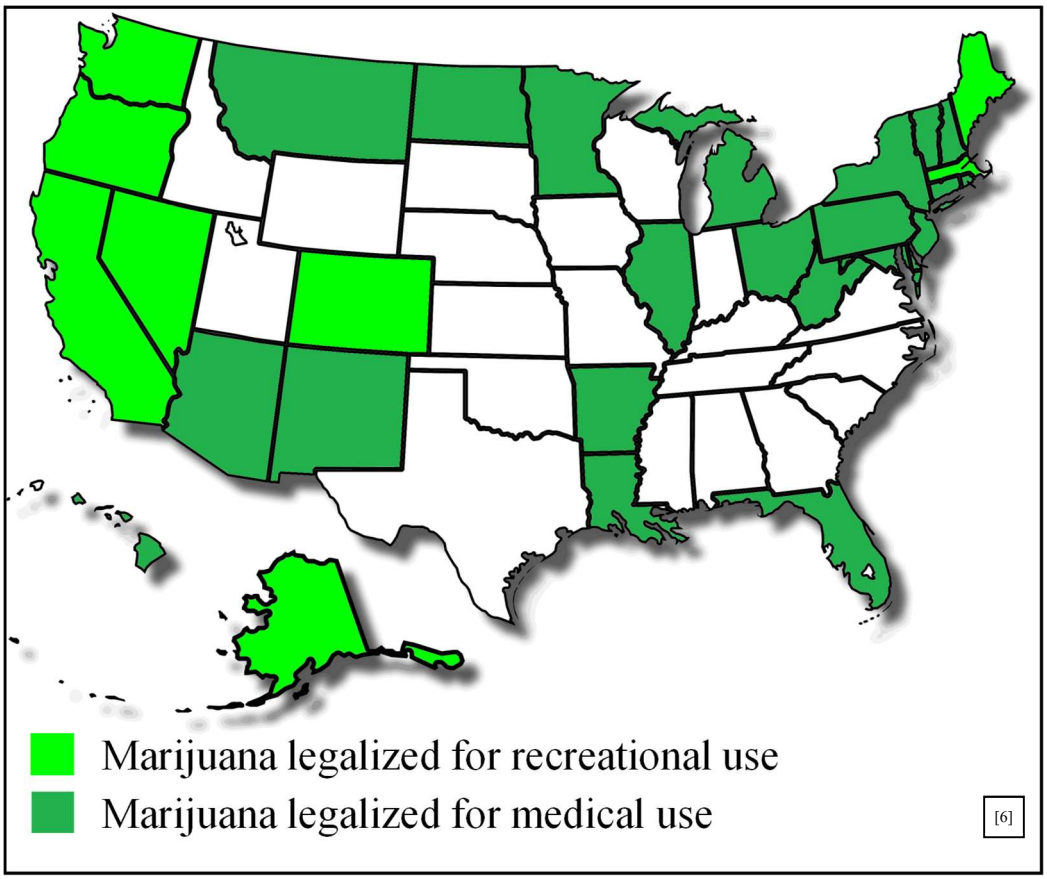
MEDICAL MARIJUANA: THE NEXT GOLD RUSH?

"Gold! Gold! Gold from the American River!"[1] So proclaimed Samuel Brannan of San Francisco and began California's gold rush. The California Gold Rush occurred from 1848-1855 with over 300,000 individuals flocking to this new state to seek their fame and fortune. The appeal of 'striking it rich' presented a new American dream to U.S. citizens and immigrants alike: California gold offered a business model where risks were emphasized over careful planning, and individuals could become rich overnight. Billions in today's dollars' worth of gold were extracted, but ultimately resulted in only a select few becoming wealthy. For a vast majority of the prospectors who migrated west the dream was only an illusion, the lucky returned home with what they had started with, the rest with nothing.

The United States is now witnessing another rush, but this time it is green. Because public sentiment towards marijuana has become substantially more favorable in the past 5-10 years, 30 states with a combined population of over 202 million people have legalized its' use for medical purposes. 8 of those states now allow adult recreational use, despite federal law still prohibiting marijuana as a Schedule I drug. Stories of wealth circulate in both the medical and recreational community as an estimated $8 billion dollar business grows at a 34% CAGR [2]. As an industry that is woefully underserved in regards to its banking needs, entrepreneurs should weigh the legal, fiscal, and reputational risk they are undertaking against the expected returns of entering into a high-growth market.

Map of Legalized Marijuana States in the U.S.



A BRIEF HISTORY [3]

1800-1900

Public perception of marijuana within the United States has changed many times within the last century. The production of hemp was encouraged in early America and the cultivation and production of hemp continued in the U.S. through the late 1800's until the conclusion of the Civil War. During this time, ironically, marijuana was being used in many medications, tinctures, and salves and was sold openly in pharmacies. Recreational use of marijuana was not largely introduced until Mexican citizens began immigrating to the U.S. after the Mexican Revolution of 1910: as recreational use spread the drug became associated with these immigrants. Fear and prejudice grew as anti-drug campaigners fought against this "marijuana menace". Crimes and violence were linked to "marihuana" and the Mexican population.

> **"By the tons it is coming into this country – the deadly dreadful poison that racks and tears not only the body, but the very heart and soul of every human being who once becomes a slave to it any of its cruel and devastating forms…Marihuana is a short cut to the insane asylum."**
> **Harry J. Anslinger, Commissioner of Federal Bureau of Narcotics [4]**

1900-1940

As the United States continued its battle against the Great Depression, fear and animosity towards Mexican immigrants increased as competition escalated for employment. Through faulty research and propaganda, marijuana continued to be associated with crime, violence, and other deviant behaviors. Mimicking the actions of San Francisco from generations earlier, the drug "marihuana" was outlawed in an effort to control the influx of new immigrants; by 1931 29 states had outlawed marijuana. The propaganda film "Reefer Madness" was released in 1936 fueling the fire in America against "evil weed". As a result of the mounting pressure, Congress passed the Marijuana Tax Act of 1937, restricting the use of marijuana and effectively criminalizing it.

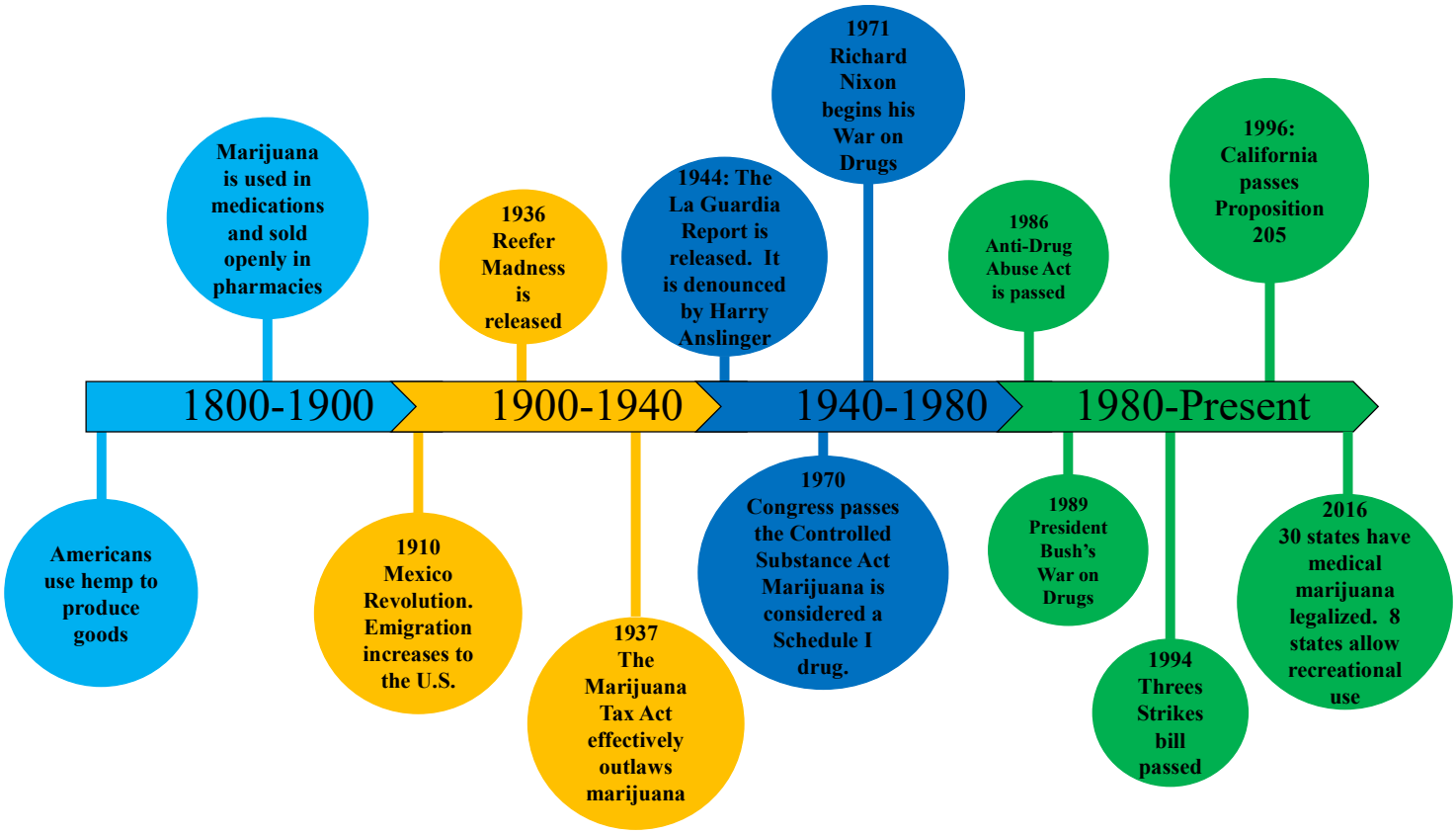
1940-1980

In 1944 the New York Academy of Medicine released the La Guardia Report concluding that contrary to previous research and popular belief, marijuana does not cause violence, insanity, or sex crimes, and does not lead to addiction or lead to other drug use. Despite this report, government sentencing guidelines continued to grow stricter. A growing counter-culture movement during the sixties helped shift some public perception, but the 1970's saw Richard Nixon begin his War on Drugs. In 1972, the Shafer Commission's recommendation that marijuana use be decriminalized was rejected by President Nixon, and the passing of the Controlled Substances Act classified marijuana as a Schedule I drug. By definition, Schedule I drugs are considered highly dangerous with a high potential for abuse and possible psychological and physical dependence. Additionally, Schedule I drugs are substances that have no currently accepted medical use and are illegal to manufacture, distribute or dispense. This classification places marijuana in the same category as heroin, LSD, ecstasy, methaqualone, and peyote.

> **"It doesn't have a high potential for abuse, and there are very legitimate medical applications. In fact, sometimes Marijuana is the only thing that works…It is irresponsible not to provide the best care we can as a medical community, care that could involve Marijuana. We have been terribly and systematically misled for nearly 70 years in the United States, and I apologize for my own role in that"**
> **-Dr. Sanjay Gupta, Neurosurgeon** [5]

1980-Present Day

President Reagan's Anti-Drug Abuse Act of 1986 required Mandatory Sentences and raised federal penalties for marijuana possession and dealing in conjunction with the Comprehensive Crime Control Act of 1984. (Bill Clinton would later sign into law the amendment creating the "three strikes" policy requiring life sentences for repeat drug offenders.) President Bush Senior renewed the "War on Drugs" in 1989 and although marijuana was not explicitly named in his now famous televised speech, the Schedule I classification cemented its perception as a dangerous substance. By 1990, marijuana had been seen as an evil "gateway drug" for close to a century, and the misconceptions which surrounded it had been ingrained for several generations. While many groups continued to battle this image, it was not until the mid 90's when state legislation would be made challenging this status quo. In 1996 California passed Proposition 215, the Compassionate Use Act which permitted the sale and use of medical marijuana for patients with certain diseases, such as AIDS and cancer. The Act exempted patients and caregivers who possessed or cultivated marijuana recommended by a physician from criminal laws which would otherwise prohibit them, and provided protection for physicians who recommended use of marijuana for medical treatment. As America transitioned into the 21st century, medical marijuana began to gain traction as its medicinal benefits became more widely accepted.



THE MEDICAL MARIJUANA INDUSTRY

CURRENT STATE

Growing footprint across the U.S.
California was the first US state to legalize medical marijuana in 1996, and was followed shortly thereafter by Alaska, Oregon and Washington in 1998. Assisted by many groups including the National Organization to Reform Marijuana Laws (NORML), the National Cannabis Industry Association (NCIA), and the Marijuana Policy Project (MPP), more states are beginning to recognize the powerful benefits of this substance.

In 2016, more states passed laws to either legalize marijuana or expand into recreational use than any other year. Ohio, Pennsylvania, Arkansas, North Dakota, Florida, and Montana voters passed legislation to enter into the medical marijuana market, which increased the current footprint by over 50 million citizens, while California, Maine, Nevada and Massachusetts passed adult recreational initiatives. In total, currently 30 states, Washington D.C. and the territories of Puerto Rico and Guam have legalized the use of marijuana in some form. Full recreational use of marijuana is currently available in eight states: Washington, Oregon, California, Nevada, Colorado, Alaska, Maine, and Massachusetts; current medicinal use is legalized in 22: Arizona, Arkansas, Connecticut, Delaware, Florida, Hawaii, Illinois, Louisiana, Maryland, Michigan, Minnesota, Montana, New Hampshire, New Jersey, New Mexico, New York, North Dakota, Ohio, Pennsylvania, West Virginia, Rhode Island, and Vermont. These states represent a total population of 205 million people accounting for over 66% of the U.S. population and an estimated 2,307,515 medical marijuana patients with California holding the overwhelming majority at 1,526,250 registered patients. [7]

The addition of these new locations have several strategic implications. As states with legal markets begin to outnumber those with none, pressure will build for future legislation in other states. For example, between Canada and the U.S. marijuana is legal for medical use on both sides of the border in every state except for Idaho. The entire West Coast is now open to adult recreational use, the spread of these markets to states such as Arizona, and New Mexico is likely to follow. The entire North East now has access to medical marijuana as well, non-legalized states in the south east and the Midwest are surrounded on all sides. If this momentum continues the tipping point of full legalization within the United States seems to be nearing.

Protection through the Ogden and Cole Memorandums
The risk for investing in the medical marijuana industry comes from two sources. Medical marijuana laws differ from state to state which leads to much inconsistency in how each market is set up, second, marijuana is still a Schedule I drug making it illegal at the federal level. The shield that marijuana related businesses (MRB) use to defend themselves comes in the form of three memorandums shown below:

Memo 1: In 2009 David W. Ogden, then Deputy Attorney General, wrote a memorandum entitled: "Authorizing the Medical Use of Marijuana."[8] In it he acknowledged the growing number of states that had "enacted laws authorizing the medical use of marijuana" and the Department of Justice's commitment to enforcing the Controlled Substance Act (CSA). Ogden goes on to state that "the Department is also committed to making efficient and rational use of its limited investigative and prosecutorial resources" finally concluding "As a general matter, pursuit of these priorities should not focus federal resources in your States on individuals whose actions are in clear and unambiguous compliance with existing state laws providing for the medical use of marijuana…" The memo also lists seven characteristics that would indicate illegal drug trafficking:

1. Unlawful possession or unlawful use of firearms
2. Violence

3. Sales to minors
4. Financial and marketing activities inconsistent with the term, conditions or purposes of state law, including evidence of money laundering activity and or financial gains or excessive amounts of cash inconsistent with purported compliance with state or local law
5. Amounts of marijuana inconsistent with purported compliance with state or local law
6. Illegal possession or sale of other controlled substances
7. Ties to other criminal enterprises

The theme for the document is acceptance for medical marijuana. Ogden's memorandum seems to pave a way for investors to enter the medical marijuana market and not fear retribution from the U.S. government. While it does not explicitly offer a defense to cultivating, processing or distributing marijuana it does provide a framework for prosecutors to focus on clearly illicit activities and allow legitimate business to be conducted unmolested. The disclosure by Ogden that marijuana is still listed as a Schedule I drug, that marijuana is still considered dangerous, and the agency's commitment to the CSA appears to be window dressing so that the memo does not have the appearance of outwardly stating that marijuana is an accepted medicine contrasting the contradiction between state and federal law.

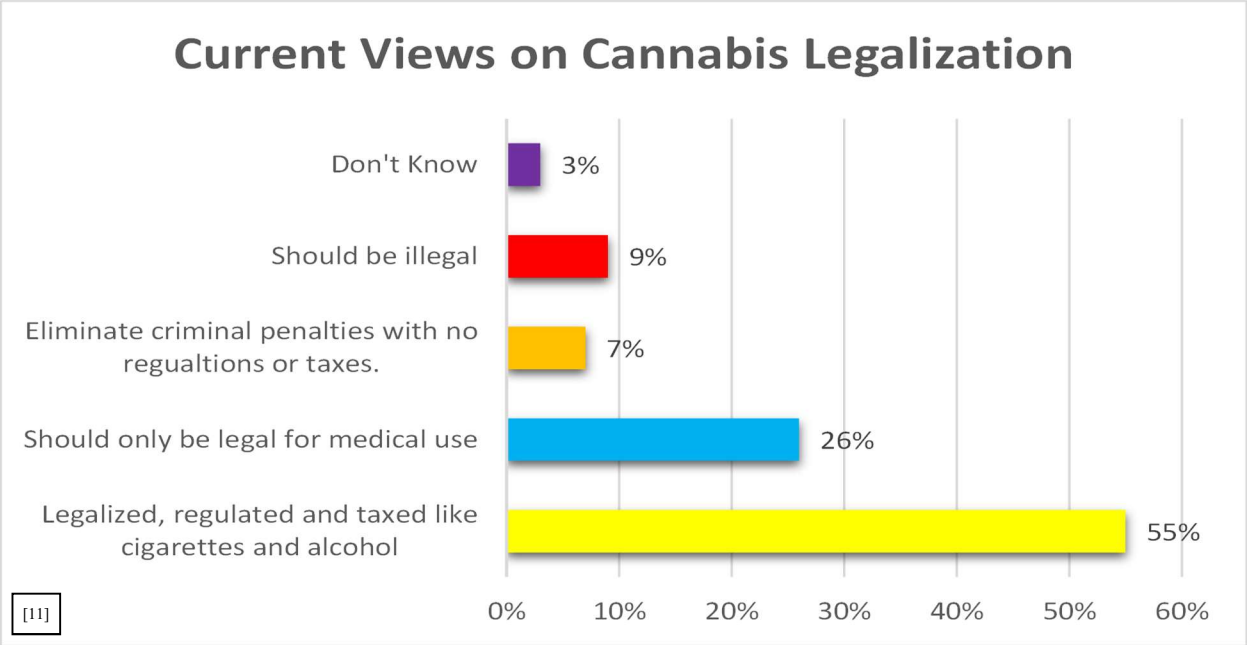
Memo 2: James M. Cole wrote a follow up memo in June 2011 entitled: "Seeking to Authorize Marijuana for Medical Use" [9]. Deputy Cole reiterates that it is the commitment of the Department to enforce the CSA and then goes on to say that the Ogden memo <u>does not</u> shield enterprises from federal prosecution even if they comply with state law. Cole does state, though, that the Department agrees with Ogden's guidance in deploying resources in the enforcement of the CSA. The tone of this memo is much less supportive in the creation of the medical marijuana industry and in some ways appears to remove some of the perceived protection offered by Ogden, leaving investors in a large grey area. While Cole supports Ogden's premise that the federal government's limited resources should be focused on areas where it could do the most good, the explicit statement that the Ogden memo is not a defense for MRBs operating legally on the state level supported the CSA much more heavily.

Memo 3: Two years later Cole released a second memo, "Guidance Regarding Marijuana Related Financial Crimes" [10] which listed eight priorities for prosecutors and law enforcement to focus on when determining if the CSA should be enforced. The memo indicates that before pursuing prosecution law enforcement should ascertain whether the business in question is implicated in the following eight items:

1. Preventing the distribution of marijuana to minors
2. Preventing revenue from the sale of marijuana from going to criminal enterprises, gangs, and cartels
3. Preventing the diversion of marijuana from states where it is legal under state law in some form to other states
4. Preventing state authorized marijuana activity from being used as or pretext for the trafficking of other illegal drugs or illegal activity
5. Preventing violence and the use of firearms in the cultivation and distribution of marijuana
6. Preventing drugged driving and the exacerbation of other adverse public health consequences associated with marijuana use
7. Preventing the growing of marijuana on public lands and the attendant public safety and environmental dangers posed by marijuana production on public lands
8. Preventing marijuana possession or use on federal property

Although, the memo was again clear to point out that marijuana is still considered a dangerous drug and that the Department is committed to enforcing the CSA the overall tone shifted back to one of acceptance of medical marijuana, a change from the 2011 memo. The 2013 memo also states that the Department's limited resources should be spent in areas that violate the above eight guidelines. For cultivators, refiners, and dispensers that follow the above conditions there should be limited fear of government reprisal if it follows the guidelines presented. Finally, the memo implies that federal prosecutors should take a hands off approach to enforcing the CSA in regards to businesses that operate within the given framework.

Public perception of marijuana legalization



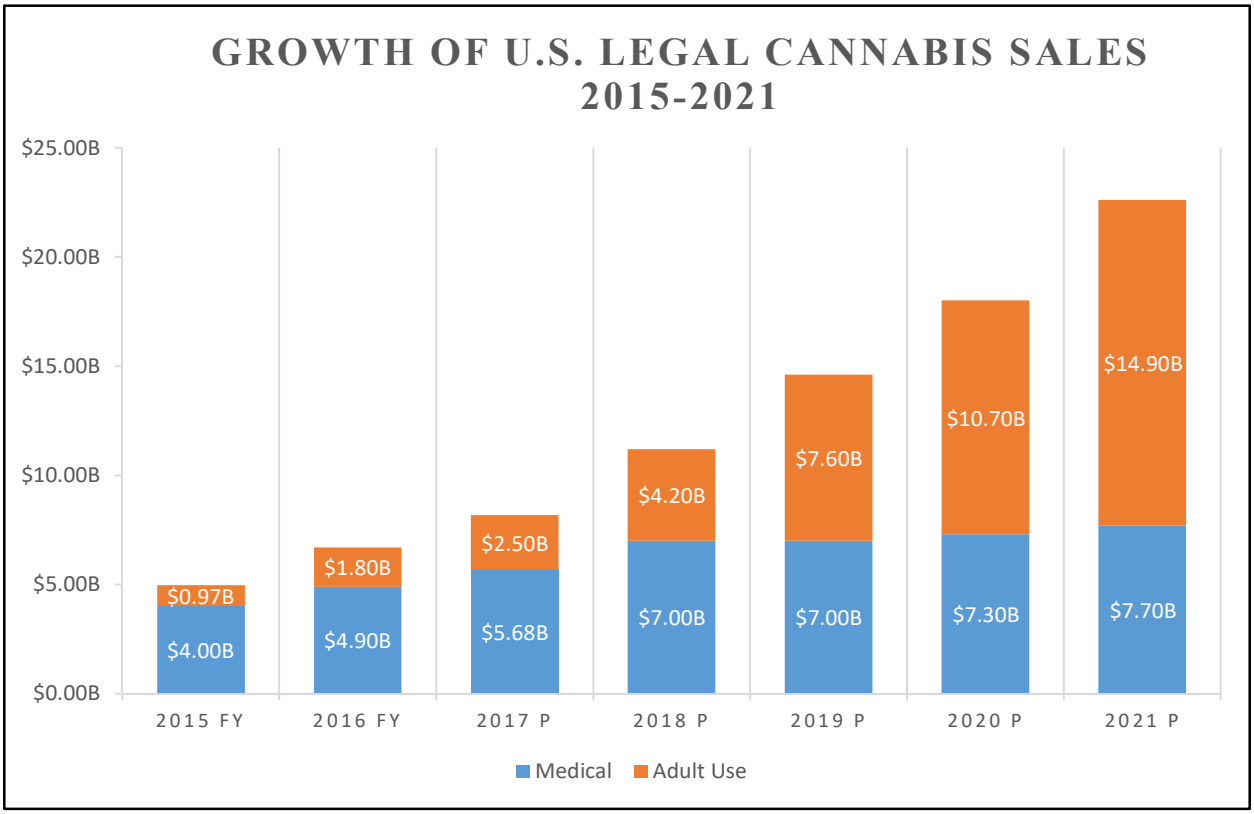
[11]

Public perception of medical marijuana use has been gradually becoming more favorable. Currently 81% of Americans surveyed by New Frontier Data and Full circle Research support legalization of marijuana for medical use, 55% said that cannabis should be legalized, regulated and taxed like cigarettes and alcohol, and only 9% that is should be illegal. As is evidenced by the recent passage of legislation and the support of 30 states a majority of U.S. citizens no longer fear marijuana as a dangerous drug and are overwhelmingly in favor of its use within the medical community. The idea that marijuana acts as a gateway drug has been safely disproven and in fact is being successfully used in the treatment of opioid addiction. A recent report by the National Academies of Sciences, Engineering and Medicine (NAS) has found evidence that cannabis can be effective in treating symptoms associated with chronic pain, one of the primary reasons opioids are prescribed. Additionally a study done by the University of Georgia in 2016 found an 11% reduction in annual drug prescriptions in states that had legalized medical cannabis. Medical marijuana can help fight the opioid epidemic within the United States; in 2014 more people died from drug overdoses than in any previous recorded year; six out of every ten of those overdosing involved an opioid [12]. With the rates of death involving prescription pain medicine nearly quadrupling and $55 billion being spent in associated health costs, medical marijuana can fill a dire need.

Medical marijuana's burgeoning popularity has also been aided by the positive economic results experienced by states that have legalized markets. Over time illegal use of cannabis has dropped dramatically. Legal markets for cannabis has the potential to accomplish what the War on Drugs never could, decrease the illicit market and remove the violence associated with it. States with mature legal markets have witnessed illegal marijuana sales drop dramatically, 74% in California, 51% in Washington, and 27% in Colorado; impressive numbers when compared to the national average of 88%. [13]. States with legal markets also have an excellent engine for job growth. In 2016 an estimated 100,000 to 150,000 workers were employed in legal marijuana businesses [14]. In the case of Ohio the jobs are often in geographic areas that are underemployed and utilize land that otherwise was sitting vacant. This creates revenue for the county through several different sources: real estate, income tax, and retail taxes. Retail tax revenue has been enhanced over the last several years, in 2017 an estimated $745-$836 million in tax revenue will be generated from medical and adult use cannabis sales. Approximately $609 million of this comes from cannabis specific taxes [15]. As usage of cannabis grows, acceptance increases, and as revenue

streams expand it can be safely assumed that more states will look to enter the medical marijuana market and expand across the United States.

Medical marijuana sales and growth



The cannabis market has experienced explosive growth in recent years. In 2015 total sales were just under $5 billion; with medicinal sales accounting for a vast majority at 80.5% of sales. 2016 sales increased to $6.7 billion, for a 32% increase. Medical marijuana contributed $4.9 billion in 2016 accounting for 73% of sales that year. Estimated sales for 2017 are at $8.2 billion with medical sales contributing $5.68 billion in revenue, adult (recreational) use contributing $2.5 billion. This represents a 22% growth from 2016 and a CAGR of 18% for the last three years. Comparing 2021 projected sales to 2016 the legal cannabis market is expected to grow to $22.6 billion, medical sales to $7.7 billion, representing an incredible CAGR of 52.6% for five years [17]. Much of the growth in older, established markets has been driven by several key states. With a population of over 39 million California makes up the largest market in the U.S. accounting for approximately 62% of the total medical cannabis sales and 47% of all cannabis sales (medical and adult use) in 2015. In 2016 the state was responsible for approximately $3 billion in sales, once adult sales begin in 2018 an additional $1.6 billion is expected within the first year. Colorado and Washington both had revenues of $1.1 billion in 2016, Colorado's medical sales reaching $438 million in 2016 and expecting to climb to $663 in 2020 giving Colorado a CAGR of 20% from 2014 to 2020. In Colorado TTM sales per dispensary was $896 thousand, Oregon average sales were at $294 thousand per dispensary [18]. Moving forward areas and opportunities for new growth come in the form of new markets/states, growth of ancillary products, and innovation within mature markets.

Legal risks

The juxtaposition of legal medical marijuana at the state level and the federally mandated Schedule I classification creates the foundation of every issue moving forward. In the strictest interpretation of federal

law, citizens could be arrested for possession or trafficking, business owners and investors could have their assets frozen or seized, and the owners of land where marijuana is grown could have their land seized through civil or criminal forfeiture. Governed by 21 U.S.C. §881 and 18 U.S.C. §983 and §985 civil forfeiture is defined as:

> "[t]he following shall be subject to forfeiture to the United States and no property right shall exist in them…[a]ll real property, including any right, title, and interest (including any leasehold interest) in the whole of any lot or tract of land and any appurtenances or improvements, which is used, or intended to be used, in any manner or part, to commit, or to facilitate the commission of, a violation of this subchapter punishable by more than one year's imprisonment" [19]

meaning that any real property used to cultivate marijuana can be seized. In the event of a civil forfeiture involving real property the government actually sues the property itself, not the owner. This means that the government does not need to prove the owner is guilty of any crime, only that there is a connection between the property and the crime.

In Gonzales v. Raich (2005) the United States Supreme Court held that the federal government had the authority to prohibit marijuana for all purposes; while not explicitly stating that state laws were unconstitutional, this case reinforced the divide between state and federal law. Other legal issues to consider are intrastate trade, which is made impossible as it is illegal to transport marijuana across state lines, even if both states have legalized its use. Without the ability to conduct business nationally investors are limited in what markets they can pursue. Successful cultivators and distributors are unable to grow their businesses outside of the state they are currently operating in. Ultimately this limits the growth of the business, which forces costs up and limits margins and profits.

Current employment is also a factor as employers can fire any employee at will if tested positive for marijuana use despite that employee having a valid medical need. Even if obtained legally within that state and used within the given guidelines there is no protection under state law to employees due to marijuana's Schedule I status making it an illicit drug. If the employer decides that marijuana use is grounds for termination the employee has no recourse if he or she tests positive for that drug. This fear of loss of employment can impact the potential customer base negatively. If customers are concerned that they will lose their jobs if they use medical marijuana, they may elect to stay with traditional medicines and not participate in the new and growing market.

Lack of consistency

Businesses associated with medical marijuana also face the incongruity of legislation from state to state. While the basic groundwork for legislation are the Ogden/Cole memorandums and certain frameworks in the application process seem to be consistent from one state to another no one master application is in existence. The process for approval varies from state to state and becomes mired in bureaucracy, creating a long, slow and expensive procedure. This drives costs up for investors even before they have permission to open a facility and increases uncertainty within the investment community which makes raising capital more difficulty and expensive. Other state related issues for investors and business owners include an inability to create a business model that can be replicated nationally. Each state requires a new business methodology to succeed which limits its scalability. For example in Colorado there is no limit to the number of cultivators and dispensaries available in the state, resulting in a glut of supply with an unmatched demand. This lead to marijuana becoming a commodity product in the legal market. The high level of taxes placed on marijuana, an established black market, and the inability to grow the business in scale to match the exorbitant expenses lead to many business closing. Contrast this with Ohio, where the number of cultivators are set to 24, 12 Level I (large) cultivation centers that can grow up to 75,000 square feet and 12 Level II (small) locations that can cultivate up to 9,000 square feet. Dispensaries are also licensed through the state and only certain products may be sold to valid customers. For any business owner that would like to transition to another state he or she then faces the whole process to open all over again. New application to the state, new fees, a new framework to learn and try and survive in. The process to open

new business from state to state is highly inefficient and does not promote innovation and growth. Imagine Amazon trying to deliver goods at the best possible price if it had to operate differently within each state it delivered to. The lowest and best price could not be met.

Banking issues

Banking is an issue for many MRBs. Due to the Schedule I status many MRB's have been effectively frozen out of the banking system especially by large commercial / federal banks. By definition each banking institution is distinguished by four qualifications: charter type (commercial bank or savings institution), charter agent (state or federal), Federal Reserve membership status (Fed member, non-Fed member) and the primary federal regulator (state chartered institutions are subject to both federal and state supervision). Nationally charted commercial banks are typically large institutions that are subject to federal oversight through the OCC; for a bank of this charter to offer services to a MRB many barriers would have to be overcome: the CSA, the USA Patriot Act, the Bank Secrecy Act, the Racketeer Influenced and Corrupt Organizations Act (RICO), and other federal statutes. Due to this many of these institutions that carry a national charter and are Fed members have explicitly stated that they will not bank any business that is associated with marijuana. The main concern of these national banks is that they will lose their charter if they associate with an enterprise that deals in what is still an illegal product, despite the legality of the state the MRB operates in. These banks have gone as far as to end relationships with ancillary businesses as well, so that even if the activities of that business do not "touch the plant" the company still runs the risk of having their accounts closed.

"Carrying such large amounts of cash is a terrible risk that freaks me out a bit because there is the fear in my mind that the next car pulling up beside me could be the crew that hijacks us. So we have to play this never ending shell game of different cars, different routes, different dates and different time." [21]

-Ryan Kunkel

Have a Heart chain owner

Some community and state banks with local credit unions have begun working with MRB's, but due to the risk assumed by these institutions the accounts are typically more expensive. The fees that the MRB pays to link itself into the banking system could be spent elsewhere to help promote innovation and efficiency. Instead funds are plowed into what has become a utility for almost any other business. Sadly on top of the expense involved with banking, the services offered are often quite minimal and limited in nature. Only basic products such as checking accounts and limited merchant services are provided. This is typically a result of the Bank Secrecy Act (BSA). Banks are required to report any suspected illegal activity, which would include any transaction associated with marijuana; due to the stringent Know Your Customer (KYC) and Suspicious Activity Reports (SAR) that also must be filed it is more difficult for the MRB to conduct its business in general. As of 2016 only 301 institutions were working with MRBs, representing less than 3% of the nation's 11,954 banks and credit unions [21].

When access to the banking system has been denied an infinite number of complications arise for the MRB. Stripped of any other option all transactions are done in cash; increasing the danger of violence to both customers and business owners alike. For some dispensers literal bags of currency are moved from the business to storage sites. In some cases to pay bills grocery bags of currency amounting to over $50,000 are transported physically by owners. As Ryan Kunkel, a MRB owner stated, "Carrying such large amounts of cash is a terrible risk that freaks me out a bit because there is the fear in my mind that the next car pulling up beside me could be the crew that hijacks us. So we have to play this never ending shell game of different cars, different routes, different dates and different times [21]." Without merchant services credit card and debit card transactions cannot be processed; taxes, payroll, bills, vendors are all either paid in cash or through a money order. Last, the question of how to repay investors is also becomes a concern. Once a MRB has been financed all returns can essentially become caught in a cash loop.

An expensive business

Running a MRB can become an expensive proposition. The application and registration fees for cultivators and dispensaries can range from $250 to $100,000 with annual licensing fees costing $100,000 or more. As mentioned previously, if banking and merchant services can even be found the charges for them are typically higher for MRBs. Accounting and taxes treatment of revenue even differs. Normal expenses on the income statement cannot be treated the same way. As a MRB expenses cannot be taken against revenues due to IRS rule 280E. Written into the tax code to punish illegal businesses it states that in an illicit business operating expenses cannot be used as deductions on a federal income statement. Many MRBs end up paying an effective tax rate of 70% as a result, instead of the effective 30% rate paid by most other businesses.

OPPORTUNITIES

Rapidly expanding markets

For the investor, new state markets will offer the best opportunities for companies that touch the plant. Mature, open markets like Colorado and California offer too many competitors that are entrenched in their territories. Retaliation from incumbents would be high, buyers and sellers have too much power, and an established illicit market acting as a provider for substitute products result in lower margins and fierce competition. Established markets in more regulated states offer a better landscape for product pricing but barriers to entry are much higher, and retaliation from incumbents would be fierce here as well. The goal is to be a first mover in a regulated state where advantage could be gained before other competitors are established. There are regions where this might be possible, several state are set to introduce bills in 2018 on compassionate medical marijuana legislation including North and South Carolina.

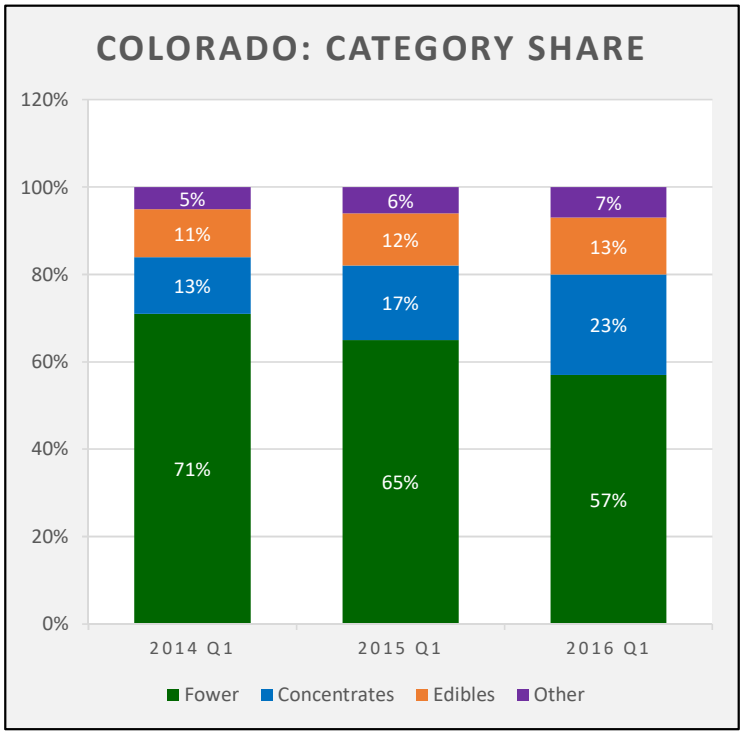
Florida is an excellent territory to consider. Recent legislation for medical marijuana passed with a 70% approval rating indicating a high level of acceptance from citizens in the state. With the fifth highest median age it is home to the largest percentage of people over 65. This means that Florida offers one of the largest customer pools for medical marijuana with its ability to treat the ailments that affect this age demographic. Projections for 2020 estimate that Florida's market will grow to $1.6 billion holding 14% of the entire medical marijuana market [22].

Because of this growing need some senior living communities have even made their campuses marijuana friendly to both residents and employees, offering educational classes to their residents so that they can make better informed choices as to whether they can treat their condition with legal cannabis and what type of products they should purchase.

Ancillary products

As an industry matures it progresses through three stages of business growth. First comes the primary product, then ancillary goods, then products that support new infrastructure and innovation. As margins narrow in the primary business a move to secondary, ancillary businesses helps diversify earnings. Players within the mature markets of California and Colorado have already begun to experience this. Cultivators and dispensaries are getting squeezed out due to oversupply, too many competitors fighting for share of wallet, and lowering of prices as traditional products become commoditized. Ancillary businesses that have experienced growth in mature markets in recent years include concentrates, edibles, consumption devices, transport and security, ag-tech, and consulting.

Analyzing recent trends in three mature markets revealed that alternative methods of consumption for cannabis experienced the greatest growth. In 2014, Colorado had over 70% of marijuana sales coming from dried flower, however by Q3 of 2016 that number had fallen to only 56%. Concentrate sales grew to $80 million moving from 13% to 22% of sales; edibles increased to 14% for $53 million of sales. Washington experienced similar results, 21% of sales were concentrates, and 9% were edibles by the third quarter of 2016. In Oregon, concentrates were responsible for 19% of the market, edibles were 7% [23]. Another method to consume marijuana is through vaping, often viewed as being healthier than smoking as there is no combustion. Brought to a slow heat in a vape pen it is able to heat bud, wax, or oil the making it very versatile. According to Eaze, a marijuana delivery business, sales of marijuana cartridges soared 400% from 2015-2016. [24]



Transport and safety as an ancillary business has grown. Due to the high street value of cannabis, the established black market, and the resistance of banks to serve MRB's many companies face many safety and security issues. As a result companies like MPS International (MPSI) provide security and armored car services to Marijuana Related Businesses (MRB's). Created through a partnership between Medical Marijuana Inc. and MPS Security this company provides armed and unarmed security for retailers and cultivators. Services include transportation of cash revenue, delivery of inventory and product, workplace surveillance and protection services.

Safety for end consumers is another area of interest. The growth of the medical marijuana industry has raised concerns over who can come into contact with the end product in the home and the dangers it represents to young children. Issues regarding the safety of storing marijuana at home, and proper labeling for customers has been addressed by companies like Kush Bottles, founded in 2010 provides dispensaries, growers, retail shops and consumers with certified child-resistant and customized packaging, labeling and point of sale items like grinders, lighters, and papers.

Cannabis is also spurring growth in data and technology. Startups are innovating ways to grow marijuana in better environments to produce a better quality product, develop better methods to ventilate and cool the greenhouses (which can be as much as 70% of costs to grow), and find ways to mine the data collected to possibly sell to other related businesses as a second revenue stream.

New product and innovation will also be an area of explosive growth. Apps that connect buyers and sellers (Eaze), social media platforms (MassRoots) that allow customers to interact and rate products, and companies focused on compliance such as Hypur will see the greatest areas of opportunity. Hypur, a company that assists banking institutions monitor customers and avoid costly penalties and fees is just one area of compliance that is developing. MRB's will find a need for firms such as these as they grow and begin experiencing the costs through non-compliance.

THREATS

Rising costs
A major threat to anyone looking to place funds in direct investment (cultivation, refining, dispensing) are the rising costs of doing business. As popularity grows the costs to license through each state is steadily increasing. What was once a $250 registration fee has grown to $100,000, with prices only increasing from there. All fees must be paid up front with the application placing a large financial burden on MRBs before it even knows if it can operate in that state. As competitors continue entering the market the cost of doing business increases as well. MRBs are forced to innovate and find different ways to offer their product to their customers, which requires investment into research and development. The cost of innovation can be high for a company that starts selling what is considered a commodity product in mature markets. Worries that the medical use of marijuana will lead to "pharmaceuticalization" by players in the industry are also a concern. If marijuana was rescheduled from Schedule I to Schedule II it could lead to a stringent and expensive FDA processes; this could invite higher competition from big pharma that then could squeeze smaller players out or be prevented entry all together [25].

Political changes
The unstable political environment is a concern as well. The current administration has given those in the medical marijuana industry much to worry about. The President has gone on record during his 2016 campaign as being in favor of medical marijuana but comments from current Attorney General Jeff Sessions put the industry on its heels. In 2016 Sessions attacked the former administration for its hands off approach and stated that marijuana was a dangerous drug that was not to be trifled with. He recently also sent a letter to Congress requesting that it repeal the Rohrabacher-Farr Amendment (The Amendment disallows the use of federal funds to go after lawfully operating cannabis businesses in states where it is legal). The inconsistency of the administration's stance give investors pause. A consistent message from Washington would do much to help the industry grow.

State and Local government should not be ignored despite how explosive the national news is. Even after a state legalizes the sale of marijuana the marketplace can still be shut down. If a kill switch is attached to legislation certain individuals, such as the state governor, could end all business; a sunset clause would allow lawmakers not to renew the legislation in a certain time period. In addition to working with the state that licenses and regulates medical marijuana each operator must also gain the approval at the municipal level as well. This can be particularly troublesome as major upfront investment must be made by companies that touch the plant; particularly cultivators and refiners have major infrastructure that they must create that will take years to deliver a positive ROI. Business owners must be cognizant of maintaining a positive relationship with the populace on a local level so that no changes in the political landscape will not affect business.

MEDICAL MARIJUANA INVESTMENT: RECOMMENDATIONS

Real Estate

Pros	Cons
• Excellent way to monetize the growing medical marijuana industry without touching the plant • Lack of bank financing has created a niche market for REIT or developers	• Possibility of civil forfeitures • Lack of financing, banks are unlikely to lend for the purpose of purchasing land to cultivate or sell marijuana • Large capital investment ○ Illiquid investment
Recommendation • Best option for non-prime real estate sitting vacant by owner	

• Invest in a REIT

For those investors that would like capitalize on the medical marijuana industry but do not want any direct association with the plant leasing property to MRBs can be very lucrative. Due to the controversial nature of the marijuana industry finding real estate for a MRB can be expensive, either to purchase or lease. Cultivators require large blocks of land to grow, and many do not have the capital to purchase land or do not want to be locked into such a large investment. Dispensaries require retail space as well and similarly may not have the funds or desire to purchase space. With the banking industry's hesitation to lend to companies that cultivate or sell marijuana a niche market for investors has been created. A business that has available space or the funds to purchase real estate has an excellent opportunity if it is willing to take on the risk.

An alternative method to invest in real estate are REITs; in the medical marijuana industry the only option listed on a major exchange is Innovative Industrial Properties (NYSE: IIPR). IIPR focuses on acquiring large (25,000 to 150,000 sq. ft.) undervalued or distressed properties and leasing them to growers of medical marijuana. It first went public in December of 2016. Initially priced at $20 the stock went as high as $20.25 and as low as $15.50 and is currently trading at around $17 ($16.92 as of 8/17/17). As of IIPR's latest 10-Q (six months ended June 30, 2017) it had one tenant in New York that represented 100% of its revenue, reported a net loss of ($1.0) million, and EBITDA of $698 thousand. [28]

Complications to consider are the possibility of civil forfeiture, (the government can seize the land associated with an illegal enterprise), high capital requirements (banks are unlikely to lend, which means that funds must come from personal sources or private investors), and the limited pool of renters available should the current tenant not meet their responsibilities (i.e. in Ohio cultivators are limited to 24 licenses, dispensaries to 40). This is the best option for a developer that has a non-prime location sitting vacant as no additional funding would be required.

Private Company: "Touching the Plant"

Pros	**Cons**
• Greatest opportunity for ROI • Public support • Emerging market, first mover advantage	• Schedule I drug: limitations working with a federally banned drug • Greatest risk • Illiquid investment
Recommendation • Good investment for those with a high risk tolerance • Look for established players that have experience in states with comparable legislation • Vertical integration is key o Profitable partnerships with ancillary businesses	

Before investing in this area the specific market the MRB is looking at entering should be carefully evaluated. Only states that have set up restrictions on the number of cultivators, refiners, or dispensers should be considered. Also strong regulations limiting the amount of cannabis available to caregivers and individuals to curb black market supply should be considered as well. The number of licenses offered is important to help restrict competition early on to give the MRB an opportunity to establish a profitable business and set up its infrastructure to establish a strong customer base. Although unlikely to occur, if a state were to legalize medical marijuana and not restrict the number of MRBs a bubble could occur. Due to its popularity too many competitors could enter the marketplace, supply could quickly out strip demand, and the marketplace could not be able to absorb so much product leading to a market crash. Over supply would also lead to marijuana becoming a commodity product to it customers. The price demanded by consumers would eventually sink below the cost of production so that an equilibrium between buyers and

sellers could not be obtained. This would force consumers to search out the product in other (illicit) markets to obtain cannabis at the desired price. This migration to substitute venues would be facilitated by an already established illicit infrastructure for the black market, the high expenses resulting from exorbitant taxes, high licensing fees and an inability to grow to scale.

If the marketplace is desirable the MRB and its team should be evaluated. The MRB should be able to demonstrate a framework that has succeeded previously in other similar marketplaces. A company operating successfully in Oregon will not have the experience required to operate in Illinois. The investor should examine the specific state regulations of the state(s) that the MRB has operated in. If the previous states are analogous then the leadership team needs to be considered. Avoiding compliance issues, avoiding fines, and having experience operating within state guidelines to avoid prosecution are only table stakes. The experience not only within the medical marijuana industry as a whole must be researched, but also its ability to transition from state to state and deal with ambiguity.

The MRB should also be vertically integrated. In an industry that is inundated with costs and fees any opportunity to scale processes should be employed. Being able to move from cultivator, refiner, dispenser will allow overhead costs to be shared, help control inventory, and allow for better bargaining when negotiating prices for transport, security, and merchant services. This holds true the most for dispensaries, where margins are tightest and the competition the fiercest.

While this segment does offer considerable upside if successful it should be noted that net losses could also easily wipe out the entire initial investment. If, for instance, if a license is not successfully obtained investors face the potential of a 100% loss without even having the opportunity to compete. Also, as is with any private investment there is the risk of transparency from management and the fact that the investment in the company is extremely illiquid.

Private Company: Not "touching the plant"

Pros	**Cons**
• Offers access to some of the fastest growing segments in the industry • Viewed as a safer investment as there is no direct involvement with marijuana • More scalable than direct investment	• Still involved in an industry that deals in an illicit drug • Lack of transparency • Illiquid investment
Recommendation • Good investment for those with a high risk tolerance • Look for leadership teams with experience in parallel ventures • Research the customer base of the business, is the market it hopes to reach sustainable? • Research the business model, is it truly scalable?	

The strength of any business that does not "touch the plant" is that there is no direct involvement with marijuana. This can help shield the business from many potential problems that other MRBs may have such as regulatory pressure and compliance issues. Companies such as O.Pen VAPE that manufacture and sell vape pens are able to operate with much more freedom within the industry despite the fact their products are associated with marijuana. Additionally, they are able to sell nationally across state lines and can grow their business to achieve scale and scope to improve sales

"During the Gold Rush, most would be miners lost money, but people who sold them picks, shovels, tent and blue jeans (Levi Strauss) made a nice profit"
-Peter Lynch, One up on Wall Street[26]

margins. Income and tax treatment is more beneficial, unlike MRBs that touch the plant companies can take operating expenses against income, lowering their tax rate and improving profitability.

Investment ideology follows many of the same tenants from those businesses that touch the plant. The leadership team should have experience within some parallel business within the medical marijuana industry. The business plan and value add from the ancillary business should be sustainable and compliment other MRBs. Increasing sales for the ancillary should also increase sales for the MRB, creating a network effect. In the case of O.Pen VAPE as more customers purchase vape pens, there should be increased sales at dispensaries, which increases demand for inventory from cultivators, which spurs expansion on MRBs into new markets, which grows the customer base for O.Pen. Counter this with MPSI, a transport and security company. Part of MPSI's transport income comes from transporting and securing client revenue (cash). Banking services have been increasing for MRBs in recent years; when banking becomes mainstream a significant portion of MPSI's income will be lost.

Public Company: Touching the Plant

Pros	**Cons**
• Smaller requirements of capital • Easier to diversify risk of investment	• Majority of stocks trade on the OTC • Transparency is questionable • Liquidity is questionable
Recommendation • Avoid investment in OTC marijuana stocks • Invest in privately held companies • Invest in large, publicly traded companies with marijuana exposure	

Most public medical marijuana companies trade in the over the counter markets. Typically these markets are less liquid, transparent and regulated than larger markets like the NASDAQ or NYSE. Issues with SEC violations are more likely in this space, greatly increasing investor risk. Lack of liquidity also increases risk, shares cannot be priced as accurately as IBM or Microsoft. Also shareholder dilution is also a major concern as most have gone public through reverse mergers and make heavy use of convertible debt. Although investment in this space would require significantly less capital, and diversification may be achieved, the negatives of medical marijuana stocks far outweigh the benefits. It is our recommendation to avoid any investments in OTC marijuana stocks.

Marijuana Adjacent Stocks

Pros	**Cons**
• Exposure to medical marijuana with reduced risk • Access to large publicly traded companies on major indices • Full transparency, high liquidity	• Medical marijuana is not the primary business • Stock will trade in conjunction with core business
Recommendation • Best investment for conservative investors looking for medical marijuana exposure • Diversify portfolio across several business lines • Look for businesses listed on major indices, avoid OTC and micro-cap stocks	

We titled this sections marijuana adjacent to reflect that the companies being profiled are large established corporations that are adding marijuana as to their focus. For those individuals that would like some exposure to the medical marijuana market but have a lower risk tolerance there is excellent opportunity to capture invest in these publically traded stocks that have started working in this space. Additionally because these are all established businesses if the medical marijuana market were to fall apart each enterprise has their traditional business to fall back on with minimal negative consequences. Two stocks to examine include:

NYSE: SMG: Scotts Miracle Grow is not directly tied to the medical marijuana industry, but many of its products are. Roughly 10% of its revenue is currently generated by medical marijuana through sales in fertilizers, soil, lighting, and after their purchase of Hawthorne Gardening Co, hydroponics. To date SMG's hydroponics sales have grown by 20% and if sales continue is estimated to reach 20% of total sales for SMG[27]. As mentioned, if the medical marijuana market were to collapse, Scott's has its lawn and garden care company to fall back on making it a very stable investment.

NYSE: ABBV: AbbVie is a pharmaceutical company with such products as HUMIRA, an injection used to treat autoimmune diseases, IMBRUVICA, an oral therapy for the treatment of chronic lymphocytic leukemia, and MARINOL, a cannabis based drug which helps with loss of appetite, nausea, and vomiting for AIDS and cancer patients. As a pharma company ABBV has seen increasing revenues in the past four years, benefiting from a host of drugs including MARINOL. Although concentrated to the U.S. ABBV is an excellent way to invest in the medical marijuana market without full exposure.

CONCLUSION

Does the medical marijuana industry resemble the California Gold Rush? Are the entrepreneurs cultivating and retailing marijuana comparable to current day prospectors, doomed to repeat the same mistakes made by those in the 1800's? While many have tried to make the comparison, it is not the case. Within the medical marijuana industry there are many differences in its creation that will assist business owners in becoming profitable. First and foremost the licensing process is becoming more selective and restrictive. By restricting the number of these licenses competition has been greatly reduced; once a licensed MRB is operating they are more likely to be able to turn a profit. Even if the state it is operating in eventually moves to recreational use or grants more licenses the MRB will have had ample time to establish itself and create a strong network and ample customer base. Additionally this restrictive environment also controls the supply of marijuana, in effect keeping it below demand and allowing favorable pricing for the players involved. Conversely, there is no guarantee of success for investing in ancillary or "non plant touching" businesses, especially for late movers. For those companies that decide to sell the picks and shovels competition will be fierce because of the size of the medical market.

The real question as to whether an investor should directly fund a private company or invest in public markets, finance a MRB that deals directly with cannabis or work with an adjacent business, has more to do with general risk tolerance and education on the particular investment than whether recent events seem to mimic those from over 100 years ago. It should be noted that care should be taken with future projections in this industry, many heavy assumptions are used to project figures beyond 2017, but in looking at the previous three years it is evident that there is indeed a viable and growing market. Privately held MRBs do operate within a significantly more grey area than public stocks, and carry much more risk, but the rewards can be substantially higher. It is up to the individual to first honestly asses what level of risk and ambiguity he or she can tolerate, then research each investment on its own merits, not based on the conventional wisdom of the public.

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REPRESENTED TRANSACTIONS

Acute Care Hospital
Texas
Acquisition Capital
Private Placement
Senior and Sub-Note
Working Capital Line
Acted as advisor

Skilled Nursing Facility
Michigan
$4,000,000
Cashout Nonrecourse Refinancing
Term Note and Revolver
Acted as advisor

Robotic Integrator
Midwest
$1,600,000
Growth Capital Term Note
Acted as advisor

Electronic Wholsaler
Midwest
Buy-side search for Geographic Expansion
Acted as advisor

GLOBALNET SOLUTIONS
2012
Multi Specialty Medical Billing Company
Sale to a Strategic Buyer
Acted as advisor

125 Acres Land
California
Real Estate
$10,000,000
Bridge and Placement of Acquisition financing
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