Medical and Recreational Marijuana: How far has it come and where is it heading?

Trends, Concerns, and Roadblocks in the Ever-evolving Cannabis Industry

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An Introduction to the Cannabis Industry

Perhaps no other industry in the United States at this time is as lucrative, and yet, as volatile, as the Cannabis Industry.

As of January 2018, 29 States, Washington D.C., Guam, and Puerto Rico have all legalized the use of Medical Marijuana for patients who have been issued a medical prescription from a licensed physician and have obtained a Medical Marijuana Registry Identification Card, and 9 of those same states and Washington D.C. have legalized the adult use of recreational marijuana for consumers ages 21 and up. Furthermore, in October 2017, Maine proposed a Bill which could have potentially seen recreational use legalized in that state by 2018 as well, but it was vetoed by Maine's Governor just a few short weeks later in November 2017. Each of these states have instituted an array of rules and regulations to control and monitor cannabis related production and sales with high tax burdens, steep state and local application and licensing fees for approved cultivators, processors, and dispensaries, and with strict rules on the types and amounts of regulated product that can be sold to one patient/consumer at a time.

The "legacy" states that have approved some level of legalized production and use prior to the last couple years, such as Colorado and Washington state, have seen significant growth in the amount of cultivators, producers, dispensaries, and retailers that serve consumers. Since these two states kicked off recreational use in 2014, both markets have witnessed exponential growth in production and sales, coupled with an extremely dynamic and evolving landscape in what constitutes an optimal business model, particularly in light of the continued extraordinary tax burdens and increased specter of federal intervention. The recent recall of the Cole Memorandum by Attorney General Jeff Sessions in early January 2018 has sent a renewed chill throughout the industry as owners and operators await the next move in the ongoing dance between the voters' decisions, the states' rights, and potential intervention by the federal government.

We have also witnessed great change in terms of the ever-evolving types of grows (indoor, outdoor, greenhouse, hydroponic, environmentally contained, …), technologies (cloning, extraction[1], lighting, climate controls…), branding, and types of cannabis products (flowers, edibles, tinctures, oils, topicals, and concentrates…) that are continually streamlining the efficiency of producing cannabis products, as well as fine-tuning the means by which consumers smoke/consume cannabis, and the strength, purity, quality, and consistency of cannabis products so that consumers continue to have access to the best strains and effects possible, whether it be for medicinal applications or for recreational use.

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[1] Even within subsets such as extraction technology, winterization and other procedures continue to evolve rapidly as does the equipment and infrastructure needed to optimize the overall process. Isolating THC and CBDs from the terpenes and other byproducts can be done in different ways and the market is exerting tremendous pressure to achieve ever better results, faster and cheaper than the month and year before.

These states have also seen tremendous economic windfalls in terms of the excise taxes on regulated taxable sales, as well as from licensing, testing, and related fee revenue. In Colorado alone, from January 2014-December 2017, the state has collected combined excise tax, license fees, and associated other fee revenue in excess of $618 million. The first $40 million of these Colorado cannabis industry taxes have gone into a fund known as BEST – the Building Excellent Schools Today fund, which has funded new school construction mostly in rural Colorado districts with struggling tax bases. A large portion also goes into funding for the Colorado Department of Public Health earmarked to address social issues associated with cannabis and other drug abuse.

Washington State reports that in the fiscal year of 2016 alone, it received marijuana income and licensing fee revenue totaling $189 million.

And, yet, the plant and its use is still federally illegal, and many states place such extreme fees and regulations on retail and cultivation that there will undoubtedly develop more of a trend toward monopolization within those state's markets, such as the New York medical market, for example, where initial licensing was limited to just five cultivators, each with a right to four dispensaries, versus the more free market approach advocated in states such as Colorado, where application fees are relatively low with abundant competitors in most sectors.

There are currently numerous federal marijuana policy reform efforts taking place and multiple acts that have been introduced into the senate in early 2017, such as H.R. 975, the Respect State Marijuana Laws Act, H.R. 227, the Ending Federal Marijuana Prohibition Act of 2017, S. 776, the Marijuana Revenue and Regulation Act, H.R.s 1823 and 1841, the Marijuana Tax Revenue Act and the Regulate Marijuana Like Alcohol Act, H.R. 1820, the Veterans Equal Access Act, and more, but until marijuana is legalized and decriminalized on a federal basis, there will always be the threat of federal intervention on a local and state level. Senator Cory Gardner (R-CO) introduced an amendment to the recent tax reform legislation to repeal the impact of IRC Section 280E and to allow banking for the industry but this did not survive the conference committee version of the law that has now been signed into law by President Trump on December 24, 2017.

Just after AG Sessions' announcement on withdrawing the Cole memo in early January 2018, Senator Gardner stated he will move to slow down the approval of Department of Justice appointees, apparently as punishment for what Gardner says was an implied promise by AG Sessions during his Senate confirmation hearings to stay the course, as outlined by the Cole guidance. More will be heard on this in the coming weeks and months as the industry tries its best to comply with the will of the people, at least as mandated at the state level, as well as to continue to adhere to all applicable rules and regulations set forth by their individual states, while trying to avoid stepping on the toes of federal agencies, prosecutors, and lawmakers.

If dispensaries and cultivators aren't especially careful to follow the ever-changing laws and regulations set forth by their state and local municipalities, they run what appears to be an increased risk of investigation and raids, licensure suspension, and even possible arrests and legal action by federal agents and prosecutors.

In Illinois, fees for licensure and operation are so steep that very few individuals and businesses will ultimately be able to participate in the state's cannabis industry. They issue only two separate types of licenses- one aimed at combined cultivation and processing, and the other at medical marijuana dispensaries. As of 2017, the fees for combined cultivation and processing include, but are not limited to, a one-time Cultivation Application fee of $25,000, a First-Year Cultivation Fee of $200,000, and an Annual Cultivation Fee of $100,000 for every year thereafter. So few cultivators will be able to afford such high fees initially, on top of their already steep startup costs, that only the very few that can will be successful and therefore benefit immensely from the licensing and fee structure of that state, creating a monopoly within the state with a bias toward larger, well-funded, financially savvy operators.

Of course, this is all unfolding with the current limitations on intra-state commerce in the cannabis trade under the federal restrictions, where we are seeing these well financed operators moving to secure licenses in multiple states, some after expanding significantly in one or more of what some are now referring to as the legacy states of Oregon, Colorado and Washington state. Economies of scale are no different in this industry wherein consolidation of smaller well-run operators, with appealing product concepts, proprietary processes, skilled cultivators and/or good locations, are being rolled up into larger enterprises, where efficiencies in cultivation, processing and distribution can all provide a competitive advantage, both in terms of economic returns and in terms of brand building.

Good examples include Native Roots, LivWell and Green Solutions, among others in Colorado, and Nectar Cannabis in Oregon, where there are over 500 and 300 licensed dispensaries, respectively. In regard to the edibles segment, giants such as Dixie Elixirs, based in Denver, are causing radical disruption to this segment, as the market preferences for concentrates and other non-inhaled forms of cannabis continue to outpace sales of cannabis flower.

The technical advances within the extraction segment are incredible, with patents being issued and entities like Evo Labs making waves in the industry with sophisticated techniques to process and blend extracted THC and related by-products into an expanding array of smartly packaged consumer end products. Native Roots recently announced the grand opening of a fully integrated facility aimed at allowing the enterprise to fulfill all aspects of its core business, including cultivation, MIPS processing, and medical and recreational dispensing with only limited requirements from third party vendors. Of course, product testing still must be done by independent labs.

At some point, many in the industry believe changes will be made to the federal restrictions through legislative initiative or through the courts, and when this occurs, intrastate commerce may follow, subject, of course, to whatever federal restrictions are required. We are already seeing significant activity by investors and investor groups establishing licensed operations in multiple states and even in jurisdictions outside the United States.   Some of these investors are betting on the advent of intrastate commerce as a means to position themselves for economic gains when this occurs. The same can be said for Canadian cannabis operators who are eying US markets as well.

Finding Success in the Cannabis Industry- Decisions, Decisions, Decisions

It would seem that there is incredible opportunity for those able and willing to invest in business opportunities in Cannabis to find success, understanding from the front end the long, arduous, and financially burdensome process of getting from concept, to development, to profitability. Using the cultivation segment as an example, one must take into account many different factors including obtaining licensure and funding for startup costs (including designing and building a facility, investing in technologically advanced grow systems, deciding what types of product(s) you aim to produce and sell, etc.), operational costs dependent on operation type and market served (to include energy use, staffing, branding, marketing, etc.), utilizing the most profitable cultivation methods and use of your product (whether it be as high quality flower or as other types of cannabis products, such as the move to concentrate production), keeping up with industry trends and saturated marketplaces, and much, much more.

A major hurdle to having success in the Cannabis Industry is first discovering what aspect of the direct industry a potential investor would like to pursue. Leaving the burgeoning support sector of the cannabis industry aside for the time being, let's focus on what some refer to as the plant touching segment of the overall cannabis economy. Cultivators, producers, dispensaries, and/or retailers are typically the 4 main parts to a cannabis supply chain- keeping in mind the many different and increasingly overlapping aspects within the industry, including the rapidly evolving competitive landscape, the ability to obtain licensing and pay state and local fees, and even the fact that many states only allow for vertical integration or “stacked” licenses within cannabis operations, such as New York state. This means that license holders are required to grow, process, and dispense, in some cases, all of their own product, tracking the product seed to sale, whereas other licenses in other states may require that license holders only participate in certain aspects of a cannabis supply chain, focusing on one area like wholesale cultivation in particular.

Then, there are many different methods and varying technologies that must be decided upon within and relevant to each aspect of the industry a licensee decides to pursue. For example, if a company decides to pursue wholesale cultivation, they must decide on the type of grow, certain technological necessities based on the operation, the type and quality of products they want to produce, and how they plan to create and maintain the required quality of product, keeping in mind that currently only California, Colorado, Connecticut, Illinois, Nevada, New Mexico, Oregon, Washington D.C, and Washington State allow for wholesale cannabis sales.

In other words, this means that a wholesale cultivator needs to decide whether they will grow indoors, outdoors, in a greenhouse, or a combination of. They will need to evaluate several critical environmental and logistical elements in order to maximize efficiencies. Optimizing plant flower and trim production/quality requires the sophisticated use of special lighting and light deprivation technologies, advanced applications of cooling, heating, and dehumidifiers, high tech climate control systems, air cleansing, and a dedicated source of sufficient water and soils. All of this is highly dependent on geography as well, such as whether or not the cultivation facility is located in a rural versus urban area, and whether or not there is abundant natural sunlight, among other factors, such as average high and low temperatures for outdoor and greenhouse based grows. Two big factors driving change in the cultivation sector are: the move to rural locations where there is less competition for space, often with abundant water and lower issues with odors; and a focus on areas where there is a temperate climate and abundant natural sunlight to capture significant energy savings.

How many harvests do they intend to produce a year? The company will need to decide the type of product they intend to distribute. How much of their sales will be flower? How much will go towards other products such as oils or concentrates? Will they produce their own concentrates in house or will they outsource that job to another company, and if they do produce that product in house, what kind of equipment will it require and who will operate it? How will the quality be independently tested? Lastly, an operator will need to determine the targeted quality of the product they will need to produce regularly to optimize profitability and eliminate product waste in an industry that constantly demands a careful balance between the highest quality flower product possible versus the highest output of desired concentrates.

All of this must be done in an industry where technical obsolescence is a huge risk. In Colorado, for example, large investments in moderately sized urban warehouse grows made at the onset of legal cannabis are becoming unsustainable, as the market moves to large scale wholesale grow facilities, many in rural areas, where operating costs can be a third or fourth of what the urban competitors are paying. Shifts to LED lighting and natural light sources alone are causing significant disruption to this segment, and all of this is happening with the backdrop of possible future competition in this segment from California and even Canada and other foreign countries, if and when restrictions on intra state commerce are relaxed with a repeal of 280E and modification of the restrictions under the CSA.

<u>The Cost of Doing Business in the Cannabis Industry- Spotlight on Cultivation</u>

Based on data from Marijuana Business Daily's Marijuana Business Factbook 2017, an indoor grow facility traditionally requires the highest startup costs in the industry, averaging $75/square foot. As an industry average, a typical indoor grow operation typically costs $350,000 for initial startup costs, upwards of 70% of which are usually from the costs of equipment, real estate, and renovation. Once operational, these facilities average about 18,321 square feet in size and require annual operating costs of $4.71/square foot per month. These grows have the highest demands of all others in terms of lighting, dehumidifiers, climate control, watering etc., making this type of grow operation the costliest as compared to other alternatives. And yet, they also tend to produce the highest quality product due to the highly advanced technological operating systems they employ, coupled with the ability to optimize and control the growing environment. This, in turn, provides the highest revenue return on product of the alternative growing options.

On the other hand, as an industry average, an outdoor grow operation typically costs $127,500 for initial startup costs, averaging only $18/square foot, and only about 60% of these costs are for equipment, real estate, and renovation, based on 2017 statistics and figures. Once operational, an outdoor grow will average about 38,700 square feet in size and require an operating cost of $1.18/square foot per month, a significant advantage over an indoor grow. These outdoor grows typically require very little extra to operate due, in large part, to their use of their physical environment. Owners may need to consider factors such as watering and pest control, and, most importantly, will likely have far fewer harvests per year, but can still be very successful at cultivation with very little. An indoor facility may be able to have 5 or 6 harvests per year, while an outdoor grow will typically have one annual harvest or possibly two, unless in a unique location like Hawaii.

Lastly, greenhouses have become wildly popular in the last few years as efficient and very successful environments for cultivators to grow their crops. These facilities also leverage off of decades of experience as large commercial growers of other cash crops including flowers and produce. They are fast approaching, if not exceeding, indoor grows in their initial startup costs, and yet, they are far cheaper to operate per square foot per month once operational. Greenhouses have the advantage to produce more harvests, while being less dependent on environmental factors, while protecting the quality of the plants from mold, mildew, and pests, and with far less energy consumption than as is typical with an indoor warehouse or outdoor grow operation.

A greenhouse grow operation traditionally falls within the median startup costs in the industry, averaging about $30/square foot. That being said, most greenhouses are not being acquired through real estate transactions, but instead are being built from the ground up, and therefore can accrue significant startup costs for buildout, raising the average startup costs much higher than previously mentioned. Greenhouse design is an important consideration with the two primary choices being based on North American versus Dutch (Venlo) designs, neither of which are particularly cost effective to build, but provide cheaper operating costs and increased yield in terms of harvests. Both designs have their own sets of pros and cons when considering overall style, covering options, automation systems, material handling systems, and considering the individual types of crops desired and their required growing environments.

The Dutch, or Venlo, model is known for its' glass exterior which allows for the maximum amount of direct and natural sunlight, being airtight allowing for the maximum amount of CO2, and state of the art shading screens which are optimally placed to reduce shadows. It is also taller and comprised of multiple, individually opening peaks for ventilation, which reduces environmental fluctuations, causing less stress on the plants contained within. The biggest issues with this type of Greenhouse is that it is typically designed with the environment of the Netherlands in mind- below sea level, cloudy, and a consistently smaller amount of sunlight year-round. This means that growers generally must adjust their crop(s) to meet the constraints of the Greenhouse, although they are typically quite customizable with use of their automation systems.

North American models of greenhouses, alternatively, are known for being more concerned with snow loads and season reliability, are typically stronger and withstand more severe weather, particularly those built from American Steel, and have grown by leaps and bounds in terms of building materials, employing, in some cases, twin walls made from durable acrylic materials that make these structures very airtight as well. Shade screens can vary, but are generally very customizable. Overall, North American greenhouses are more adjustable to grow location and climate. This means that, opposite from the Dutch models, growers can adjust the greenhouse to meet the needs of their crop(s), but again, this also depends on automation system and the material handling systems employed. As seems to be the ongoing trend with every aspect of the cannabis industry, cultivators will ultimately have to decide what works best for them and must be willing to grow and change along with the trends of the industry.

Typical greenhouse grow operations that build from the ground up are costing owners, in some cases, initial startup costs into the millions. 2017 statistics and figures average that number at roughly $1.275 million nationally, although it is important to keep in mind that these operations are typically in rural areas, have access to water, and are much larger in size than most indoor operations, which means larger grows once operational and larger yield, which ultimately lends itself to higher profitability, as well as a shorter time to profitability. Upwards of 75% of a greenhouse's startup costs are usually from the costs of build-out, equipment, and real estate in terms of land acquisition, also based on 2017 statistics and figures. Once operational, they typically average about 39,429 square feet in size (although, more recently, some have averaged over 100,000 square feet) and require an average operating cost of only $0.53/square foot per month. This is because these greenhouses typically have greater access to land and water, require less energy to operate, and use natural lighting, but aren't as susceptible to environmental factors as is an outdoor grow such as pests, bad weather, and plummeting temperatures, dependent, of course, on where the facility is located.

No matter the type of operation, each one will have to address factors such as soils, chemicals, or a lack there of, fertilizer, watering systems, the quality and reliability of a sustainable source of quality seedlings and clones.

All that being said, there is no absolute “normal” in this industry and whatever might be considered normal or indicative of best practices, can quickly be overtaken with advances in technology or due to other external forces such as regulatory oversight and rules. Every operation in the cannabis sector will be different from the next and will have a long list of what works for them and what doesn’t, particularly since the industry is still so young and the rules and regulations and demand currently vary so drastically from state to state. Much of the industry currently, and necessarily, therefore must take on a “trial and error” business model.

There is also some validity to the growing consensus that the industry will bifurcate between the “high end, highest quality product possible” segment, serving the “Cannasseur” of the cannabis market, versus the operators that choose to serve the broader market with what one individual labeled the “Gallo or Two Buck Chuck” mass market. Furthermore, there is also a growing sense that the cultivation segment of the industry may well evolve much like the winery industry, with some high-end producers and brands serving a targeted high-end segment of consumers, while other producers may focus more specifically on consumers still seeking a quality product, but at a more affordable price. Success may depend on branding as much as anything else, much like how labeling and brand building has evolved in the wine segment.

The Steep Cost of Starting Out- Licensure and Fees

As evident with the current fee structure in the state of Illinois for medicinal marijuana, licensing and registration fees are a massive hurdle in some jurisdictions for investors trying to break into the Cannabis industry. In most cases, fees are typically lower for medical marijuana than with recreational adult use marijuana, but that can vary widely from state to state, as can the ownership rights and restrictions from state to state pertaining to different types of operations and licensure.

Most states break their licensure fees down by recreational versus medical (that is assuming the state allows for recreational sales), then by types of business- typically cultivation, manufacturing, testing, dispensaries, transportation, and caregivers- and then has established fees that vary from group to group, including fees for Application/Registration, 1st Year Operational Fees, which is separate/different from the Annual Fee/Renewal Fee, Inspection Fees, and, lastly, Employee Registration Fees and Badging Fees. Even medical patients themselves can be charged annual/renewal fees for continued use of their medical card. Extreme differences can also exist with respect to how and where individuals apply for medical use, wherein some jurisdictions require a patient to obtain a medical card from a licensed doctor that they already have a patient relationship with while other states allow independent, appropriately licensed physicians to screen and approve individuals for medical marijuana cards.

As of the date of this article, the following states recognize out of state medical marijuana cards, but some have limits with respect to whether a dispensary can choose to honor out of state cards or if the card just gives the right to use cannabis for a medically prescribed condition versus being able to acquire product as an out of state visitor:

- Arizona
- Hawaii
- Pennsylvania
- Michigan
- Maine
- Rhode Island

- Nevada
- New Hampshire

Other differences between states can be drastic. Take Cultivation fees for example. In Colorado and Washington State, both of which allow for Medical and Recreational Marijuana, and both of which have the most mature markets in the industry, you also have two of the lowest cost fee structures in the country for cultivation. Currently Colorado has over 500 licensed cultivation licenses outstanding, while Oregon has in excess of 300.

Both states now allow for horizontal integration, instead of only requiring vertical integration, meaning that cultivators are not required to own and operate their own dispensaries in order to sell a mandated proportion of their own product and vice versa. Initially this vertical integration requirement was put in place with the thought that it would be easier to regulate the industry if the same licensed operators where involved in both the cultivation and the sale of cannabis. But with the rapidly expanding market and, more importantly, the evolving approaches that have now become available to optimize cannabis cultivation, larger wholesale facilities have become the norm, or facilities that produce product specifically for other applications, such as concentrates and oils, and because they do not have to focus on the sales end of the business, they can focus more of the production of a higher quality product to meet the demand of the local market.

This is interesting because at roughly $1200 in Washington State and $3800 in Colorado, it has become quite easy for cultivators to obtain licensure to produce product, and yet, at the same time, there has become such an incredible influx in grow operations in these states, and such an increase in available product, that it has driven the cost per pound down, while demanding no loss in the quality and strength of the product. This means that even though the cost of getting into the industry is low, the requirements of quality and consistency come with a heavy price tag that makes profitability slow to come to for many businesses in a very competitive market. Layer on top of this the external influences of how the excess space available in many markets just after the Great Recession of 2008-2010 played heavily into the use of industrial warehouse and distribution space as grow facilities, often with a significant investment in adding power, HVAC, and security. With an improving economy, these same facilities are now often challenged to justify the rent and overhead burdens, as compared to newly constructed state-of-the-art facilities, often in more rural areas where issues such as odors and neighbor spacing requirements are less of an issue.

This is quite the stark contrast from the licensure fees in, say, Illinois or New York, that were discussed earlier, where licensure and product development is currently limited to very few. Illinois cultivators may be asked to pay upwards of $834,000 for licensure, not to mention be able to obtain a $2 million bond. New York had limited the number of licensed cultivators to five initially, although efforts are underway to allow another five to be added, each with the right to operate up to four dispensaries. And, because the state industry promotes vertical integration, cultivation businesses that should choose to pursue both licenses for Cultivation and Sales will not only have to incur the expenses of starting and operating a large capacity grow operation but will also have to incur the expenses of opening and operating their own dispensaries, processing, and creating their own product, and more. The positive side to this kind of structure for the business owner is that, for those able to afford startup and operational costs, and survive long enough to see profitability, they will undoubtedly benefit from the monopoly within their respective markets, with some level of control over costs, diversity of products produced, and related demand. At the same time, this high fee structure keeps many from being able to participate in the success of the cannabis industry in these jurisdictions. The pros and cons of this will be discussed in more depth towards the end of this white paper.

<u>Taxation- Making Profitability Hard to Come by for Legitimate Businesses</u>

As if state licensure fees weren't enough, it is important to mention the issues of State and Local Taxes, as well as the impact of 280E. The added economic burdens under these combined federal, state and local taxes have proven to be an incredible hurdle for even the most successful cannabis operators nationwide.

Taxes are typically broken down into two groups, Medical and Recreational, and each group is then taxed accordingly depending on the state and, in some instances, the local jurisdiction. Medicinal Marijuana is typically taxed three times. It is first taxed an Excise Tax, which is a tax paid to the cultivator by the purchaser of the regulated product, and is then passed on to the state by the Cultivator. This tax varies from 4-37% depending on the state. The product is then normally subject to a state level excise tax by the retail distributor, which is a tax paid to the distributor by the Patient, and passed on to the state from the distributor. This tax varies widely by state and can be as much as 20%. Lastly, in many cases, it is also subject to state and local sales taxes, which is a tax paid to the distributor by the Patient, and passed on to the state and local governments from the distributor, varying from 6-9%.

Recreational Marijuana can typically be expected to be taxed the same taxes, Excise, State, and Local, but at much higher rates. It is first taxed the Excise Tax, the tax paid to the cultivator by the purchaser of the regulated product, and then passed on to the state by the Cultivator. This tax varies from 15-37% depending on the state. The product is then subject to a state level excise tax by the retail distributor, which is the tax paid to the distributor by the Consumer, and passed on to the state from the distributor. This tax varies from 5-17%. Lastly, in many cases, it is also subject to state and local sales taxes, which is a tax paid to the distributor by the consumer, and passed on to the state and local governments from the distributor, varying from 1-15%.

Let's put that into perspective. That means that if a pound of marijuana sells for $2,000 from the cultivator, the distributor expects to pay anywhere from $80-740 in applicable taxes, depending on the state and market he serves, which the cultivator is responsible for paying to the state. That same distributor then turns around to sell that product, and must sell that same pound for anywhere from \$2,080-\$2,780 just to break even. That's between \$4.58-6.13 per gram. That gram, let's take the average of the two at \$5.35, for all intents and purposes, is then taxed not once but twice by the distributor, anywhere from \$0.25 to \$0.90 per gram for State Taxes, and \$0.05 to \$0.80 per gram for local taxes, paid to the distributor by the patient/consumer, which the distributor is then responsible for paying to the state and local governments. At 453.59 grams per pound, state governments are set to make anywhere from \$113.39-\$408.23 per pound of marijuana sold, and local governments are set to make anywhere from \$22.67-\$362.87 per pound of marijuana sold[2]. Keep in mind, this is assuming the Distributor sells that pound at a rate that sees him breaking even on the purchase price and taxes of the marijuana alone. It does not consider the distributors need to raise the price per pound of marijuana to cover the purchase price AND to cover his own expenses AND to attempt to return a profit.

With roughly 148,000 pounds of marijuana flower alone sold by dispensaries in Colorado to patients/consumers per year in 2014 & 2015, numbers that very likely increased through 2016 and 2017, not to mention an increasingly crowded marketplace that is driving down the price points for consumers, while driving up the costs of operations, it's safe to say that the federal, state, and local governments are the only ones consistently making a profit from medical and recreational marijuana.

To further drive home that argument, it is important to mention Section 280E of the IRS's Federal Tax Code and how it continues to create an impossible situation for Business Owners in the Cannabis Industry. Because marijuana is still federally illegal, it presents a special set of issues regarding taxation on the federal level.

Section 280E of the Internal Revenue Code, originating from a 1981 court case involving a convicted Minnesota based cocaine dealer, Jeffery Edmundson, who

[2] We have bounced between costs per pound and price and taxes per gram here but it is partly due to the nature of the business wherein cannabis is priced and sold wholesale by the pound, but often priced and sold at the retail level by the gram.

invoked his right to deduct business expenses from his illegal drug enterprise, essentially forbids businesses that are related to "the trafficking of Schedule I or II substances under the Controlled Substances Act" to deduct ordinary business expenses aside from the Cost of Goods Sold (COGS). Even though cannabis is legal on a state level in many states and jurisdictions, cannabis is still considered a Schedule I substance at the federal level. Thus, for every cannabis transaction, any payment made is subject to tax without the ability to deduct ordinary and necessary business expenses other than the direct cost of the product itself. The ability to deduct COGS is derived from the definition of gross income under IRS Code Section 61 which defines gross income as total income, less the direct costs incurred to produce total income. This rule itself has created a lot of controversy due to other IRS Code Sections, namely Section 263(a) where certain overhead costs are mandated to be included in COGS for most manufacturing and related industries. This is not allowed for the cannabis industry as the IRS has ruled that this code section cannot be used to convert what would otherwise be a non-deductible expense into a deductible expense as the CSA and Section 280E pre-date Section 263(a).

What this mean for owners and operators in the Cannabis Industry is that, essentially, they are taxed at a rate sometimes upwards of 70% or higher because they pay taxes on their gross income, instead of their taxable income, meaning, in layman's terms, they are taxed nearly double the amount that their business actually makes. Broken down, this tax code looks like this:

For sake of an example, let's assume, a non-cannabis business has a yearly gross revenue of $1,000,000. After deducting the COGS (Cost of Goods Sold) of $350,000, the business is left with a gross margin of $650,000. That business then deducts any applicable business expenses. Let's say that amount is $450,000, then the remaining taxable income is $200,000. That company will pay taxes of only $60,000 for the year, at an effective tax rate of 30%.

Now let's look at the cannabis business that has the same gross revenue, costs, and expenses. The cannabis business also has a yearly gross revenue of

$1,000,000. After deducting the COGS (Cost of Goods Sold), the business is also left with a gross margin of $650,000. That cannabis business, however, is not allowed to deduct any applicable business expenses from their gross margin. That means that for federal tax purposes their taxable income is the same as their gross margin, $650,000, while their actual net income is the same $200,000. This company will pay taxes of almost $195,000 for the year, at an effective tax rate of nearly 100% of their actual taxable income after business expenses, meaning they are only set to profit $5,000 to the other companies $140,000. This example excludes the impact of state income taxes where the expenses that are not available for deduction at the federal level are allowable for computing state level tax burdens.

Example of 280E Federal Taxation in Cannabis Industry Related Businesses versus Non-Cannabis Businesses

	Non-Cannabis Business	**Cannabis Related Business**
Yearly Gross Revenue	$1,000,000	$1,000,000
COGS (Cost of Goods Sold)	$350,000	$350,000
Gross Margin (Revenue minus COGS)	$650,000	$650,000
Applicable Business Expenses to be Deducted	($450,000)	*Federal deduction of Business Expenses in the amount of $450,000 disallowed as mandated by 280E for Cannabis Businesses* $0
Remaining Net Taxable Income	$200,000	**$650,000**
Effective Federal Tax Rate	30%	30%
Taxes Owed	($60,000)	($195,000)
Net After-Tax Cash Flow	**$140,000**	**$5,000**
		(Non-Cannabis Business Net Taxable Income, Less Cannabis Business Taxes Owed- $200,000 - $195,000 = $5,000)

Considering these common taxation issues, as well as the steep licensure fees and start-up costs mentioned above, not to mention the rapidly changing market prices for cannabis products in many mature markets, it seems fair to say that time to profitability for many smaller operations is increasingly prolonged, making the cost of doing business in a sustainable fashion especially burdensome for some business owners.

The Cost of Doing Business in the Cannabis Industry- Operational Costs vs Revenue, and Where to Park it all When You're Profitable

On top of all the other financial burdens that have been discussed previously in this article, from licensure fees to taxation to startup costs, it is important to emphasize and pay close attention to the ongoing costs of capitalizing and operating a cannabis business and the average time to profitability, so that an investor in this space has a realistic idea of the timeframe and the commitment they are truly making when evaluating any level of financial commitment to this industry. For the sake of consistency, let's look at the median operational data, revenue, and time to profitability for cultivators, according to Marijuana Business Daily's 2016 and 2017 Factbooks.

A cultivator who is fully operational will have a facility averaging 6,000 square feet for an indoor grow operation, 13,250 square feet for an outdoor grow operation, 38,000 square feet for a greenhouse, and 8,500 square feet for a combination method grow operation. They will operate with an average of 6 employees, and have median annual operating costs per square foot of $30.00. Their median annual operating cost will be roughly $240,000.

Now, let's look at revenue and profitability. As of 2017, according to the Marijuana Business Daily Factbook, 68% of cultivators in the industry nationwide have reached profitability, meaning the other 32 % have not, although this number seems rather high. The average time to break-even/time to profitability for cultivators is anywhere from 6-12 months once the facility is fully operational. Once profitable, a cultivator in the industry has a median annual revenue per square foot of $55.50, and a median annual revenue overall of $599,375. That means their Gross Income averages $359,375- the difference between their annual median operating costs (COGS) and annual revenue- or $25.50 per square foot, keeping in mind that this number will be considered taxable income, and will be effectively taxed upwards of 70%. The average wholesale cultivator net profit margin is only about 30%, and this is, of course, only once the enterprise has reached profitability.

And then, there is the issue of Banking! A major hurdle for many years has been an extreme lack of banking options for those doing business in the medical and recreational marijuana industry. Operating any business, with a desire to be compliant with all laws and regulations is challenging enough, but to do it without access to traditional banking services creates extreme risk and challenges. Whether it be paying operating expenses as they come due, complying with payroll rules on payroll tax deposits, controlling and accounting for sales in a high-volume cash transaction environment or seeking loans for infrastructure and working capital, a lack of banking services has become a huge issue in the cannabis industry.

Cannabis is still federally illegal, and due to its' current classification as a Schedule 1 Controlled Substance by the DEA and the Federal Controlled Substance Act, this classification forbids ANY federally regulated institution that is governed or controlled by/follows and adheres to the Federal Banking Regulations from creating business accounts belonging to or accepting money coming from those involved in the sale of a federally illegal substance, in this case Cannabis. Even though regulated cannabis has been accepted as a legal activity on the state level for the growing number of states that have some form of medial and/or recreational cannabis, any financial institution that follows the Federal Laws and Regulations, that employs the use of the Federal Reserve Bank to move money through the US banking system, or is protected by Federal Deposit Insurance, must adhere to this policy. These limitations also apply to most credit card companies, which is another reason why the industry is weighted so heavily in cash transactions.

More recently, many state chartered and local credit unions have been coming online and taking on the business of banking with cannabis businesses. Many of these credit unions require background checks, steep upfront sign up fees, and rather high recurring/monthly fees to cover the financial institution's cost of operations, due diligence, armored services, and as a source of deposit insurance. Nonetheless, these providers of banking services, where available, have been a positive influence on operational controls and efficiencies. It would seem we have yet to come to a uniformly accepted, viable solution that not only makes banking accessible to all business owners in the cannabis industry, but also does not take advantage of the lack of accessibility by charging unfair amounts for a necessary service.

Market Trends- How Mature Markets Offer Key Insights and Subtle Warnings to Younger Markets

Mature markets, such as Colorado and Washington State, serve as invaluable examples of what to do and what not to do, not only in their individual state markets, to determine what works and what doesn't, but for business owners looking to find success as newer markets come online in more and more states as well. Colorado alone currently has over 500 licensed dispensaries, over 750 licensed cultivators, and over 250 infused product manufacturers, for a combined total of over 1,500 licenses, just within the plant touching segment of the business in this state. Washington State has a total of over 1,200 licenses between dispensaries and cultivators alone. With such as an abundance of growers and retailers, these market forces are driving the cost of product down in

Washington and Colorado's mature markets. For example, according to Cannabis Benchmarks' 2017 Mid-Year Wholesale Market Report, the cost of cannabis is down from $2100/lb in January of 2016 to roughly $1200/lb in mid-2017 in Colorado.

While there are distinct differences between the two examples of established regulated cannabis markets in Washington State and Colorado, the market in both has become inundated with growers, first as the state transitioned into recreational use, and then as the State began seeing more horizontal than vertical operations within licenses. The late 2014 rule changes where dispensaries and retailers were no longer required to produce their own products led to changes where the consumer end of the industry began to source them from multiple cultivators across multiple growing methods, together with sourcing other edibles and concentrates, searching for the highest quality at the best price to take back to the consumers. Many cultivators are therefore feeling the pressure to either grow the highest quality flower possible to make the highest return on their product, or to set their sights on the whole plant and the THC focused aspect of the industry, providing a lower quality plant that can be used in its entirety to create high THC content extractions that will ultimately serve the demand for oils and concentrates. The middle of the industry, and any part of it for that matter that is unwilling to adapt to these harsh market trends, risks being taken out at the knees, and many businesses will either have to find a way to change and adapt to make their way in a highly competitive market, or they will ultimately exit the industry.

Perhaps the most shocking development, and worrisome setback, in the ever-changing landscape of the Cannabis Industry to date, as mentioned previously, is the January 4, 2018 rescission of the Obama-era Cole Memo by U.S. Attorney General Jeff Sessions, which came just days after California went live with its estimated $7 billion per year recreational cannabis industry. The Cole Memo, drafted on August 29, 2013 by then U.S. Attorney General James M. Cole, basically gave guidance to all U.S. and State Attorneys on Marijuana Enforcement in states where medicinal and recreational cannabis has been legalized.

The memo conditionally limited the scope of enforcement on a federal level by the Department of Justice to the following areas:

- Preventing the distribution of marijuana to minors;
- Preventing the revenue from sales of marijuana from going towards the funding of criminal activity, gangs, violence, etc;
- Preventing the diversion of marijuana from legal states to states where marijuana is still illegal;
- Preventing the growing of marijuana on public lands;
- Preventing its use on Federal property;
- And more.

And, yet, it also called upon state and local law enforcement agencies to more vigorously address the marijuana activity, both legal and illegal, within their individual jurisdictions, starting with and including the use of strong and effective state regulatory systems to control virtually every aspect of a legal cannabis business. At its simplest, the Cole Memo discouraged U.S State Attorneys from dedicating any portion of their already limited funding and/or resources towards the prosecution of those involved in any aspect of a legal cannabis businesses or the industry UNLESS they had knowledge or reason to believe that such persons were in direct and obvious violation of the previously stated conditions.

Notwithstanding the specter of the CSA, many in the industry felt that the Cole Memo offered a certain security, protecting them and their businesses from Federal intervention. Now, that sense of security has all but vanished overnight in an industry already plagued with immense uncertainty. Many, if not all, players in the industry wonder if they will soon become the target(s) of federal intervention and prosecution, even when following the laws and regulations of their state perfectly. With so much inconsistency in the laws/rules/regulations between the states that have and haven't legalized the use of marijuana, between the states that have legalized, to some degree, cannabis on either a medical or recreational basis, as well as between state level and federal level laws and prosecution, not to mention the high costs of doing business in the Cannabis industry, and the fact that Cannabis is still classified as a Schedule 1 Controlled Substance according to the Controlled Substance Act and the DEA, many business owners live in constant fear of government intervention, as well as losing their businesses and livelihood in the process. This was the case before the Cole Memo was enacted, while it was being observed, and will continue to be the case now that Attorney General Sessions has rescinded the Memo.

The truth is, the Cole Memo, as well as the Memo rescinding it, acts simply as Guidance to lawmakers, law enforcement, business owners, and the public alike, but it is NOT a Law. Whether or not the Cole Memo had stayed in effect, the fact of the matter is that for as long as marijuana is classified as a Schedule 1 Narcotic under the Controlled Substance Act, business owners and users alike will undoubtedly and always run the risk of federal intervention simply due to the nature of their business and the drug. This is an incredibly important fact to remember.

There is always a significant threat of federal and state intervention on a local level. As previously stated, if dispensaries and cultivators aren't especially careful to follow the laws and regulations set forth by their state, they run the incredible risk of investigation and raids, licensure suspension, and even possible arrests and legal action. This can mean making sure one is following the business structures and limitations set forth by the license and related regulatory bodies, following the rules of vertical versus horizontal integration, making sure one is constantly holding the enterprise to a high standard of cleanliness and health and safety standards set forth by your state, following good manufacturing practices, and following the regulations on the type of product and quantities that can be legally distributed to consumers and patients is paramount.

This was seen most recently in Colorado, in December of 2017, when a Colorado-based chain of dispensaries and grow-operations found itself at the center of a yearlong undercover investigation by the Denver Police Department and the state of Colorado, and was issued a suspension order by the Denver Department of Excise and Licenses when the department suspended, until further notice, 26 of the company's cultivation, processing, and dispensary licenses. This came after the Department of Excise and Licensing discovered that the Denver Police Department had plans to execute search and arrest warrants across the company's operations. The company was allegedly selling unlawful amounts of cannabis to customers, in a practice known as "looping." This is when a business sells more than the legally-allowed limit to the same consumer over multiple visits in the same day. According to a statement made by the DPD, "The operation is the result of an extensive, year-long criminal investigation into illegal distribution of marijuana at some (26 dispensary and grow) locations. The alleged criminal actions are related to the sale of marijuana in excess of the allowable amounts established by Amendment 64." 13 arrests were made.

Now that the California adult use market has opened, both California and the rest of the country will be watching to see how the 7th largest economy in the world embraces the mandated regulatory framework with a back drop of decades of underground cultivation, sale and use of cannabis that is legendary. The Emerald triangle, near Humboldt, is witnessing a cultural revolution as state regulators work to register and control the production of cannabis here and throughout the state, where some have estimated that the majority of the product produced does not even end up being consumed within the California borders.

Then we also have the growing entrée of celebrities leveraging their brands into the cannabis space, including Willie Nelson (Willies Reserve, a proprietary strain that the 84 year old icon is said to prefer), Snoop Dogg (Leafs by Snoop, including an array of fruit flavored chews, drops and gummies, branded as "Dogg Treats"), Tommy Chong (Chong's Choice), Whoopi Goldberg (an array of medical cannabis based products specifically aimed at relief from menstrual discomfort), Carlos

Santana (Santana Smooth inhalers), Woody Harrelson (invested in bringing legal cannabis to Hawaii), Sir Richard Branson (invested in a ride share delivery service hoping to provide home delivery of cannabis in the San Francisco market)and of course, Steven Marley, son of Bob, (Marley Natural, cannabis products based on the life and legacy of Bob Marley).

> **"I think people need to be educated to the fact that marijuana is not a drug. Marijuana is an herb and a flower. God put it here. If He put it here and He wants it to grow, what gives the government the right to say that God is wrong?" —*Willie Nelson***

Generally, it would be wise of any business owner, whether they are currently involved in the cannabis industry, or just thinking of starting out, no matter who they are, to be constantly monitoring the trends of the market as a whole, the trends of their niche within the overall industry and the geographic market served, to be constantly adjusting what works and what doesn't work, and being open to new technology and different approaches to reaching targeted profitability. For some this can mean changing their business structure from vertically to horizontally integrated, changing their product from high quality flower to low-to-mid quality plants that are better suited for the extraction process and producing oils and concentrates, updating their lighting and climate control units to be more energy efficient, finding marketing and branding trends that make their product more recognizable, and finding new and more streamlined ways to deliver nutrients and water to plants.

In Conclusion- A Losing Game?

As stated before, possibly no other industry in the United States right now is as lucrative, and yet, as volatile as the cannabis industry. This is due to a multitude of factors, some that vary from state to state, some that are relevant across the board, some that depend on the maturity of the market, and all that impact the future of the industry going forward. This includes, but is not limited to, as previously discussed, burdensome regulations, unfair taxation, lack of banking access, market maturity, litigation and liability, the fact that the industry is still in its beginning stages, that the rules and regulations and demand currently vary so drastically from state to state, and much more. Again, there is no "normal." Every operation is different from the next, from state to state, and from municipality to municipality. That being said, it would seem that until marijuana is decriminalized and legalized on a federal level, until most, if not all, states move to legalize marijuana for both medicinal and recreational use, until the state governments can implement some sort of consistency between them in licensure, fees, regulations, and operating standards, then we are obligated to continue navigating a very complex and complicated industry that at any moment could come crashing down all around us with the stroke of a pen or even a tweet.

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At Canna Valuation, LLC, a wholly owned subsidiary of Seigneur Gustafson LLP (SG), we go beyond the numbers. Our passion lies in developing long-term relationships with our clients by serving as a trusted advisor and exceeding their expectations. We endeavor to provide quality services that cultivate a mutually rewarding affiliation through our expertise, enthusiasm, and innovative business solutions. Our commitment is to invest in our firm and our community through diversity and leadership.

Unlike most other CPA firms, valuation and litigation support services are a primary focus at Canna Valuation, LLC & Seigneur Gustafson, LLP, with four full-time professionals dedicated to this area of our practice, including nationally recognized consultant Ron Seigneur and Brenda Clarke. Such constancy is vital, because frequent changes in statutes and regulations can markedly affect our outcome and mean millions of dollars.

Together with Brenda Clarke and Stacey Udell, Ron Seigneur has developed The Cannabis Industry Accounting and Appraisal Guide. The purpose of the Cannabis Industry Accounting and Appraisal Guide is to provide useful information about the unique financial aspects and intricacies related to businesses operating in the licensed and regulated cannabis industry.

The guide also presents everything a cannabis business owner needs to know about choosing a business structure; basic accounting; setting up an accounting system, taxes, how to avoid an audit, the basics of valuation, and how to build value into your business for the future.

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We will supplement this guide on a regular basis on our website providing subscribers with value-added benefits, including updates on the latest developments in cannabis accounting and tax compliance, practical tools and guidance to be used for bookkeeping and accounting.

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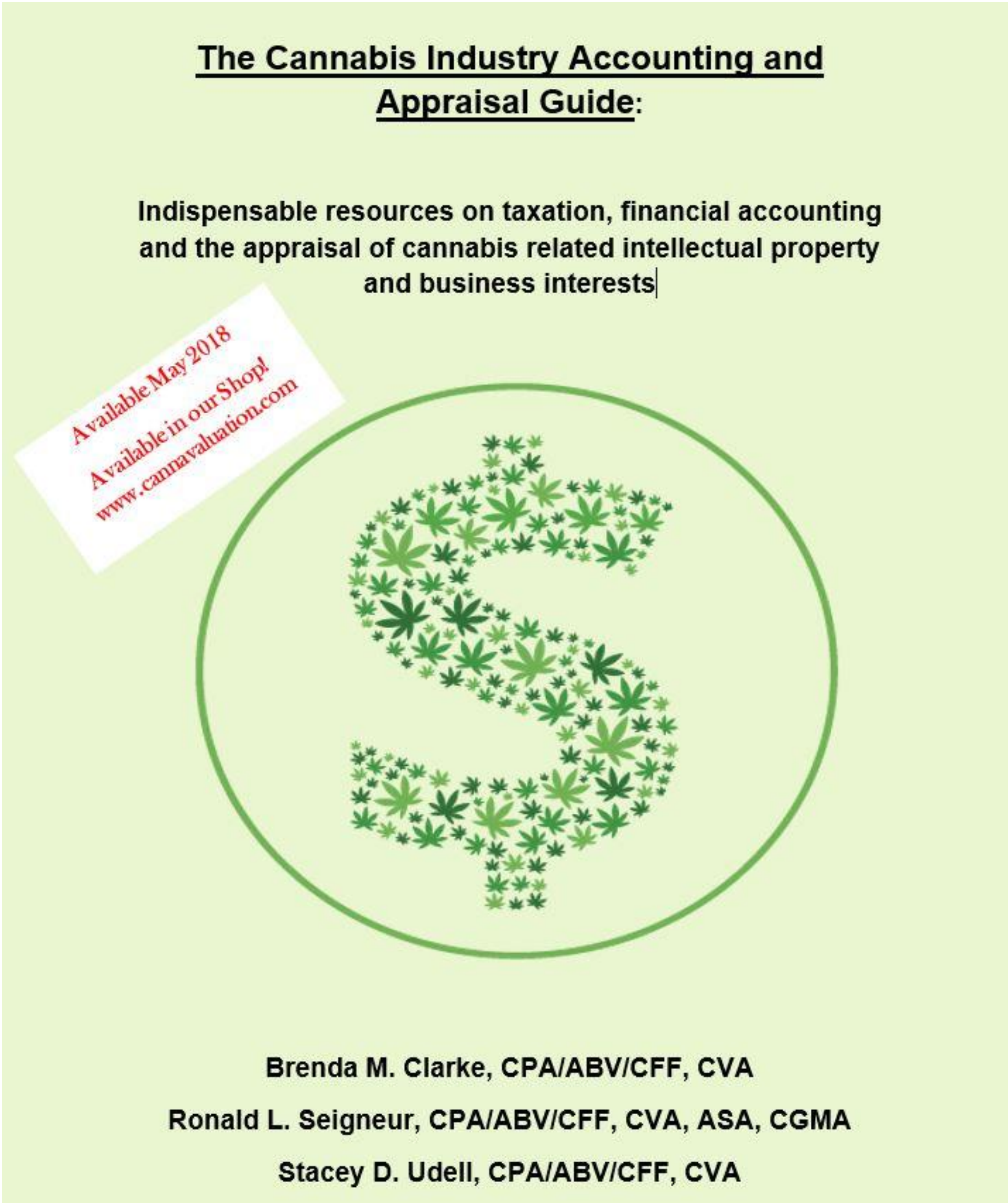
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