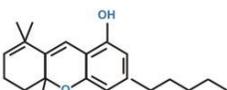
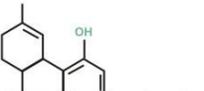
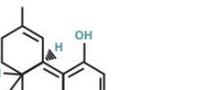
⁶ Armentano, P. CBS Poll: Nationwide Support for Marijuana Legalization at All-Time High, April 19, 2019. <https://blog.norml.org/2019/04/19/cbs-poll-nationwide-support-for-marijuana-legalization-at-all-time-high/>

⁷ Leafly Special Report: Cannabis Jobs Count, February 27, 2019. <https://d3atagt0rnqk7k.cloudfront.net/wp-content/uploads/2019/03/01141121/CANNABIS-JOBS-REPORT-FINAL-2.27.191.pdf>

Chemistry and Therapeutic Benefits

Besides the economic benefits of cannabis legalization, one of the key drivers of public and political support has been the plant's medicinal potential. Over 100 naturally occurring compounds are found in the cannabis plant. These compounds are known as cannabinoids—chemical compounds that act directly and indirectly on cannabinoid receptors to help the body maintain stability and health.

While most people are aware of the anti-nausea benefits for cancer patients that cannabinoids offer, there are also a host of other therapeutic benefits that can be derived from cannabinoids. These include pain reduction, reduced inflammation and relief for symptoms such as anxiety, depression, PTSD, and seizures. Additionally, there are clinical trials being conducted, testing its efficacy for brain tumors.

CANNABINOID	BENEFIT/EFFECT
THC / THCA Tetrahydrocannabinol	  Psychotropic, pain reduction, anti-inflammatory, anti-microbial.
CBD / CBDA Cannabidiol	  Relieves symptoms of anxiety, depression, seizures, inflammation, nausea. Acts as a sedative, sleep aid, and muscle relaxant.
CBC / CBCA Cannabichromene	  Anti-inflammatory, pain reduction, treats acid reflux, anxiety and depression.
CBG / CBGA Cannabigerol	  Pain reduction, muscle relaxant, anti-erythema, aids in digestion and stomach function.
CBN / CBNA Cannabinol	  Mild psychotropic, may stimulate bone growth, anesthetic, anti-convulsive, analgesic, antianxiety.
THCV / THCVA Tetrahydrocannabivarin	  Anti-obesity, aids memory, has calming effect, antibacterial, antiviral, boosts immune system.
CBDV / CBDVA Cannabidivarin	  Anti-inflammatory, analgesic, protects cells and the lining of the digestive tract.

Sources: Cannabis.net

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There are currently only three U.S. Food and Drug Administration (FDA)-approved cannabinoid drugs. The first one, which is comprised of an active ingredient derived from cannabis, is GW Pharmaceutical's Epidiolex (cannabidiol) CBD oral solution, used for the treatment of seizures associated with two rare forms of epilepsy. It was approved in June 2018.⁸

Two other pharmaceutical cannabinoid drugs have been approved by the FDA for medical use in the United States: Marinol from AbbVie and Cesamet from Valeant Pharmaceuticals.⁹

- **Dronabinol (Marinol®)** is a gelatin capsule containing delta-9-tetrahydrocannabinol (THC), which is approved to treat nausea and vomiting caused by cancer chemotherapy as well as weight loss and poor appetite in patients with AIDS.
- **Nabilone (Cesamet®)** is a synthetic cannabinoid that acts much like THC. It can be taken by mouth to treat nausea and vomiting caused by cancer chemotherapy when other drugs have not worked.

Nabiximols is another cannabinoid drug still under study in the United States. It's a mouth spray made up of a whole-plant extract with THC and cannabidiol (CBD) in an almost one-to-one mix. It's available in Canada and parts of Europe to treat pain linked to cancer, as well as muscle spasms and pain from multiple sclerosis (MS). It's not approved in the United States at this time, but is being tested in clinical trials to see if it can help a number of conditions.

One important outcome of the decriminalization of cannabis and cannabis-derived products is that it opens up the potential for further medical research and scientific innovation with regard to dosing and delivery mechanisms. Most recently, thanks to the 2018 U.S. Farm Bill, hemp was reclassified an agricultural commodity and not a class 1 drug. As a result, hemp-derived CBD became legal in 50 states and is now available for sale over-the-counter in stores such as CVS and Walgreens. There are currently three states—Idaho, Nebraska and South Dakota—that still place some restrictions on CBD. CBD has been proven effective in treating a range of health problems such as insomnia, pain and anxiety.¹⁰

Research and Markets estimates that the global medical cannabis market will grow at a CAGR of 16.8% during 2019-2024.¹¹

⁸ FDA News Release, June 25, 2018. <https://www.fda.gov/newsevents/newsroom/pressannouncements/ucm611046.htm>

⁹ Zana Medical Health Lab, <https://zanahealthlab.com/blogpost/FDA-Approved+Pharmaceutical+Cannabinoid+Medicines>

¹⁰ Green Roads, "Is CBD Legal in 2019? The Legal Status of CBD in 50 States" <https://www.greenroadsworld.com/pages/is-cbd-legal/>

¹¹ Research and Markets, April 18, 2019. <https://www.businesswire.com/news/home/20190418005273/en/Worldwide-Medical-Cannabis-Market-2019-2024-Projected-Exhibit>

Investment Opportunity and Risk

Despite the potential investment opportunity, cannabis stock investing has been rife with risk and even fraud. Most cannabis stocks are not listed on major exchanges nor are they listed in Canada where cannabis is federally legal. Many so-called “penny stocks” have gone public on reverse mergers or by using shell companies. In 2012, when Colorado and Washington state voters legalized cannabis, there was a “Green Gold Rush” which took many investors on a wild investment ride.

The U.S. Securities and Exchange Commission (SEC) announced trading suspensions in 2014 against five penny stocks operating in the industry with two of the five suspected of market manipulation and unlawful securities sales. The SEC issued an investor alert warning that investors beware of:

- **Trading Suspensions.** Beware of any stock with past SEC trading suspensions.
- **Promotional 'Spam.'** Watch out for any stock recommended via spam showing up in your inbox or fax machine.
- **Heavy Insider Ownership.** Large holdings by insiders could represent a red flag.
- **Laudatory News Releases.** Beware of exaggerated press releases about a company's current or future success.

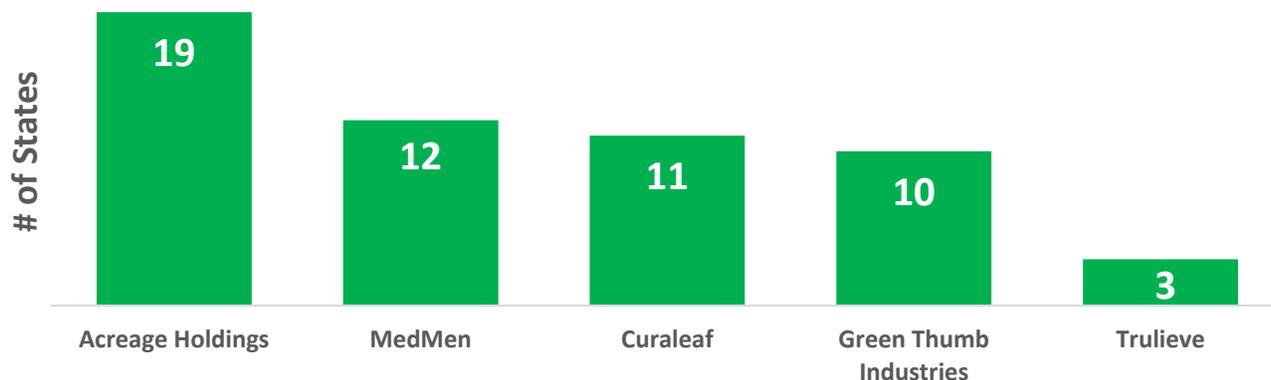
Because so many of the public companies are in the early stages of development within an emerging industry, owning a diversified basket of names to gain exposure to the potential growth of the cannabis industry, while minimizing risk, makes sense for most investors. Having a long-term mindset is also important given that cannabis is not yet federally legal in the United States, which creates barriers to obtaining access to capital given that most banks have federal charters. Another obstacle is geography, as laws differ state by state.

The absence of federal legality has created inefficiency and economic dislocation. The State of Oregon, for example, currently has a six-year oversupply of cannabis, producing twice the amount people are using.¹² However, Oregon is restricted from selling this surplus to other states or Canada, where there are shortages in some locations. Multistate operators (MSOs) that span across multiple legal cannabis states are still not permitted to bring cannabis or cannabis-derived products across state lines as this trade is regulated at the federal level.

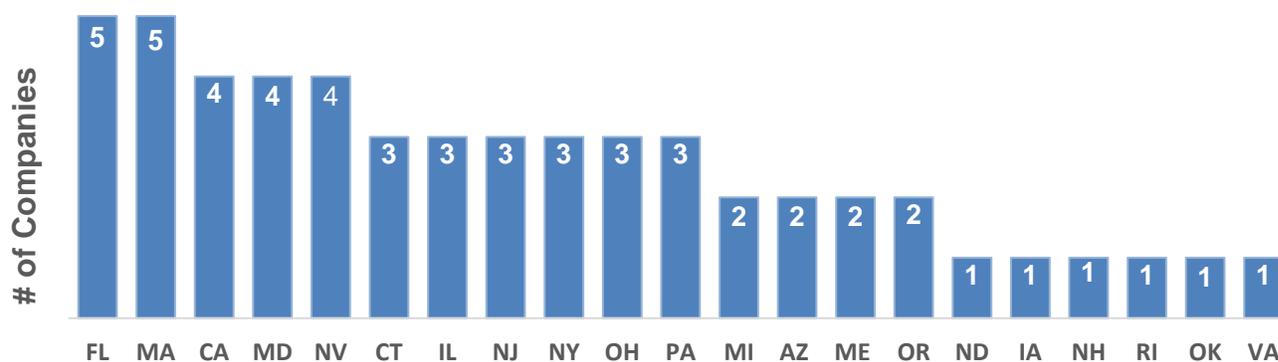
¹² Foden-Vencil, K. “Oregon is Producing Twice as Much Cannabis as People are Using,” January 31, 2019. <https://www.opb.org/news/article/oregon-cannabis-surplus-2019/>

Multi-State Cannabis Companies Expand Operations

Number of States with Company Operations



Number of Companies in Each State



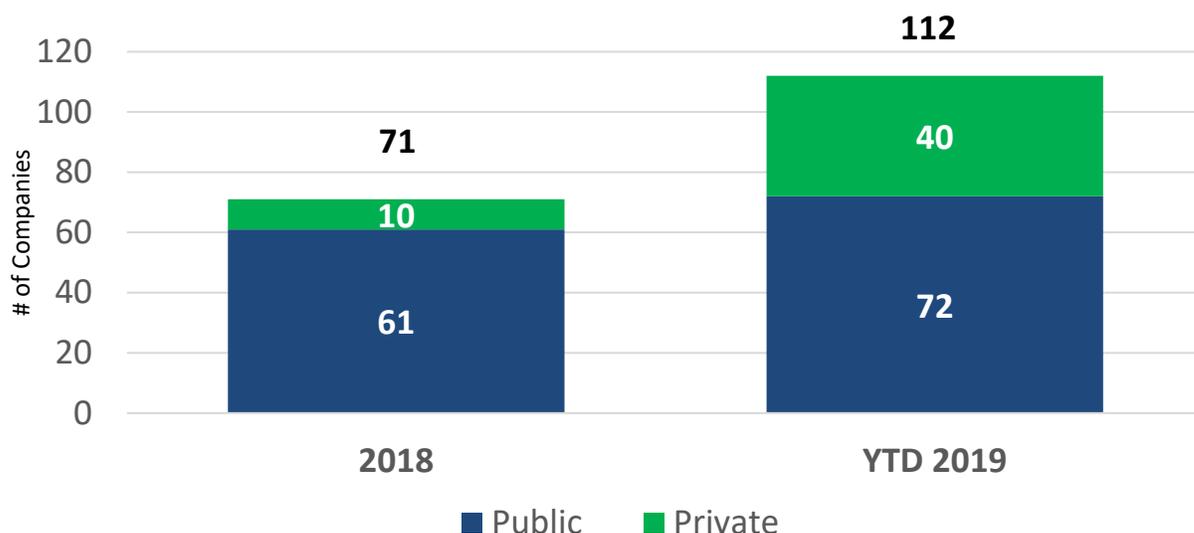
Source: Marijuana Business Daily, Yahoo Finance and company websites.

The fragmented, state-by-state nature of the cannabis industry has fueled rapid consolidation and expansion among companies with numerous mergers and acquisitions and a rash of reverse takeovers that allowed U.S. companies to go public in Canada.¹³ Most recently, the largest vertically integrated player in Canada, Canopy Growth, offered to acquire the largest U.S. MSO operator, Acreage Holdings in a \$3.4-billion deal contingent upon federal legalization.¹⁴

¹³ Cowee, M. "Multistate cannabis operators rapidly expanding into new markets," January 14, 2019. <https://mjbizdaily.com/chart-multistate-cannabis-operators-rapidly-expanding-new-markets/>

¹⁴ Franck, T and Li, Y. "Canadian weed giant Canopy Growth strikes \$3.4 billion deal to buy Acreage after federal legalization," April 18, 2019. <https://www.cnn.com/2019/04/18/cannabis/canopy-growth-acquires-acreage/index.html>

Cannabis Industry Merger and Acquisition Deals



Navigating the cannabis investment space is fraught with complexity as the industry continues to evolve. In this environment, investors may be best served by adopting a professionally managed, diversified approach as a way to gain exposure to this emerging industry.

Conclusion

- Cannabis has created new markets globally as its legalized use spreads worldwide.
- The trend toward legalization in many parts of the world is expected to drive tremendous growth. According to Arcview Market Research and BDS Analytics, global spending on **legal cannabis** is expected to grow **230%** to \$32 billion by 2022.
- Public acceptance has increased to the level that the majority of people now support legalization due to the potential economic and medical benefits.
- The cannabis industry is at an inflection point, which provides both opportunity and risk for investors.
- Most investors may be best served by having a diversified, professionally managed product to gain exposure to this dynamic and appealing investment opportunity.

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Definitions

Cannabis – Cannabis, also known as marijuana among other names, is a psychoactive drug from the Cannabis plant used for medical or recreational purposes. The main psychoactive part of cannabis is tetrahydrocannabinol (THC), one of 483 known compounds in the plant, including at least 100 other cannabinoids.

Cannabinoid – Chemical compounds that act directly and indirectly on cannabinoid receptors to help the body maintain stability and health. Our bodies make their own cannabinoids – called endocannabinoids because they are produced internally – to work on cannabinoid receptors.

Penny stocks – A penny stock refers to a small company's stock that typically trades for less than \$1 per share.

Reverse split – A type of corporate action that reduces the number of a company's outstanding shares in order to increase the par value or share price.

Shell companies – A corporation without active business operations or significant assets that can be acquired as a financial maneuver to go public without an initial public offering underwriting.

Multistate Operator (MSO) – Companies whose cannabis business spans across several multiple legal states.