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**ASSESSING THE CANNABIS LEGALIZATION
DEBATE: LESSONS LEARNED FROM THE
COLORADO AND WASHINGTON EXPERIMENT**

by

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March 2016

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**ASSESSING THE CANNABIS LEGALIZATION DEBATE: LESSONS
LEARNED FROM THE COLORADO AND WASHINGTON EXPERIMENT**

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ABSTRACT

Cannabis is illegal as far as federal law is concerned; yet recent trends in the United States indicate it is moving toward more widespread legalization. While both sides of the legalization debate pose valid arguments, it has been difficult to assess aspects of these arguments in the past. Now that Colorado and Washington have fully legalized cannabis, what does data demonstrate to support or rebut these arguments and what problems have sporadic legalization led to in the drug control space? This thesis examines regulatory, financial, and criminal data in Colorado and Washington to identify advantages and disadvantages of legalizing cannabis. Findings indicate commercialization of legal cannabis creates a sizeable economic stimulus due to demand satisfaction and displacement of drug trafficking organizations for supply. Crime levels increased as compared to national averages while drug arrest rates remained stable, which could be influenced by other factors. Overall, as a result of disparate national policy, Colorado and Washington have become source states for cannabis distribution as findings indicate spillage of legal cannabis into black markets nationally. This thesis recommends rescheduling cannabis in the Controlled Substances Act to further research the drug while increasing state civil asset forfeiture options in prohibitionist states to facilitate criminal enforcement.

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LIST OF ACRONYMS AND ABBREVIATIONS

CSA	Controlled Substances Act
DEA	Drug Enforcement Agency
DOJ	Department of Justice
DTO	drug trafficking organization
FBI	Federal Bureau of Investigation
FBN	Federal Bureau of Narcotics
IACP	International Association of Chiefs of Police
LMCB	Liquor and Marijuana Control Board
MED	Marijuana Enforcement Division
MDMA	methylenedioxy-methamphetamine
NDIC	National Drug Intelligence Center
OAC	Opium Advisory Committee
OAS	Organization of American States
RMHIDTA	Rocky Mountain High Intensity Drug Trafficking Area
SAR	suspicious activity report
SCD	Seattle Crime Dashboard
TCO	transnational criminal organization
THC	tetrahydrocannabinol
UCR	Uniform Crime Reporting
UNODC	United Nations Office on Drugs and Crime
WLCB	Washington State Liquor and Cannabis Board

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EXECUTIVE SUMMARY

The cannabis legalization debate has long been a contentious issue in the United States and throughout the world. Since 1914, cannabis has been regarded as morally reprehensible and an overall detractor from society because of negative health effects, lack of medical acceptance, and high propensity for abuse. Cannabis is illegal as far as federal law is concerned; yet recent trends indicate it is moving toward widespread decriminalization, legalization, or both. Pro-cannabis groups argue that significant benefits can result from widespread legalization of cannabis, such as easing burdens on criminal justice systems, which increases the ability of law enforcement to refocus resources, and increased fiscal windfalls.

On the other side of the argument are anti-drug groups that claim the adverse effects are much worse than any benefit that legalization may provide. Some of the drawbacks noted by prohibitionist groups are an increase in crime, use among youth, and other health issues. Spillage of legal cannabis into black markets and increased trafficking of other drugs by criminal or drug trafficking organizations are additional concerns.

The legalization of recreational cannabis in Colorado and Washington can provide insight into these claims. Since 2012, when Colorado and Washington voted to legalize cannabis, a great deal of data has been collected that can be used to examine further issues behind the debate. Using some of this available data, how can some of the aforementioned debate claims be supported? What are some of the benefits and drawbacks of legalized cannabis in Colorado and Washington as they pertain to regulation, finance, and crime? Given the legal disparity in how this drug is accepted, what would a workable approach to minimize the negative impacts of cannabis legalization promptly involve?

In an effort to examine the actual debate points that surround cannabis legalization further, this thesis seeks to identify what has happened in the areas of regulation, finance, and crime between 2012 and today in Colorado and Washington.

This period of transition from prohibition to full legalization has proven to be a substantial issue in the discourse surrounding U.S. drug control strategy. Furthermore, it pervades into the international drug control arena, prompting the attention of international drug control partners and is an important area of study because Colorado and Washington can provide a glimpse of what potential future drug policy may look like.

Regulatory, financial, and criminal data is analyzed to assess behavior before and after legalization to identify advantages and disadvantages of legalization in Colorado and Washington. The findings refute or substantiate points on both sides of the debate, and as an output, policy recommendations are made to improve identified disadvantages.

This thesis finds that the number one significant benefit to cannabis legalization is the revenue stream created for both the private and public sectors. Findings also indicate the commercial aspect of the industry has also had a beneficial trickle-down effect on tourism, travel, employment, and the real estate sectors. Another benefit of this trend is the potential to outcompete the cannabis black market by providing higher quality cannabis at a lower cost for production. In contrast, access to banks is a difficult venture for the cannabis industry because banks technically view cannabis revenue as proceeds from an illegal business.

From a social perspective, it appears the commercial nature of the industry primarily caters to habitual cannabis consumers (81% who use the drug are considered such users, according to the National Institute on Drug Abuse). Consequently, the long-term driver to operating this type of system is to gain new habitual users. In the near term, the industry, and government, advocate for youth education and addiction treatment, while in the long term, these efforts conflict with business goals and will potentially impede the number one driver of the industry, which is revenue creation. This trend parallels other industries, such as the tobacco business, where the health consequences are known and an aggressive education program is in place, yet as a result of profit motive, the business continues to thrive.

Another negative effect of disparate legality of cannabis is the potential for diversion from the legal system to the black market in other prohibitionist locations.

Findings indicate when a state legalizes a controlled substance, however, it effectively becomes a source state. Consequently, the decreased law enforcement burden in cannabis-legal states is transferred to prohibitionist states, which then fuels illegal behavior.

Finally, from a crime perspective, some correlation appears to occur between legal cannabis and crime trends in the areas in which it has been legalized. From 2012 to 2014, the FBI data shows that violent and property crime increased in Colorado and Washington, as compared to national averages, which decreased. Cannabis arrests decreased, as expected. Other types of drug crime appear to have remained stable with the exception of possession arrests for *other dangerous non-narcotic drugs*. During 2012, 2013, 2014, and 2015, city crime data from Seattle and Denver both demonstrate amplified figures as compared to federal data.

Some concrete advantages and disadvantages result from cannabis legalization, but some level of unity must guide the process at the federal level, rather than relegating the management burden to the states. As the matter stands, no national cannabis policy exists to guide this trend. Plenty of polls support the narrative on both sides, but the fact that the issue is so divisive lends to the idea that the federal government has not taken responsibility for getting out in front of the issue. This lack of responsiveness is clearly evident in the way individual states are navigating around a paralyzed, rigid federal government.

One consideration both sides of the debate should agree on is the need for a definitive scientific study behind the drug. By downgrading cannabis to a Schedule II drug, both sides of the debate would know the benefits and risks associated with use and would assist in the implementation of a coherent and enforced federal cannabis policy. Until additional scientific research can be done outside of the federal government, the issue will continue to be divisive. In the short term, states should have the ability to enforce their own sovereign laws regardless of neighboring state cannabis laws. If individual states have the right to legalize a controlled substance locally, then neighboring states should have the right to enact improved civil asset forfeiture that helps secure their own population.

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I. INTRODUCTION

A. PROBLEM: NATIONAL CANNABIS POLICY INCONSISTENCY

Less than a decade ago, a 25-year-old man in Denver, Colorado, found with an ounce of cannabis by law enforcement would have been arrested for a misdemeanor possession of a controlled substance charge, and subject to a 12-month prison sentence. If it were his second offense, the charge could have become a felony. On the heels of this arrest would have been the negative stigma of being tied to an illicit trade, commonly associated with ill repute. Undoubtedly, it would have had a negative impact on the man's future, as well as society.

Today in Denver, the same man would not face arrest, nor have to contend with a criminal record as a result of legalized cannabis in individual states. Much of the United States is following this trend when it comes to enforcing cannabis laws. Several foreign countries, including Uruguay and Portugal, have fully decriminalized cannabis and consider it a medical or recreational drug and treat addiction rather than criminalizing it. As of November 2015, in the United States, 23 states, as well as Washington, DC, have decriminalized cannabis.

Cannabis is illegal as far as federal law is concerned; yet recent trends indicate it is moving toward widespread decriminalization, legalization, or both. Pro-cannabis groups argue that significant benefits can result from widespread legalization of cannabis. Some of the benefits of legalization include easing of prosecution and incarceration burdens on criminal justice systems and decreasing the impact of criminal records on persons arrested for low-level cannabis crimes. Law enforcement can benefit from an increase in the ability of law enforcement to refocus resources, while the state can enjoy decreased cannabis black markets through effective regulation, combined with increased fiscal windfalls.

On the other side of the argument are anti-drug groups who claim the adverse effects are much worse than any benefit that legalization might provide. Some of the drawbacks noted by prohibitionist groups are an increase in crime related to cannabis

legalization, increased use among youth, and health issues. Additionally, the proliferation of legal cannabis into black markets elsewhere, and increased trafficking of other drugs by criminal or drug trafficking organizations (DTOs), are valid concerns.

The legalization of recreational cannabis in Colorado and Washington can provide insight into these claims because these states have had recreational cannabis and medical cannabis laws in place for the longest duration of any of the states in the United States. As a result, it is safe to assume the outcome of legalization in these states will have a great impact on future cannabis policy in the United States. Lessons from both states thus far can help guide more informed cannabis policymaking in the future.

B. BACKGROUND

Cannabis has been listed as a Schedule I controlled substance by the federal government for approximately 40 years according to the Controlled Substances Act (CSA) of 1970.¹ Despite this designation, many states, including Washington, DC, currently have medical cannabis laws on the books that enable doctors to prescribe the substance for therapeutic purposes.² Alaska, Colorado, Oregon, and Washington have recently legalized recreational cannabis use through state-level ballot initiatives. Recreational cannabis takes medical cannabis a step further and creates two conduits for dispensing the Schedule I controlled substance. Although only Colorado and Washington currently have fully functional recreational regulatory systems, these four states will eventually dispense cannabis for recreational use. According to the federal government, these states are now acting in the capacities where DTOs are still the primary distributors. These states are directly contradicting federal law, as well as international drug control treaties; however, they continue to operate.

Not only are these states operating in this historically illegal space in violation of international and federal drug controls, cannabis-legal states appear to have well-

¹ Office of the Commissioner, “Legislation—Controlled Substances Act,” CSA Part B Sec. 812(c), accessed January 5, 2015, <http://www.fda.gov/RegulatoryInformation/Legislation/ucm148726.htm#cntlsbb>.

² “23 Legal Medical Marijuana States and DC,” accessed October 10, 2015, <http://medicalmarijuana.procon.org/view.resource.php?resourceID=000881>.

structured regulatory frameworks for distribution, taxation, and banking.³ These systems have brought some level of success along with them. Many other states are looking at the matter as a potential tax revenue, tourism, and economic stimulus because dispensaries are operated via standard commercial models. Despite the efficient operation of these businesses in Colorado and Washington, some drawbacks also appear to have arisen. Those states that have yet to decriminalize cannabis are encountering an uptick in drug-related crime, especially those states that border cannabis-legal states. As an example, Nebraska and Oklahoma have challenged Colorado's recreational cannabis laws in the U.S. Supreme Court claiming, "pot is sweeping across their borders."⁴

Anti-cannabis groups argue this contentious relationship will be echoed across the United States. Furthermore, the problem will likely intensify as states move forward with local adoption of laws decriminalizing and regulating cannabis, in contradiction of the federal CSA. Disparity in cannabis policy in the United States could also intensify illicit smuggling issues, create instability in legal markets, and fuel criminal behavior. Maintaining cannabis as a CSA schedule I controlled substance at the federal level, while states simultaneously legislate around current federal and international standards, does not send a clear and consistent message to individual states, international drug control partners, or U.S. communities at large. Moreover, disparity in regulation and legal inconsistencies may create unintended business opportunities for criminal groups and DTOs.⁵

Since the 1960s, the United States has employed a prohibitionist approach to drug control. As a result of this approach, an unparalleled black market for illicit drugs has been generated in the United States. By virtue of its geographic location and high demand in the United States, Mexico will continue to stand as a funnel point for a lion's share of illicit drugs entering the country. Today, cannabis is the largest illicit drug market in the

³ "Marijuana Enforcement," accessed December 20, 2014, <https://www.colorado.gov/pacific/enforcement/marijuanaenforcement>.

⁴ Daniel Wallis, "Neighboring States Challenge Colorado Pot Laws in Top U.S. Court," *Reuters*, December 19, 2014, <http://www.reuters.com/article/2014/12/19/us-usa-Cannabis-colorado-idUSKBN0JW2NH20141219>.

⁵ David Blake and Jack Finlaw, "Marijuana Legalization in Colorado: Learned Lessons," *Harvard Law and Policy Review* 8 (2014): 368.

United States, while Mexico is the largest producer in North America as a result of the low cost of production.⁶ This situation implies DTOs have a substantial interest in maintaining their prevalence in this market. Thus, their involvement with the drug will not likely subside in the immediate future. Given the stringent prohibition of cannabis in the past, and now the somewhat sudden perception of acceptance, especially in Colorado and Washington, questions surrounding the debate will continue to rise to the surface as legalization continues. Even in the short time since legalization in these states, some of the questions derived from this debate can be answered today.

C. RESEARCH QUESTIONS

Lacking an environment in which cannabis was fully legal in the United States has historically prevented the study of some of the legalization debate claims. Since 2013, when Colorado and Washington fully legalized cannabis, a great deal of data has been collected that can be used to examine issues behind the debate further. Using some of this available data, how can some of the debate claims above be supported? What are some of the benefits and drawbacks of legalized cannabis in Colorado and Washington as they pertain to regulation, finance, and crime? Given the legal disparity in how this drug is accepted, what would a workable approach to minimize the negative impacts of cannabis legalization promptly involve?

D. CHALLENGES TO COHERENT CANNABIS POLICY

Disparities in the legal status of cannabis across the United States will continue to provide a grip for cannabis black markets if they go unaddressed. At the national level, the law is quite clear about how cannabis should be perceived as a controlled substance that is highly addictive and lacks medical acceptance. Unfortunately, the laws are haphazardly enforced as they pertain to cannabis in the United States, which has caused states to address the issue on their own. This indiscriminate enforcement will likely create unintended opportunities for criminal organizations and could potentially impugn the

⁶ Evelina Gavrilova, Takuma Kamada, and Floris T. Zoutman, "Is Legal Pot Crippling Mexican Drug Trafficking Organizations? The Effect of Medical Marijuana Laws on US Crime," *Norges Handelshoyskole, Norwegian School of Economics*, 2015, 10, <http://brage.bibsys.no/xmlui/handle/11250/274521>.

legal industry in its infancy. Cannabis legal governments have a strong incentive to implement effective regulatory schemes designed to outcompete DTOs and to facilitate the effective operation of the new industry. For this implementation to happen, governments must overcome several challenges that exist for both the legitimate cannabis industry, as well as state and local governments nationwide. Those challenges can be divided into three areas, which include *inconsistent regulation, limited system approach to cannabis policy, and criminal organizations*.

E. PURPOSE AND STRUCTURE OF UPCOMING CHAPTERS

History demonstrates the ebb and flow of acceptance of cannabis over time. Even in the short history that cannabis has been used in the United States, peaks and valleys have occurred as far as its acceptance, and much appears to be driven by the political agendas of presidential administrations. At the conclusion of the Carter administration, at the national level, momentum grew behind the decriminalization of cannabis and the drug was gaining wide acceptance. When the Reagan administration took charge, the war on drugs was reinvigorated. As an example, First Lady Nancy Reagan, was a great proponent of the drug war and led the charge in the *Just Say No* campaign.⁷ Eventually, the mainstream public admonished cannabis, which led to firmer criminal enforcement.

Subsequently, demand for cannabis increased and DTOs filled the supply chain. The result was empowered DTOs, increased drug-related violence, and cannabis became the most used drug in the United States.⁸ Despite efforts to stem the supply of illicit cannabis entering the United States, DTOs have demonstrated amazing resiliency and an impeccable knack for adapting to law enforcement efforts. Since the mid-1990s, cannabis has become more widely accepted and even legalized in some areas, and DTOs have responded by increasing the flow of illicit cannabis into the market to remain competitive.⁹ As legalization of the drug continues, and it is more widely regulated, key

⁷ “Nancy Reagan—Her Causes,” accessed February 1, 2016, http://www.reaganfoundation.org/details_f.aspx?p=RR1008NRHC&tx=6.

⁸ Beau Kilmer et al., *What America’s Users Spend on Illegal Drugs: 2000—2010* (Washington, DC: The White House, 2014), 111, https://www.whitehouse.gov/sites/default/files/ondcp/policy-and-research/wausid_results_report.pdf.

⁹ *Ibid.*

components of licit regulation will emerge and aid policy makers in establishing a more rationalized approach to cannabis policy.

In an effort to examine the actual debate points that surround cannabis legalization further, this thesis seeks to identify what has happened in the areas of regulation, finance, and crime between 2012 and today in Colorado and Washington. This period of transition from prohibition to full legalization has proven to be a substantial issue in the discourse surrounding U.S. drug control strategy. Furthermore, it pervades into the international drug control arena prompting the attention of international drug control partners and is an important area of study because Colorado and Washington can provide a glimpse of what potential future policy may look like as it pertains to cannabis drug control. These states can demonstrate what happens to a historically illicit operation, controlled mostly by DTOs, when the end user suddenly legalizes the drug across the board. Given the evolving nature of this emerging trend, this thesis includes current research as of November 2015.

Chapter II of this thesis examines some of the more prominent aspects of the cannabis legalization debate by synthesizing available literature as it pertains to regulation, finance, and crime. Specifically, it synthesizes local legalization perspectives in Colorado and Washington as they have been reported. Understanding the local area perspectives in these states, this chapter further expands to encompass literature addressing regulation, enforcement, health, taxation, banking, and crime. These areas of review have all been impacted by cannabis legalization in some manner. Understanding the current conversation lends to greater understanding of the argument; however, also understanding the history behind the issue is an important step because it highlights how this nation has arrived at this juncture. In terms of future policy, considerable benefit can be garnered in understanding how this country has arrived at this point. Mistakes, as well as sound strategies, help influence good decisions in the future. Accordingly, Chapter III provides the historical context behind the debate.

Chapter IV provides a comprehensive discussion about the data that is analyzed and discussed in Chapter V. Chapter VI synergizes historical information and analysis of current data to provide concluding thoughts about the debate in hindsight of the

legalization in Colorado and Washington. Chapter VI also provides recommendations for overcoming the major negative findings of cannabis legalization in Colorado and Washington. The next section of this chapter highlights the methodological approach used to analyze the data for this thesis.

F. DATA COLLECTION AND ANALYSIS

As highlighted earlier, three main challenges impede the effective application of a coherent cannabis policy in the United States. Those challenges are inconsistent regulation, limited system approach to cannabis policy, and criminal organizations. The result of these challenges have helped lead to the current disparity in cannabis policy today. Behind each of these challenges are complex interactions with regulation, finance, and crime. Chapter V analyzes regulation, finance, and crime data in an effort to isolate the advantages and disadvantages of legalizing cannabis in Colorado and Washington and further discusses implications for prohibitionist states. The next section further elucidates the nature of these challenges and how they are examined in support of this thesis.

1. Inconsistent Regulation

Cannabis regulation and enforcement practices are disparate at best across the United States. Depending on geographic location and level of government (local, state, or federal), cannabis is viewed as everything from a medicinal treatment, to a harmful controlled substance, similar to heroin or crack cocaine. According to the CSA, cannabis is categorized as a Schedule I drug and is considered even more harmful than cocaine because it has been deemed by the federal government to have no medical application. Cocaine, a Schedule II controlled substance, does have medical application according to the CSA.¹⁰ All at once, cannabis can be sold for recreational or medical use by either a licensed and regulated business recognized by a cannabis-legal state, or by a drug dealer from the trunk of a car in a parking garage. Understandably, this sale of cannabis can consequently fuel illicit behavior.

¹⁰ Office of the Commissioner, “Legislation—Controlled Substances Act.”

This thesis analyzes the major components of the cannabis regulatory systems of Colorado and Washington, where cannabis has been legalized. Both states maintain cannabis regulation through agencies that govern the industry like alcohol; however, other options for regulation exist that may have variable impacts on other factors. Industry control, long and short-term policy influence, economy, operational cost of regulation, black markets, crime, and price are some of the factors that regulation will influence. While the trend of cannabis legalization continues across the United States, the first two states to legalize cannabis for recreational use have collected crime, drug use, and fiscal data. This information, while somewhat new, can be analyzed to determine the behavior in these areas since the implementation of the first two large cannabis regulatory systems in the country.

2. Limited System Approach to Cannabis Policy

Cannabis regulation is limited in scope because regardless of the level of government, no one is on the same page. New laws have been crafted at state or municipal levels of government and frequently conflict with federal law, or each other in some cases. At the federal level, however, enforcement has been lax outside of the parameters established by the Department of Justice's (DOJ's) Ogden and Cole Memoranda, which are discussed further later in this thesis. These memoranda outline major criminal activity that will be prosecuted at the federal level.¹¹ While the federal CSA is still being enforced against major drug crimes, individual states are left to deal with lower level drug trafficking on their own, while cannabis trafficking activity migrates to less competitive areas, such as prohibitionist states, or poorly regulated areas.

Theoretically, prohibitionist states will expend a greater amount of law enforcement resources enforcing new crime trends, such as increased interstate cannabis trafficking, while states that legalize and regulate cannabis will expend regulatory resources, while concurrently generating tax revenue. Colorado and Kansas represent two states where this phenomenon occurs. From a system-wide view, some government

¹¹ James M. Cole, *Memorandum for All United States Attorneys, Guidance Regarding Marijuana Enforcement* (Washington, DC: The Deputy Attorney General, 2013), <http://www.justice.gov/iso/opa/resources/3052013829132756857467.pdf>.

efforts cancel out resources put forth by other governments. As a result of a lack of system thinking, the total resource allocation across the nation by federal, state, and local governments addressing legal and non-legal cannabis becomes a zero-sum game.

Since the legalization of retail cannabis in Colorado and Washington, both states have maintained tax revenue records based on the production and sale of cannabis in their states. Tax revenue data is available from both state governments on a monthly basis, originating from the inception of legalized retail sales in 2014. The analysis in Chapter V examines how tax revenues have trended between 2012 and 2015, before and after legalization in each state, and discusses potential factors that might explain these trends.

3. Criminal Organizations

Along with the issues surrounding drug control and its varying levels of legality throughout the world and within the United States, come challenges of supply and demand. Historically, the prohibition of a substance has created explosive business opportunities for criminal enterprise. In response to legal cannabis, DTOs have found a variety of loopholes that allow them to continue operating in this space. The approach in the United States has been to address the issue through criminal justice systems. Unfortunately, as law enforcement efforts attempt to limit supply, it also causes demand to increase. DTOs have filled this void seamlessly, regardless of the resources allocated to stop them. Coinciding with pro-legalization arguments, DTOs appear to be losing market share in areas in which cannabis is more effectively regulated. Conventional wisdom dictates they will likely hedge their losses via other illicit businesses.¹²

Hypothetically, crime should be affected by cannabis legalization. With cannabis no longer illegal within defined areas of state laws, petty cannabis drug offenses should decrease. Given a decrease in cannabis crime, questions remain regarding presumed resource excess in law enforcement. Questions are also raised regarding DTO adaptation. Given that market share of cannabis will be lost, some questions remain about how DTOs and criminal groups will manage the loss.

¹² “Criminal Commodities: Marijuana,” accessed October 21, 2015, <https://www.stratfor.com/analysis/criminal-commodities-marijuana>.

Understanding that regulatory systems are just being implemented in this area, the level of effectiveness of governments to replace DTOs as the top supplier of cannabis may take some time and adjustment. Theoretically, an indicator of effectiveness of regulation in these areas is a migration of DTO and illicit activity to other drug types and criminal activity. Given a potential to lose market share in the cannabis marketplace, these DTOs should presumably target other states for cannabis distribution where demand remains high due to the drug's illicit status. Given higher quality cannabis, improved regulation in certain areas, and higher cost of distribution to DTOs, the assumption is that DTOs will simply hedge their cannabis market loss by investing in other drug markets or types of crime. To that end, this thesis also analyzes the Federal Bureau of Investigation's (FBI's) Uniform Crime Reporting (UCR), specifically focused on drug crime in Washington and Colorado to determine if cannabis arrests are decreasing and if arrests for other types of drug activity are increasing. These figures are also compared against national averages. As a means of validity testing in population-dense areas, a similar analysis is also conducted using arrest data retrieved from Denver and Seattle police departments.

Public discourse has focused on the revenue windfalls of legal cannabis only, while simultaneously almost no focus has been placed on tradeoffs for these windfalls. Consequently, the public has not realized the true return on legal cannabis. In light of criminal organizations potentially losing their control of cannabis markets, or any other number of unidentified tradeoffs, a shift will inevitably occur in how they do business in the future. For every action, an equal and opposite reaction results, even in the case of criminal enterprises.¹³

G. SUMMARY

A clear examination of what is happening in terms of revenue windfalls and economic stimulus is undertaken to understand fully the influence of the commercial impacts of cannabis industry. While much of the public discourse has focused on the

¹³ Jim Lucas, "Equal & Opposite Reactions: Newton's Third Law of Motion," LiveScience, June 26, 2014, <http://www.livescience.com/46561-newton-third-law.html>.

benefits of revenues from the licit cannabis industry, little public focus has been on the tradeoffs made for those revenues. Depending on crime response to legalization, unknown costs may be associated with migrating crime patterns, interstate diversion, or other unintended consequences. In this case, these costs have an offsetting effect on the revenues that have been generated. This facet of the debate is further examined with the expectation that analytic results can help identify both advantages and disadvantages realized from the Colorado and Washington legalization experiment.

Legalization of a formerly controlled substance should demonstrate effects, which would be identifiable in crime and financial data. Specifically, arrests for various types of crime should change in concert with changing law enforcement priorities. As cannabis possession is no longer being criminally enforced in both states, law enforcement agencies should have the resource capacity to realign their efforts to enforce drug laws in other illicit drug areas, such as crack cocaine, heroin, methamphetamine, and methylenedioxy-methamphetamine (MDMA). Consequently, arrests for the production and possession in other drug categories should occur more frequently as law enforcement resource excess is realigned to address other illegal drug types.

Making cannabis legal may have a detrimental effect on business activities of criminal organizations because their production and distribution costs would consequently increase. If this effect were the case, the expectation would be a hedge of losses through an increase of activity in other criminal areas, not just within the scope of illegal drugs. The FBI's UCR crime statistics in Colorado and Washington are examined to discern substantial criminal trend activity that might indicate the displacement of cannabis-related crime to other crime types.

This chapter has examined how attitudes toward cannabis have changed in the last 10 years toward a more tolerated, and in many areas, a legally accepted drug. Areas in which the drug has been legalized have reported some success in the areas of taxation and economic stimulus. Issues involving how to structure licit supply alternatives, crime adaptation, regulatory inconsistencies, and waste of resources from a macro level have been persistent trouble spots for governments, as well as the cannabis industry. To

understand these problems, the next chapter focuses on a review of literature surrounding these areas.

II. LITERATURE REVIEW

A. INTRODUCTION

This chapter focuses on a review of available literature in several categories. These categories include legalization impacts in Colorado and Washington, regulatory methodologies, health, taxation, banking, and serious crime. Widespread cannabis legalization is in its infancy in the United States; thus, undoubtedly, many unanticipated effects may be felt for years to come. This thesis aims to identify challenges to creating domestic cannabis policy based on what is known so far about the Colorado and Washington legalization experience. Moreover, this thesis seeks to identify policy recommendations that rectify significant deficiencies identified in Colorado and Washington as a result of this thesis.

B. REVIEW AND SYNTHESIS

The next two sections review available literature that highlights the measures taken by Colorado and Washington toward full cannabis legalization. Given that no other state has legalized a federally controlled substance before Colorado and Washington, both sections review literature that address how voter ballot initiatives succeeded, and how the states moved to regulate the new industry. Following the first two sections, which are state specific, additional sections expound on externally impacted areas of regulation, enforcement, health, taxation, banking, and crime.

1. Legalization Perspective in Colorado

Cannabis has been legal in Colorado for medicinal use since the early 2000s. “Marijuana Legalization in Colorado: Learned Lessons” explains that patients who demonstrated debilitating medical conditions were eligible to apply for a government issued identification, or *red card*, and legally purchase medical cannabis from any number of state-regulated dispensaries:¹⁴ “In early 2012, proponents of recreational cannabis legalization gathered enough signatures to place an amendment to the Colorado

¹⁴ Blake and Finlaw, “Marijuana Legalization in Colorado: Learned Lessons,” 359.

Constitution on the statewide ballot,” known as Amendment 64.¹⁵ This law was passed in November 2012, and is now codified in the Colorado Constitution as Article XVIII, Section 16.¹⁶ Amendment 64 was not believed to have enough political momentum behind it because, for starters, it raised significant state’s rights issues. Additionally, the legal operations of dispensaries hinged on the ability to move proceeds through the federal banking system, which were reticent to handle these proceeds for fear of asset seizure laws connected to profits gained from illicit activities. Finally, significant concerns were raised relating to the laws of neighboring states, which have recently come to light. *States of Nebraska and Oklahoma v. State of Colorado* highlights that Nebraska and Oklahoma have challenged Colorado’s recreational cannabis laws in the U.S. Supreme Court; however, the court has yet to accept the case.¹⁷

Early indicators of crime, tax revenue, and tourism in the Denver area point to positive trends according to “Colorado Cannabis Statistics Prove Law Enforcement Was Wrong” in that property and violent crimes decreased in Denver, while tax revenues, tourism, and air travel into the area have notably increased.¹⁸ These indicators bode well for Denver and seem to point toward a boost in the economy for the state. However, these indicators fail to examine the impacts legalization has had on regulatory and enforcement efforts in Colorado. Additionally, the impact to national/international drug control strategies has yet to be assessed.

According to “Colorado Police Chiefs Ask for More Money for Cannabis Enforcement,” concern has arisen that the state’s projected tax revenue for fiscal year 2015 is not going to be invested in increasing the effectiveness of the state’s law enforcement enterprise. The Colorado Association of Chiefs of Police contention is that

¹⁵ Blake and Finlaw, “Marijuana Legalization in Colorado: Learned Lessons,” 359.

¹⁶ *Ibid.*

¹⁷ *States of Nebraska and Oklahoma v. State of Colorado* (December 2014).

¹⁸ David Dunford, “Colorado Cannabis Statistics Prove Law Enforcement Was Wrong,” *The Inquisitr*, April 10, 2014, <http://www.inquisitr.com/1208249/colorado-cannabis-statistics-prove-law-enforcement-was-wrong/>.

more investment should occur in the area of impaired driver training, oral fluid testing, and the creation of a state cannabis crimes database.¹⁹

In Colorado, despite the pros and cons of legalization, it is evident that all stakeholders involved are aggressively attempting to work out the issues entailed with a rapid stand-up of public policy, regulatory/enforcement infrastructure, and at face value, the great experiment seems to be going well within the state. Sparse cases have occurred in which children have ended up being hospitalized after eating edible cannabis, and several cannabis-related deaths have occurred. For the most part, the projected doom and gloom of legalization in Colorado has not occurred yet.

“Legalizing a Market for Cannabis for Pleasure: Colorado, Washington, Uruguay and beyond: Legalising a Market for Cannabis” denotes Colorado has entered into the recreational cannabis business too hastily at the behest of private sector interest rather than public health interests.²⁰ The report, authored by Robin Room, covers health, and more specifically, discusses international drug control and advocates for a revised scheduling of both cannabis and alcohol to bolster regulatory and health infrastructures in places like Colorado.²¹ Room does not address organized crime surrounding the issue, however, and opts to cover the matter from more of a use prevention standpoint via increased regulation. While Room’s assertions are geared for the improvement of public health, part of her argument is that higher prices will discourage use; however, the article fails to consider the black market and its propensity to undercut pricing in the legal cannabis market. A breakeven point exists at which consumers will resort to the black market for product; thereby, impugning the integrity of licit markets.

¹⁹ “Colorado Police Chiefs Ask for More Money for Cannabis Enforcement,” accessed December 20, 2014, http://www.denverpost.com/news/ci_25283504/colorado-police-chiefs-ask-more-money-cannabis-enforcement.

²⁰ Robin Room, “Legalizing a Market for Cannabis for Pleasure: Colorado, Washington, Uruguay and beyond: Legalising a Market for Cannabis,” *Addiction* 109, no. 3 (March 2014): 345–51, doi:10.1111/add.12355.

²¹ *Ibid.*, 345.

2. Legalization Perspective in Washington

While Colorado is effectively conducting its own experiment with legalized cannabis, Washington has had its own experience. “Cannabis Policy Reforms in the Americas: A Comparative Analysis of Colorado, Washington, and Uruguay” conducts a comparative analysis between states that have fully legalized cannabis for recreational use. Bryce Pardo, the author, clearly lays out how Initiative I-502, a Washington ballot initiative, was successfully passed in November 2012.²² Pardo continues with a comparative analysis of the laws that govern the legal cannabis industries in both states. While his analysis is thorough, it fails to account for the displacement of the cannabis black market nor does it describe the effective measures across both infrastructures, which degrade the ability of DTOs to operate in those states.

Federal Proposals to Tax Marijuana: An Economic Analysis conducts an economic analysis of the cannabis industries in both Washington and Colorado with a specific focus on issues surrounding a potential federal cannabis tax.²³ Both authors fully describe both Amendment 64 in Colorado, and Amendment I-502 in Washington, the ballot initiatives leading to legalization in both states. The authors extensively examine the idea of leveraging ad valorem taxes at the federal level to discourage youth use, generate federal revenue, and further fund federal regulation. With respect to Washington State, the report conceptualizes how price points will be determined in coordination with the state. Unfortunately, the report does not recognize the improbability of levying a federal tax on Washington’s legal cannabis industry in light of the federal prohibition of the drug.

Options and Issues Regarding Marijuana Legalization discusses legislative options regarding cannabis legalization in Washington, as well as other localities. The Rand Corporation published this report and it contemplates key decisions that

²² Bryce Pardo, “Cannabis Policy Reforms in the Americas: A Comparative Analysis of Colorado, Washington, and Uruguay,” *International Journal of Drug Policy* 25, no. 4 (July 2014): 729, doi:10.1016/j.drugpo.2014.05.010.

²³ Sean Lowery and Jane Gravelle, *Federal Proposals to Tax Marijuana: An Economic Analysis* (CSR Report No. R43785) (Washington, DC: Congressional Research Service, 2014), 3, <https://www.hsdl.org/?view&did=760029>.

governments would need to evaluate in the event they decide to legalize within their jurisdiction. Key topics receiving discussion include 12 supply alternatives, regulation, and the costs and benefits of legalizing cannabis.²⁴ This report provides a broad variety of factors for consideration and provides a solid example of the complexity behind the cannabis legalization trend. This report focuses on legislative decision making rather than the potential influence of DTOs on this new market. Many of the points Caulkins et al. discuss are also covered in several of the following topics, such as taxation and health.

3. Regulation, Enforcement, and Health

Health is an important facet of this issue. In 20 states, medical cannabis is seen as a remedy to some common ailments, such as chronic pain and nausea associated with chemotherapy treatments. Many bodies of research examine the medicinal properties of cannabis and several originate in Colorado. As a whole, the medical community still widely regards medical cannabis taboo as a legitimate medical treatment, however.

In Colorado, for example, “Colorado Family Physicians’ Attitudes toward Medical Cannabis,” indicates that Colorado Family Physicians’ generally believed cannabis poses serious mental and physical health risks and that more medical education is needed.²⁵ Such results seem to denote the medical community does not widely recognize cannabis as a medically beneficial treatment, which might lead to the idea that the supposed medical benefit of the drug is more of an excuse to acquire the drug legally, as opposed to actually using it for legitimate medical purposes.

“Colorado Tackles Medical Implications of Cannabis” indicates a physician can make a recommendation for something in excess of two ounces or six plants, but Colorado’s Marijuana Enforcement Division has recommended a decrease in this amount. Medically speaking, no evidence really exists of a dose-related response to

²⁴ Jonathan P. Caulkins et al., *Options and Issues Regarding Marijuana Legalization*, Perspectives (Santa Monica, CA: Rand Corporation, 2015), 12, http://www.rand.org/content/dam/rand/pubs/perspectives/PE100/PE149/RAND_PE149.pdf.

²⁵ Elin Kondrad and Alfred Reid, “Colorado Family Physicians’ Attitudes toward Medical Cannabis,” *The Journal of the American Board of Family Medicine* 26, no. 1 (2013): 59.

cannabis from a medical standpoint.²⁶ This aspect of regulation can help decrease diversion activity.

“Adverse Health Effects of Marijuana Use,” a recent article published in the *New England Journal of Medicine*, concluded that despite recent popularity, cannabis poses some very serious health concerns. These concerns include addiction, impaired brain development, influence on addictive behaviors toward other drugs, potential mental illness, negative effect on academic performance and achievement, cancer, and motor vehicle accident risk.²⁷ Summarily, the authors hypothesize that similar to alcohol or cigarettes, legalizing cannabis will eventually lead to increased use, and thus, present more of these types of issues among the population. Simply put, as a result of its illegality, the health problems associated with use have not yet become apparent on a widespread basis.²⁸

Mohammed Mir, author of “Alcohol and Marijuana Use While Driving—An Unexpected Crash Risk in Pakistani Commercial Drivers: A Cross-sectional Survey,” conducted a study of drivers in Pakistan regarding the use of cannabis while driving. The study revealed that almost 23% of the participants used cannabis while driving. Of all drivers who reported vehicle accidents in the past five years, nearly 30% of the drivers used cannabis, as compared with 22% of those who did not report having accidents.²⁹ This percentage would insinuate the possibility of a vehicle accident is higher while using cannabis, although the study does not consider the lack of law enforcement in the realm of driving under the influence in Pakistan.

“Blunt the Violence: How Legal Marijuana Regulation in the United States Can Help End the Cartel Violence in Mexico” highlights how the war on drugs, specifically

²⁶ Bridget M. Kuehn, “Colorado Tackles Medical Implications of Cannabis,” *The Journal of the American Medical Association* 311, no. 20 (May 28, 2014): 2053, <http://search.proquest.com.libproxy.nps.edu/docview/1536166472?accountid=12702>.

²⁷ Nora D. Volkow et al., “Adverse Health Effects of Marijuana Use,” *New England Journal of Medicine* 370, no. 23 (June 5, 2014): 2219–27, doi:10.1056/NEJMra1402309.

²⁸ *Ibid.*, 2225–2226.

²⁹ Mohammed U. Mir et al., “Alcohol and Marijuana Use While Driving—An Unexpected Crash Risk in Pakistani Commercial Drivers: A Cross-Sectional Survey,” *Biomedical Central Public Health* 12, no. 145 (February 27, 2012): 3, doi:10.1186/1471-2458-12-145.

cannabis, has inflamed tensions in Mexico, and created powerful drug cartels who have gained enough strength to oppose military and federal government efforts directly to impede their growth.³⁰ The author describes the ideal situation where loosened licensing, relaxed taxation, higher sellable quantity, and elimination of state/federal entanglements can eliminate DTO involvement in licit cannabis business.³¹ This study advocates for a liberal regulatory approach to the licit cannabis business and posits the competition created would degrade illicit revenue streams to DTOs in Mexico.

“A Critical Appraisal of the Department of Justice’s New Approach to Medical Marijuana” identifies how Colorado established the regulatory arm under the Colorado Department of Revenue in response to a 2009 DOJ memorandum, known as the Ogden Memo because the Deputy U.S. Attorney General, David Ogden, authored it.³² In this memo to all U.S. attorneys, the Department deprioritized cannabis prosecutions and transferred the risk evaluation of the sale of cannabis to states. Subsequently, Colorado’s legislature directed the state to regulate the sale of illicit drugs and this act directly contradicted federal law.³³

The *2015 Preview of Marijuana in Colorado the Impact* is comprised of open source statistics from various municipal, state, and federal agencies regarding cannabis legalization.³⁴ The report covered impaired driving in Colorado, youth use rates, adult use rates, emergency room and hospital visits for cannabis, child exposures to cannabis, diversion, tetrahydrocannabinol (THC) extraction lab explosions, and crime.³⁵ This report provides a unique insight into these issues in that the majority of the content is

³⁰ Andrés E. Muñoz, “Blunt the Violence: How Legal Marijuana Regulation in the United States Can Help End the Cartel Violence in Mexico,” *Seattle Journal for Social Justice* 13 (2014): 691.

³¹ *Ibid.*, 729.

³² Robert A. Mikos, “A Critical Appraisal of the Department of Justice’s New Approach to Medical Marijuana,” *Vanderbilt Public Law Research Paper*, no. 11–07, *Stanford Law & Policy Review* 22 (February 23, 2011): 633.

³³ *States of Nebraska and Oklahoma v. State of Colorado* at 7.

³⁴ Kevin Wong and Chelsey Clarke, *The Legalization of Marijuana in Colorado, The Impact, Volume 3, Preview 2015* (Denver, CO: Rocky Mountain High Intensity Drug Trafficking Area, 2015), <http://www.rmhidta.org/html/2015%20PREVIEW%20Legalization%20of%20MJ%20in%20Colorado%20the%20Impact.pdf>.

³⁵ *Ibid.*, 1–50.

derived from law enforcement statistics. Alarming, all the areas covered by this report demonstrate an upward trend, and in some cases, a several thousand percent increase is present. For example, between 2010 and 2014, the diversion of Colorado cannabis by parcel increased over 2,000%.³⁶ The report demonstrates the lack of coordination between law enforcement agencies and the state government and implies the state is more concerned with regulation and taxation.

From an enforcement perspective, the aforementioned literature resources identify how the industry will be regulated and how risk will be assessed and managed *within* the industry, but fail to cover enforcement issues external to the infrastructure. Price undercutting, diversion, smuggling, and intertwining of DTOs and legitimate business was not a topic readily identified in available resources. These issues demonstrate a serious gap in available literature.

4. Taxation and Banking

“Cannabis Tax Millions? Hallucinations up in Smoke, Yet Feds Propose 50% Federal Tax Too” outlines how Colorado’s administrative design for the taxation of both medical and recreational cannabis has demonstrated extraordinary revenue generating potential. During the first full year of taxation of recreational cannabis, tax revenues topped \$58.7 million.³⁷ The author highlights that striking an effective balance between excessive taxation, which propels black-market distribution, and under-taxation, which renders the enterprise ineffective, seems to be the evolving driver in the system.

“Cannabis Policy Reforms in the Americas: A Comparative Analysis of Colorado, Washington, and Uruguay” makes a strong case for cannabis taxation reform in both Washington and Colorado indicating that both states levy an ad valorem tax based on weight and not unit of THC.³⁸ The author extensively covers taxation models of both

³⁶ Wong and Clarke, *The Legalization of Marijuana in Colorado, The Impact, Volume 3, Preview 2015*, 24.

³⁷ Robert W. Wood, “Cannabis Tax Millions? Hallucinations up in Smoke, Yet Feds Propose 50% Federal Tax Too,” January 11, 2015, 1, <http://www.forbes.com/sites/robertwood/2015/01/11/marijuana-tax-millions-hallucinations-up-in-smoke-yet-feds-propose-a-50-federal-tax-too/#6b2cab7971c0>.

³⁸ Pardo, “Cannabis Policy Reforms in the Americas: A Comparative Analysis of Colorado, Washington, and Uruguay,” 733.

states and Uruguay, and highlights important long-term taxation principles, such as taxation of psychotropic chemical content versus weight alone. This literature is important because effective taxation is a key component in replacing DTOs and the illicit black market.

Additionally, *Federal Proposals to Tax Marijuana: An Economic Analysis* alludes to evolving sensitivities of the U.S. banking system, which can facilitate success in this sensitive area.³⁹ In effect, tax revenues in Colorado are being driven by proceeds from an illicit business in the eyes of federal government banking laws. As a result of the inability of the cannabis industry to conduct banking transactions legally, great concern has arisen, as with any large cash business, that criminal organizations will infiltrate the business. As a result, the state, DOJ, and U.S. Treasury Department deprioritized banking regulation of licit cannabis revenue. Technically, however, injection of these proceeds into the banking system is still illegal according to federal law. At the federal level, however, “Polis, Blumenauer Bills De-Federalize Cannabis Prohibition” indicates the Cannabis Tax Equity Act and the Ending Cannabis Prohibition Act, are strong indicators that a continued push to both remove cannabis from the Controlled Substances Act will still occur, as well as opening the door for federal taxation and regulation.⁴⁰

5. Crime

The cornerstone of drug control in the United States is the CSA. This statute ushered in drug control, as it is known in the United States in 1970, and was the conveyance for implementing the U.N. Single Convention on Narcotic Drugs. The CSA delineates drugs by levels of medical application, potential for abuse, and level of safety, and they are categorized by schedules within the CSA.⁴¹ The CSA has important implications to this thesis because it the blueprint behind how drugs, cannabis in this case, are addressed by federal law. Subsequently, state laws have historically been crafted to accommodate the CSA. This trend has changed in light of legalized cannabis.

³⁹ Lowery and Gravelle, *Federal Proposals to Tax Marijuana: An Economic Analysis*.

⁴⁰ “Polis, Blumenauer Bills De-Federalize Cannabis Prohibition,” accessed January 4, 2015, 2, <http://polis.house.gov/news/documentsingle.aspx?DocumentID=318723>.

⁴¹ Office of the Commissioner, “Legislation—Controlled Substances Act.”

With the deprioritized federal enforcement of cannabis laws in the United States, *State Marijuana Legalization Initiatives: Implications for Federal Law Enforcement* estimates that organized criminal networks will be substantially impacted in terms of income raised from the smuggling and distribution of cannabis.⁴² Specifically, Mexican organized crime stands to lose the greatest market share of the cannabis industry through *well-regulated* decriminalization efforts in the United States. This estimate fails to assess whether drug trafficking organizations will hedge their losses on other types of controlled substances, such as heroin, cocaine, or crystal methamphetamine. The Organization of American States (OAS) estimates that at the extreme, Mexican DTOs stand to lose approximately 20 to 25 percent of their drug export income, but estimating how they will compensate for this loss has yet to be identified.⁴³ “Is Legal Pot Crippling Mexican Drug Trafficking Organizations? The Effect of Medical Marijuana Laws on U.S. Crime” asserts that in the case of medical cannabis, the supply chain of the drug is legal and has a positive impact in decreasing violence among Mexican DTOs.⁴⁴ Additionally, the authors assert the drug war has had little impact on cannabis accessibility, but sizeable negative effects on criminal violence related to the drug.⁴⁵ It would suggest that DTOs would simply hedge losses by investing in other activities.

As an additional obstacle to DTO involvement in the distribution of black market cannabis, “Court Ruling Could Pave Way for Marijuana Legalization in Mexico” highlights that the Mexican Supreme Court ruled that it is a civil right in Mexico to be able to transport, grow, and possess small amounts of cannabis. It is a significant legal ruling because it clears the way for cannabis to be decriminalized in Mexico.

⁴² Lisa N. Sacco and Kristin Finklea, *State Marijuana Legalization Initiatives: Implications for Federal Law Enforcement* (CRS Report No. R43164) (Washington, DC; Congressional Research Service, 2014), 22, <http://fas.org/sgp/crs/misc/R43164.pdf>.

⁴³ *Ibid.*, 18.

⁴⁴ Gavrilova, Kamada, and Zoutman, “Is Legal Pot Crippling Mexican Drug Trafficking Organizations? The Effect of Medical Marijuana Laws on US Crime,” 28.

⁴⁵ *Ibid.*

Additionally, the authors assert it could be the beginning of a more widespread tolerance of cannabis in that country, following a similar path to the one the United States has.⁴⁶

From the federal-level perspective, reallocation of enforcement resources from cannabis enforcement, combined with income from taxation of the drug, stands to save and generate a significant amount of revenue potential. In 1999 dollars, this potential was estimated to be \$9.4 billion according to “The Economics of the Drug War: Effective Federal Policy of Missed Opportunity?”⁴⁷ Given the potential loss from cannabis trafficking and possibility of increased trafficking in other areas, an existing gap occurs in determining if and how cannabis tax revenues can be reallocated to other drug enforcement priorities that emerge.

The DOJ weighed in significantly in 2009, and again in 2012, the years medical and recreational cannabis laws were enacted. In 2009, the DOJ Ogden Memorandum, titled after Deputy Attorney General David Ogden, realigned department priorities to deprioritize medical cannabis enforcement.⁴⁸ Again, it occurred in 2012 with the Cole Memorandum, authored by Deputy Attorney General James Cole. This memorandum deprioritized recreational cannabis enforcement.⁴⁹ In both cases, the federal government departed from what had historically been strict adherence to the CSA. This guidance is significant to this thesis because these guidelines have realigned the enforcement efforts behind the CSA, which represents a substantial shift in drug control policy at the federal level.

The FBI’s UCR tracks crime in the United States on an annual basis. It provides information on the type of personal crime, such as homicide, rape, and assault, and

⁴⁶ Roque Planas and Matt Ferner, “Court Ruling Could Pave Way for Marijuana Legalization in Mexico,” *The Huffington Post*, November 4, 2015, http://www.huffingtonpost.com/entry/mexico-supreme-court-marijuana_563a6962e4b0411d306f5e86.

⁴⁷ Marvin H. McGuire, “The Economics of the Drug War: Effective Federal Policy of Missed Opportunity?” (master’s thesis, Naval Postgraduate School, 2002), 71, <http://oai.dtic.mil/oai/oai?verb=getRecord&metadataPrefix=html&identifier=ADA405877>.

⁴⁸ David W. Ogden, “Memorandum for Selected United State Attorneys on Investigating and Prosecutions in States Authorizing the Medical Use of Marijuana,” 2009, <http://www.justice.gov/opa/blog/memorandum-selected-united-state-attorneys-investigations-and-prosecutions-states>.

⁴⁹ Cole, *Memorandum for All United States Attorneys, Guidance Regarding Marijuana Enforcement*.

property crimes, such as theft, burglary, and robbery.⁵⁰ As a secondary data set, it tracks drug offenses and breaks them down by type of drug.⁵¹ This data is useful in assessing arrests trends at the federal level for all drug types from 2012, the year prior to legalization in Colorado, to 2014, the most current data available.

Denver and Seattle police departments both have house crime statistic offices, with robust crime reporting data. The Denver Police Department maintains statistical information along the same lines as the FBI's UCR.⁵² This information can be comparatively assessed by year from 2012 to 2015. The Seattle Police Department monitors crime trends using a publically accessible website identified as the Seattle Crime Dashboard (SCD).⁵³ Similar to both the UCR and Denver police site, this site allows users to analyze drug arrest trends across multiple years, type of drug, and type of arrest. Use of the three systems allows for analysis at the federal, state, and city (Denver and Washington) levels.

C. SUMMARY

“Shifting Drug Policy: The Politics of Marijuana in the 21st Century” provides an excellent historical review of drug control in the United States. The thesis covers the issue of drug control but opens the door to the need for future research in the area of regulation and enforcement.⁵⁴ *A Century of International Drug Control* provides a thorough analysis of how global drug control policy is administered by the United Nations.⁵⁵ This report is limited in that its publication date was 2009, prior to widespread

⁵⁰ “Uniform Crime Reporting,” accessed November 21, 2015, <https://www.fbi.gov/about-us/cjis/ucr/ucr>.

⁵¹ “Persons Arrested by Drug 2014,” accessed November 21, 2015, <https://www.fbi.gov/about-us/cjis/ucr/crime-in-the-u.s/2014/crime-in-the-u.s.-2014/persons-arrested/main>.

⁵² “Crime Statistics and Maps,” accessed November 21, 2015, <https://www.denvergov.org/content/denvergov/en/police-department/crime-information/crime-statistics-maps.html>.

⁵³ “Crime Dashboard—Seattle Police Department,” accessed November 21, 2015, <http://www.seattle.gov/seattle-police-department/crime-data/crime-dashboard>.

⁵⁴ Zathan S. Baker, “Shifting Drug Policy: The Politics of Marijuana in the 21st Century” (master’s thesis, Naval Postgraduate School, 2014), <http://calhoun.nps.edu/public/handle/10945/41347>.

⁵⁵ United Nations Office on Drugs and Crime, *A Century of International Drug Control* (Vienna, Austria: United Nations Office on Drugs and Crime, 2009).

decriminalization efforts. “Marijuana Legalization in Colorado: Learned Lessons”⁵⁶ covers a litany of legalization issues specific to Colorado. Unfortunately, the authors lack sensitivity to anti-legalization stakeholder interests and put forth a purely pro-cannabis agenda. Of value are the identified needs to explore the role of drug-trafficking organizations further and their impact on the fledgling cannabis industry. Similarly, *Options and Issues Regarding Marijuana Legalization*,⁵⁷ and “The Marijuana Legalization Debate,”⁵⁸ covers potential legislative decision points pertinent to Washington State. Discussion of contesting black markets in Washington via specific regulatory practice is minimal.

“Colorado Marijuana Statistics Prove Law Enforcement Was Wrong,”⁵⁹ “Colorado Police Chiefs Ask for More Money for Marijuana Enforcement,”⁶⁰ Neighboring States Challenge Colorado Pot Laws in Top U.S. Court,”⁶¹ and *State Marijuana Legalization Initiatives: Implications for Federal Law Enforcement*,⁶² all touch on the various issues regarding enforcement, banking, and taxation. However, they fail to accommodate the potential for organized crime involvement with the industry. More importantly, given the potential for criminal involvement with the industry, literature is lacking that directly identifies effective regulatory controls that mitigate the incentives of operating in a black market.

“Trends in Fatal Motor Vehicle Crashes before and after Marijuana Commercialization in Colorado,”⁶³ “Colorado Family Physicians’ Attitudes toward

⁵⁶ Blake and Finlaw, “Marijuana Legalization in Colorado: Learned Lessons.”

⁵⁷ Caulkins et al., *Options and Issues Regarding Marijuana Legalization*.

⁵⁸ “The Marijuana Legalization Debate,” 2015, http://www.rand.org/pubs/research_briefs/RB9825.

⁵⁹ Dunford, “Colorado Cannabis Statistics Prove Law Enforcement Was Wrong.”

⁶⁰ John Ingold, “Colorado Police Chiefs Ask for More Money for Marijuana Enforcement,” March 5, 2014, http://www.denverpost.com/news/ci_25283504/colorado-police-chiefs-ask-more-money-marijuana-enforcement.

⁶¹ Wallis, “Neighboring States Challenge Colorado Pot Laws in Top U.S. Court.”

⁶² Sacco and Finklea, *State Marijuana Legalization Initiatives: Implications for Federal Law Enforcement*.

⁶³ Stacy Salomonsen-Sautel et al., “Trends in Fatal Motor Vehicle Crashes before and after Marijuana Commercialization in Colorado’: Corrigendum,” *Drug and Alcohol Dependence* 142 (September 1, 2014): 137–44, doi:<http://dx.doi.org.libproxy.nps.edu/10.1016/j.drugalcdep.2014.07.004>.

Medical Marijuana,”⁶⁴ and “Colorado Tackles Medical Implications of Marijuana”⁶⁵ all cover the health implications of cannabis decriminalization both throughout the United States and in Colorado alone. In these resources, a limited amount of historical data is available from which to draw conclusions as a result of the relatively new laws. This area will need additional research.

Federal Proposals to Tax Marijuana: An Economic Analysis is a review for the Congressional Research Service of current plans to apply a federal cannabis tax. The authors report provides in-depth speculation about the utility of a federal tax and possibilities of revenue generation. The report fails to solve banking issues relating to the cannabis industry, however, and does not address laws in place that make the placement of cannabis revenue into the banking system illegal.⁶⁶ “The Economics of the Drug War: Effective Federal Policy of Missed Opportunity?”⁶⁷ covers revenue possibilities as well. However, the author does not address organized crime and issues related to the regulation of cannabis. Rather, it covers potential tax revenue generation estimates if all drugs were legalized.

These works identify a uniform trend across different localities in the United States where cannabis is decriminalized. Federal, state, and local authorities no longer pay attention to cannabis from an enforcement perspective and opt to focus solely on regulating the industry. The potential for exploitation by DTOs has not been extensively examined. If angles exist to exploit the system, DTOs will find the gap and take advantage of it. Analysis of Denver and Seattle’s police crime reporting, combined with comparative analysis of the FBI’s UCR reporting from 2012 to 2015, should demonstrate DTO crime migration patterns, however.

Having reviewed a substantial volume of available literature, it is evident cannabis legalization is a contentious issue that is gaining steady support from an

⁶⁴ Kondrad and Reid, “Colorado Family Physicians’ Attitudes toward Medical Cannabis.”

⁶⁵ Bridget M. Kuehn, “Colorado Tackles Medical Implications of Marijuana,” *Journal of the American Medical Association* 311, no. 20 (May 28, 2014): 2053–2054, <http://jama.jamanetwork.com/article.aspx?articleID=1873093>.

⁶⁶ Lowery and Gravelle, *Federal Proposals to Tax Marijuana: An Economic Analysis*.

⁶⁷ McGuire, “The Economics of the Drug War: Effective Federal Policy of Missed Opportunity?”

expanding number of areas in the United States. Several gaps appear in the information as well. Primarily, no bodies of literature extensively identify the key components of cannabis regulation that could be leveraged into a workable legal and institutional approach in a national cannabis legalization framework. Moreover, research is lacking that reveals how crime is responding to this trend across state lines, and at regional, state, and local levels. While this chapter covers the recent field of study, the next chapter provides the historical background of cannabis leading up to its widespread acceptance today.

Beginning with the historical context of cannabis and its use in ancient China, the next chapter elaborates on how cannabis became illegal via international drug control at the United Nations in the early 1900s. Expanding from international drug control, gradually the United States became prohibitionist in its approaches to the drug, which resulted in criminalization and the inclusion of cannabis as part of the United States' war on drugs. The chapter concludes by expounding on recent trends and acceptance of cannabis as a medical treatment and recreational drug.

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III. A SUMMARY OF CANNABIS USE IN THE UNITED STATES: HOW IT ARRIVED WHERE IT IS TODAY

A. INTRODUCTION

This chapter covers the historical background of cannabis leading up to its current status. Many have an understanding of the drug solely based on its scheduling within the CSA without considering any historical context. The aim of this chapter is to provide this context as a basis for understanding how this drug and the culture surrounding about how it arrived where it is today.

B. HISTORICAL CONTEXT

Cannabis is a plant that has been used by humans for thousands of years. The plant has primarily been used for three purposes: manufacture of hemp cloth, medicine, and recreational drug use. Cannabis, also known by its scientific name *Cannabis sativa*, has its early roots recorded as far back as 2737 B.C. under Chinese Emperor Shen Nung, the Father of Chinese Medicine and acupuncture.⁶⁸ Originally used as a medicine, the drug expanded in use and popularity to India (1500 B.C.), the Middle East (900 B.C.), Europe (800 B.C.), Southeast Asia (100 A.D.), Africa (1000 A.D.), and finally, to the Americas (1800 A.D.).⁶⁹

As cannabis use increased throughout the world, so did other drugs. Opium, for example, was such a prevalent drug throughout the world, widespread propensity for abuse lead to initial global drug control efforts. In 1912, the Hague Convention established a coordinated international effort to control the import and export of opium. Following the Treaty of Versailles around 1919, the League of Nations was established to enforce and administer the Hague Convention of 1912. The League of Nations created the Opium Advisory Committee (OAC) to provide oversight of this effort, and thus, international drug control was born.

⁶⁸ United Nations Office on Drugs and Crime, *A Century of International Drug Control*, 15.

⁶⁹ Ibid.

C. INTERNATIONAL DRUG CONTROL

Following several years of implementation of new global drug controls and the admission of 67 countries to the convention, a significant increase from the original 10, the 1925 Convention was held during which cannabis, or its derivatives, was added to the list of internationally controlled substances. The addition of cannabis as a controlled substance was in response to political pressure from the head of the Egyptian delegation, Dr. Mohammed Abdel Salam El Guindy, who classified cannabis as “at least as harmful as opium, if not more so.”⁷⁰ Following a subcommittee meeting, a unanimous decision was made to prohibit the exportation to countries where it was illegal, as well as require an importation certificate for countries that allowed its use.⁷¹

The treaty effectively banned cannabis on the world stage, which set the foundation for a top-down government approach to ban the drug further domestically. Between 1915 and 1930, only four of the then 48 states in the United States enacted prohibitions against non-medical cannabis. Following additional drug control conferences, such as the Conference for the Suppression of Illicit Traffic in Dangerous Drugs in Geneva in 1936, national, state and local governments took legislative action to ban the substance. Following this convention, 46 of 48 states in the United States adopted laws that banned the drug.⁷²

The contentious issues that dominated the political landscape at the time became a focus on whether cannabis actually served a medical purpose, and the approach to the use of the drug was becoming increasingly intolerant, especially recreationally. Following World War II, the United States was extremely influential in world affairs, and as a result of the prohibitionist approach of the Federal Bureau of Narcotics (FBN), it appeared the United States would attempt to outlaw cannabis altogether, citing that less harmful drugs

⁷⁰ Robert Kendell, “Cannabis Condemned: The Proscription of Indian Hemp,” *Addiction* 98, no. 2 (February 2003): 144, doi:<http://dx.doi.org.libproxy.nps.edu/10.1046/j.1360-0443.2003.00273.x>.

⁷¹ Dave Bewley-Taylor, Tom Blickman, and Martin Jelsma, *The Rise and Decline of Cannabis Prohibition: The History of Cannabis in the UN Drug Control System and Options for Reform* (Amsterdam, Netherlands: Transnational Institute, 2014), 62.

⁷² *Ibid.*, 18.

could be used for medical treatments, while recreational use was completely unacceptable.⁷³

During the 1961 Single Convention, and in line with the U.S. approach to controlling the drug, the United Nations designated cannabis as containing the most dangerous and addictive substances that produce the most harm to humans.⁷⁴ Effectively, 50 years of effort culminated in the abolition of cannabis as an acceptable medical or recreational drug, and aligned it with cocaine and morphine in terms of the potential harm it could cause users.

International drug control policy is established through the cooperation from participating countries within the United Nations via the United Nations Office on Drugs and Crime (UNODC). Since 1960, a variety of international drug control mechanisms has been established by the UNODC. The UNODC primarily bases its operations on the Single Convention on Narcotic Drugs of 1961, as amended by the 1972 Protocol, the Convention on Psychotropic Substances of 1971, and the United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances of 1988.⁷⁵

Within each of these internationally agreed upon drug control strategies, the focus on cannabis as a hard drug, comparable in terms of harmfulness to heroin or cocaine, has graduated to more stringent control over time. The 1961 Convention established control over the cultivation of the cannabis plant. However, it also allowed a 25-year window to comply with controls as they pertain to the use of cannabis for anything other than medical or scientific purposes.⁷⁶

As time passed and subsequent rules were established via UNODC conventions, the international approach took a more hardline approach. In 1986, the 25-year

⁷³ James H. Mills, *Cannabis Nation: Control and Consumption in Britain, 1928–2008* (Oxford: Oxford University Press, 2013), 97–98.

⁷⁴ United Nations Office on Drugs and Crime, *Final Act of the United Nations Conference for the Adoption of a Single Convention on Narcotics Drugs, 1961* (Vienna Austria: United Nations Office on Drugs and Crime, 1972), 26, https://www.unodc.org/pdf/convention_1961_en.pdf.

⁷⁵ “United Nations Office on Drugs and Crime Mandates,” accessed September 23, 2015, <https://www.unodc.org/unodc/en/alternative-development/mandates.html>.

⁷⁶ “Final Act of the United Nations Conference for the Adoption of a Single Convention on Narcotics Drugs, 1961,” 23.

compliance window expired and during the United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances of 1988, signatory countries agreed to take measures to prevent the illicit cultivation and eradicate all plants containing psychotropic substances, such as cannabis.⁷⁷ As evidenced in the United States, the trajectory of drug enforcement became more stringent toward all drugs between the 1961 Convention and today with the war on drugs. In 1971, President Nixon asserted this war by stating at a press conference that drug abuse was public enemy number one.⁷⁸

D. THE WAR ON DRUGS AND DECRIMINALIZATION

Notwithstanding the war on drugs, several states took matters into their own hands as far as decriminalizing cannabis use. Oregon passed legislation to decriminalize cannabis possession in 1973, and was the first state to do so, followed by California and Alaska in 1975.⁷⁹ Many states followed this lead throughout the remainder of the 1970s and 1980s, and made the possession of small amounts of cannabis a low priority to law enforcement agencies. The disparity in approach to cannabis enforcement was so vast, toward the end of the Carter administration, the president sought to allow anyone over 21 to possess up to one ounce of cannabis legally, along with funding for treatment programs for addicts.⁸⁰

E. DRUG TRAFFICKING ORGANIZATIONS

The Reagan administration reinvigorated the war on drugs, however, especially as it pertained to cannabis enforcement with the focus of enforcement placed on transnational criminal organizations (TCOs). In November 1984, the Drug Enforcement

⁷⁷ United Nations, *United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances, 1988* (Vienna, Austria: United Nations, 1988), 14, http://unicri.us/topics/organized_crime_corruption/archive/training_albania/materials/1988_Convention%20Illicit%20Drug%20Trafficking.pdf.

⁷⁸ “Thirty Years of America’s Drug War,” accessed September 24, 2015, <http://www.pbs.org/wgbh/pages/frontline/shows/drugs/cron/>.

⁷⁹ “Marijuana Law Reform Timeline,” accessed September 24, 2015, <http://norml.org/shop/item/marijuana-law-reform-timeline>.

⁸⁰ Jimmy Carter, “Call off the Global Drug War,” *New York Times*, June 17, 2011, http://www.mrgoslin.com/uploads/9/0/6/3/9063086/jimmy_carter_drug_war.pdf.

Agency (DEA) and Mexican law enforcement officers raided one of the largest cannabis plantations ever discovered in Chihuahua, Mexico. The plantation was owned by Rafael Quintero and netted approximately 10,000 tons of cannabis, worth \$2.5 billion.⁸¹

This raid is only one example of the focus of drug enforcement; however, it speaks to the outward concentration on cannabis enforcement at the time. Within the United States, efforts were continued to decriminalize cannabis for medical use, or in small personal-use amounts, yet between 1990 and 2002, 82% of the national increase in drug arrests were for cannabis-related offenses, with virtually all of those for possession, which resulted in the expenditure of about \$4 billion per year dedicated to minor offenses that were either dismissed or adjudicated as a misdemeanor.⁸² It would be expected that a substantial impact had been made to degrade the capacities of DTOs; however, quite the opposite has been demonstrated since embarking on the drug war.

The war on drugs was on a steady course through the 1990s. With the focus of the drug war on major TCOs, the domestic enforcement focus on cannabis also steadily intensified. Between 1990 and 2002, the arrest frequency for cannabis possession increased 113%, which coincided with decreased costs, increased THC levels, as well as use and availability.⁸³ Alongside this trend, a spate of state ballot initiatives or legislative actions gained approval for the administration of medical cannabis programs. On the heels of California's Compassionate Use Act of 1996, municipalities, as well as state governments, adjusted laws to incorporate medical cannabis as a legal means of treating common ailments, and thereby, affirming the legal use of medical cannabis in the eyes of the corresponding level of government.⁸⁴

Proximity to the United States means Mexico exerts primary control over drug distribution in the United States. For over a century, Mexico has been home to DTOs catering to the United States, and exacerbated by a high level of corruption resulting from

⁸¹ Jacob Lamar, "The Bust of the Century," *Time*, December 3, 1984.

⁸² Ryan S. King and Marc Mauer, "The War on Marijuana: The Transformation of the War on Drugs in the 1990s," *Harm Reduction Journal* 3, no. 6 (2006): 6.

⁸³ *Ibid.*, 4.

⁸⁴ "Compassionate Use Act—MMP-Proposition 215," accessed September 25, 2015, <https://www.cdph.ca.gov/programs/MMP/Pages/CompassionateUseact.aspx>.

profits while continued illegality enhances this effect further.⁸⁵ Over time, and with the fluctuation of drug enforcement, demand for illicit drugs has increased and caused the valuation of illicit drugs to increase proportionately, and thereby, profitability to DTOs also increased.

The DOJ, National Drug Intelligence Center (NDIC) and DEA assert nine drug trafficking organizations control the entire illicit drug trafficking business in Mexico (Sinaloa Cartel, Los Zetas, Gulf Cartel, Juarez Cartel, Beltran Leyva Organization, La Familia Michoacana, and the Tijuana Cartel).⁸⁶ In 2015, however, Stratfor analysis indicated at least 14 major DTO's are servicing the southwest border of the United States, all of whom traffic in cannabis, and that number is increasing as larger organizations balkanize.⁸⁷

As with DTOs from Mexico, most organizations diversify their operations and become poly-crime businesses. In Mexico, DTOs have been forced to become more resilient through a variety of methods. One of the prominent methods is through diversifying their illicit activities. DTOs are now engaged in a hodgepodge of kidnapping, assassination for hire, auto theft, prostitution, extortion, money laundering, software piracy, resource theft, and human smuggling.⁸⁸ Diversification suggests that the organizations are adapting their business models to accommodate slowdowns in various areas of activity, such as a decreased demand for cannabis in the United States.

For now, cannabis still remains the most commonly used illicit drug in the United States, however. In 2013, the Congressional Research Service estimated that 19.8 million people in the United States aged 12 or older had used cannabis in the last month.⁸⁹

⁸⁵ George Philip and Susana Berruecos, ed., *Mexico's Struggle for Public Security* (London: Palgrave Macmillan, 2012), <http://www.palgraveconnect.com/doi/10.1057/9781137034052>.

⁸⁶ National Drug Intelligence Center, *National Drug Threat Assessment: 2011* (Washington, DC: U.S. Department of Justice, 2011), 7, <http://www.justice.gov/ndic/pubs44/44849/44849p.pdf>.

⁸⁷ "In Mexico, the Delineation of Cartel Power Becomes More Complex," accessed October 8, 2015, <https://www.stratfor.com/image/mexico-delineation-cartel-power-becomes-more-complex>.

⁸⁸ June S. Beittel, *Mexico: Organized Crime and Drug Trafficking Organizations* (CSR Report No. R41576) (Washington, DC: Congressional Research Service, 2015), 29, <https://www.fas.org/sgp/crs/row/R41576.pdf>.

⁸⁹ Sacco and Finklea, *State Marijuana Legalization Initiatives: Implications for Federal Law Enforcement*, 2.

Primarily, Mexican DTOs are meeting such high demand. As Figure 1 demonstrates, the majority of the flow of black market cannabis comes from Mexico and makes its way across the United States. This figure does not account for legalization in Colorado and Washington, however, and raises the question of how the trafficking flow illustrated in Figure 1 will be affected.

Figure 1. Flow of Illicit Cannabis in the United States, 2008 to 2010



Source: National Drug Intelligence Center, *National Drug Threat Assessment: 2011* (Washington, DC: U.S. Department of Justice, 2011), <http://www.justice.gov/ndic/pubs/44/44849/44849p.pdf>.

1. Competition from Licit Cannabis

Cannabis legalization in the United States creates competition for DTOs. The wholesale values for cannabis in the United States vary from \$1,100 to \$13,000 per kilogram, depending on quality, while the street value of crystal methamphetamine ranges from \$19,720 to \$87,717 per kilogram.⁹⁰ This value implies that distributing other drugs is a much more profitable business for DTO's. Introducing legal, high-quality

⁹⁰ "Criminal Commodities: Marijuana."

cannabis managed by state governments creates competition and cuts into the profitability of black-market cannabis. However, it also hints that states where cannabis is illegal will see more prevalent cannabis activity from DTOs attempting to hedge lost revenue. The DOJ has recognized this loss of revenue as a factor in cannabis markets. In response to both medical and recreational cannabis legalization, the department issued prosecutorial guidance for their U.S. attorneys in dealing with cannabis enforcement issues nationwide.

2. Ogden and Cole Memos

In 2009, Deputy U.S. Attorney General David Ogden issued guidance to help focus federal investigations and prosecutions in states where medical cannabis laws were enacted.⁹¹ As medical cannabis was becoming more widely accepted during this timeframe, the Obama administration sought to reign in sporadic law enforcement efforts in favor of a unified approach. This guidance was issued to prosecutors in an effort to reserve finite federal resources so they could be directed to more pressing federal priorities. Under this guidance, prosecution priorities include unlawful possession or unlawful use of firearms, violence, and sales to minors.⁹² “Financial and marketing activities inconsistent with the terms of state law, including evidence of money laundering activity and/or financial gains or excessive amounts of cash inconsistent with the purported compliance with state or local law” also rise as a prosecution priority.⁹³ The DOJ additionally targets “amounts of marijuana inconsistent with purported compliance with state or local law, illegal possession or sale of other controlled substances, or ties to other criminal enterprises” under this guidance.⁹⁴

The Ogden Memo, as it has become known, cleared the path for federal acceptance of medical cannabis. Despite guidance that includes “no state can authorize violations of federal law” and “nothing herein precludes investigation or prosecution,”

⁹¹ Ogden, “Memorandum for Selected United State Attorneys on Investigating and Prosecutions in States Authorizing the Medical Use of Marijuana,” 1.

⁹² *Ibid.*, 2.

⁹³ *Ibid.*

⁹⁴ *Ibid.*

this memo fundamentally initiated an era in which federal authorities would not enforce the CSA when it applied to medical cannabis. Effectively, criminal and regulatory enforcement burden was shifted to individual states.

In 2013, in similar fashion to the Ogden Memo, Deputy Attorney General James Cole issued guidance regarding cannabis enforcement. This guidance followed the legalization of possession of small quantities of cannabis in some states. Prosecutorial guidance also changed during this timeframe to focus more on “preventing the distribution of cannabis to minors, preventing revenue from the sale of cannabis from going to criminal enterprises, gangs, and cartels, and preventing the diversion of marijuana from states where it is legal under state law in some form to other states.”⁹⁵ In addition to this guidance, the Cole Memo also prevented “state-authorized cannabis activity from being used as a cover or pretext for the trafficking of other illegal drugs or other illegal activity, prevented violence and the use of firearms in the cultivation and distribution of cannabis, and prevented drugged driving and the exacerbation of other adverse public health consequences associated with marijuana use.”⁹⁶ Finally, the memo focused on “preventing the growing of cannabis on public lands and the attendant public safety and environmental dangers posed by cannabis production on public lands, and preventing cannabis possession or use on federal property.”⁹⁷

The Cole Memo was meant to guide federal prosecution guidelines after recreational cannabis was legalized in Washington and Colorado. The Cole Memo guidelines established a safe haven in both states in which the legal cannabis industry could establish itself and operate without fear of criminal prosecution under the CSA. U.S. attorneys in all states received this guidance, and in the event additional states follow on with legal cannabis, they will also be able to operate with impunity from federal prosecution.

⁹⁵ Cole, *Memorandum for All United States Attorneys, Guidance Regarding Marijuana Enforcement*, 1–2.

⁹⁶ *Ibid.*, 2.

⁹⁷ *Ibid.*

State ballot initiatives opened the door to cannabis legalization in the medical or recreational lanes; giving the appearance the federal government was turning a blind eye to the trend. In fact, as previously indicated, the federal government set some very defined guidelines from which states could draw on to formulate their municipal and state regulatory infrastructures. In effect, by releasing the enforcement burden to the states, the federal government established the ground rules for this enforcement to occur.

Accordingly, Colorado and Washington, the first two states to legalize cannabis for recreational use, have established robust regulatory systems that use the Ogden and Cole memos as their foundations. In Chapter V, Colorado and Washington states' regulatory structures are discussed at length.

F. SUMMARY

History demonstrates attitudes toward cannabis have been and will continue to be contentious at best. It is logical that voter driven ballot initiatives are the driving force behind cannabis legalization in the United States because it is the most used drug in the country. It also stands to reason that despite the popularity of the drug and its rapidly growing footprint in the United States, many considerations have yet to be studied. Associated health issues are long-term questions that will take years to consider. In the short-term, implementing effective regulation and anticipating the strategies of criminal organizations, in light of cannabis legalization, are of great importance. Through effective regulation, cannabis black markets can be outcompeted by government in legal cannabis areas. Additionally, DTO response activity can be studied to provide an opportunity to align government resources where they are needed.

The next chapter provides an explanation of the data used for this thesis. As a means of assessing the advantages and disadvantages of cannabis legalization in Colorado and Washington, data is primarily comprised of regulatory laws, financial data, and criminal statistics.

IV. RESEARCH DATA

A. INTRODUCTION

The cannabis legalization debate has been ongoing for many years. Both sides of the debate pose valid arguments for and against legalization. As a result of the diametrically opposed positions, the manner in which the United States approaches the drug has resulted in a patchwork of acceptance and legality geographically. With Colorado and Washington already operating fully legal cannabis industries, and Alaska and Oregon in the process of establishing regulatory mechanisms to manage the new industry, a great opportunity exists to substantiate claims on both sides. Ultimately, the take-away should be evolving drug policy. Both sides of the cannabis legalization debate dispute matters associated with regulation, health, taxation, banking, crime, and the economy. Accordingly, this thesis examines the advantages and disadvantages of cannabis legalization since 2012 in Colorado and Washington in three areas. Those areas are regulation, finance, and crime. Each area is addressed individually in the next three sections.

B. REGULATORY SYSTEM DATA

Colorado and Washington have regulatory systems designed to manage a commercial industry. The emergence of these types of infrastructures in both states has likely been driven by the need to adhere to the same federal laws, as well as the U.S. Constitution.⁹⁸ Information gleaned from the Colorado Marijuana Enforcement Division (MED), as well as the Washington State Liquor and Marijuana Control Board (LMCB), indicates both states have implemented regulatory infrastructures similar to those used to regulate alcoholic beverages.⁹⁹ The comparative information in the Appendix is derived from Colorado MED and Washington LMCB regulations, and it highlights key aspects

⁹⁸ Pardo, “Cannabis Policy Reforms in the Americas: A Comparative Analysis of Colorado, Washington, and Uruguay,” 733.

⁹⁹ “FAQs on I-502,” December 17, 2012, http://lcb.wa.gov/marijuana/faqs_i-502; “Marijuana Enforcement,” accessed December 20, 2014, <https://www.colorado.gov/pacific/enforcement/marijuana/enforcement>.

including taxation, licensing, possession/use, and other requirements within the states. The advantages and disadvantages of these regulatory systems are discussed at length in Chapter V.

C. FISCAL AND ECONOMIC DATA

This section addresses fiscal and economic data surrounding the cannabis industry in Colorado and Washington. The first section specifically addresses data holdings specific to tax revenues within the states. In the second section, other economic indicator data, such as travel, employment, and real estate, are the focus.

1. State Tax Revenue Reporting

The Colorado Department of Revenue maintains hearty cannabis tax revenue reporting.¹⁰⁰ Official tax revenue reporting collected for the state includes sales, licensing, and excise tax revenue data for both medical and recreational cannabis. This data has been maintained since the introduction of recreational cannabis in Colorado in January 2014 and spans to the most recent available reporting in October 2015. Similar to Colorado, Washington also maintains its own tax accounting mechanisms.

The Washington State Liquor and Cannabis Board (WLCB) maintains tax revenue and total sale data for both medical and recreational cannabis.¹⁰¹ The data reviewed for this thesis represents monthly total sales, licensing, and tax collections from Washington fiscal years 2014 to November 2015, which represents the total duration recreational cannabis has been legal in the state.

2. Other Economic Indicators

In addition to state tax revenue data, other economic indicators have been included as advantages and disadvantages of cannabis legalization in Colorado and Washington. Travel trends in Colorado have been examined extensively for the state

¹⁰⁰ “Colorado Marijuana Tax Data,” accessed December 12, 2015, <https://www.colorado.gov/pacific/revenue/colorado-marijuana-tax-data>.

¹⁰¹ “Frequently Requested Lists,” August 2, 2011, <http://www.liq.wa.gov/records/frequently-requested-lists>.

government to help assess the travel industry within the state. Accordingly, this thesis includes travel data from the “Colorado Travel Impacts 1996 to 2014” report by Dean Runyan and Associates.¹⁰²

Real estate and employment figures play important roles in assessing the viability of the economy. Commercial real estate company CBRE Group provides real estate market analysis for the greater Denver, Colorado area.¹⁰³ While residential analysis as it pertains to the cannabis industry is difficult to locate, the company conducted an analysis of how industrial real estate has been impacted by the cannabis industry in Denver. Data from this report is included in this thesis. In terms of employment data, The Colorado MED provides an annual update on the status of marijuana enforcement in the state. As the state requires background checks and collection of data about the employees in the cannabis industry, this report contains relevant data concerning employment figures. This data is analyzed to assess further employment figures directly related to the cannabis industry.

D. CRIME DATA

The FBI’s UCR was originally established in 1929 by the International Association of Chiefs of Police (IACP) to meet the “need for reliable uniform crime statistics for the nation.”¹⁰⁴ Today, the FBI maintains the program and it houses multiple reports, produced from the statistical holdings of more than 18,000 law enforcement agencies.¹⁰⁵ Crime data collected in support of this thesis is derived from reporting in three areas of the FBI’s UCR: drug arrests, violent crime, and property crime. Each area measures these crimes in Colorado and Washington and compares the data against national averages in the same categories and the duration measured includes years 2012, 2013, and 2014.

¹⁰² “Colorado Travel Impacts 1996–2014,” June 2015, http://www.deanrunyan.com/doc_library/CO_Imp.pdf.

¹⁰³ “Marijuana Industry Influences Denver’s Real Estate Recovery,” accessed February 2, 2016, <http://www.cbre.us/o/denvermarket/real-estate-news/Pages/Marijuana-Industry-Influences-Denvers-Real-Estate-Recovery.aspx>.

¹⁰⁴ “Uniform Crime Reporting.”

¹⁰⁵ *Ibid.*

As an additional means of data validation, the UCR data analysis is compared to the same data maintained by the two largest city police departments in Colorado and Washington, the Seattle and Denver police departments. This extra level of comparison is being completed to corroborate any of the findings of the analysis at the state level, given that findings should be exaggerated within these cities as a result of the high concentration of cannabis industry activity in these locations. In other words, if identifiable trends in crime at the state level occur, an exaggerated level of the same trend in these cities should happen as a result of the higher level of cannabis commerce occurring there. Each of the next sections further highlights the elements of the crime data being analyzed.

1. Regional Drug Arrest Activity

The drug arrest activity reporting represents the percentage of distribution of arrests for drug abuse violations by region. State level data is not available. Drug abuse violations are divided into two categories, namely *sale/manufacturing* and *possession*. In addition, the violations further breakdown into drug types. Washington and Colorado are both located in the west region for the purposes of this data. An additional 10 states are also included in this region.

2. Violent Crime

Violent crime data addresses the individual states of Colorado and Washington. According to the FBI's UCR, violent crime is defined as murder and non-negligent manslaughter, forcible rape, robbery, and aggravated assault.¹⁰⁶ Violent crimes are defined as such because they involve force or threat of force. The data further separates minors from the total arrest numbers, and provides the total population for the state.

3. Property Crime

Property crime data addresses the states of Colorado and Washington. According to the FBI's UCR, property crime is defined as burglary, larceny, theft, motor vehicle

¹⁰⁶ "Violent Crime," accessed December 12, 2015, <https://www.fbi.gov/about-us/cjis/ucr/crime-in-the-u.s/2012/crime-in-the-u.s.-2012/violent-crime/violent-crime>.

theft, and arson: “The object of the theft-type offenses is the taking of money or property, but force or the threat of force is not used against the victims.”¹⁰⁷ The data further separates minors from the total arrest numbers, and provides the total population for the state.

4. City-Level Crime

The highest concentration of dispensed legal cannabis occurs in the largest cities in Colorado and Washington. As such, it is important to analyze crime levels in these cities as the industry is most firmly rooted in these locations and the crime statistics are more representative of the effect legalized cannabis has on a locality. Crime statistical data includes information from 2012 to 2015 from Denver, Colorado and Seattle, Washington.

E. SUMMARY

The data collected for this thesis focuses on the most impacted areas of the actual legalization debate. The introduction in Chapter I clearly identifies some of the more prominent debate points from both sides of the legalization discussion. The majority of these points, with the exception of health, can be categorized under regulation, finance, or crime. The next chapter reviews data specific to Colorado and Washington before and after legalization to identify advantages and disadvantages legalization in both states. The findings refute or substantiate points on both sides of the debate and as an output, policy recommendations are made to improve identified disadvantages.

¹⁰⁷ Ibid.

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V. RESEARCH RESULTS AND DISCUSSION

A. INTRODUCTION

The purpose of this chapter is to provide analysis and discussion of the data from Chapter IV. This data addresses three areas relating to cannabis regulation, finance, and crime in the states of Colorado and Washington. This chapter is divided into two sections entitled substantial *advantages* of cannabis and substantial *disadvantages* of cannabis to cover both sides of the debate. Each of these sections addresses key data points in subsections from cannabis regulation, finance, and crime data in greater detail.

B. SUBSTANTIAL ADVANTAGES OF CANNABIS

This section is comprised of three sections that address solely the advantages of legalizing cannabis, as derived from regulatory, financial, and criminal data holdings associated with Colorado and Washington. Some distinctive and unanticipated advantages to legalization have resulted within these states and the following sections address these advantages.

1. Cannabis Regulation

This section examines the positive aspects of the cannabis regulatory structures in Colorado and Washington. The first two states to legalize recreational cannabis have established for-profit commercial industry models of cannabis regulation, controlled by their own state agencies. With respect to the major components of the regulatory infrastructures, both are very similar in that they tax at cannabis production and sale points, control sale and possession amounts, marketing, and product labeling. The systems also implement criminal background check requirements for employees working in the industry, as well as track actual plants during their growth from what is known as seed to sale plant tracking. The Colorado MED and the Washington State LMCB are both derived from state liquor regulatory agencies.¹⁰⁸ As such, both state agencies have the

¹⁰⁸ “FAQs on I-502”; “Marijuana Enforcement.”

experience of addressing the regulation of alcohol and leveraging this experience into their cannabis regulatory methodologies.

While both states have implemented a regulatory system similar to alcoholic beverage controls, a significant advantage for both states relies on their geographic location with relation to other prohibitionist states. Colorado and Washington are surrounded by prohibitionist states, or at least decriminalized, states. Proximity to these other states lends to the notion that not only will Colorado and Washington benefit from the population from their states in terms of cannabis sales, but they will also cater to the cannabis consumers of other prohibitionist states. An unintended benefit of the commercial system is the draw of consumers from other states, which means not only are cannabis-legal states deriving revenue from their own populations, but they are also bringing in revenue from neighboring states where the drug is prohibited.

Thus, the commercial model regulatory systems of Colorado and Washington invariably have an impact on the cannabis markets of prohibitionist states, as well as their own. In Colorado, for example, the state estimates nearly 50% of the recreational sales of cannabis in Denver consist of out-of-state sales, while out-of-state consumers make up 90% of sales in mountain resort communities.¹⁰⁹ This information highlights that a significant portion of consumers come from other areas, presumably prohibitionist states. Colorado and Washington do not track where consumers reside; therefore, defining where out-of-state consumers are from on a widespread level is a limitation. The fact remains that the bulk of recreational sales in Colorado are made to consumers from other states, and that citizens from prohibitionist states represent a significant market for sales of legal cannabis. These sales favor the displacement of black markets even in prohibitionist states, and as a result of improvements made to quality control cannabis production in cannabis legal states; this effect will continue to evolve.

Cannabis consumers will patronize markets where they obtain the highest quality product at the lowest cost. Markets in Washington and Colorado are profit motivated, so

¹⁰⁹ John Ingold, "Colorado Study Pegs Annual Pot Demand at 130 Metric Tons," *The Cannabist*, July 9, 2014, <http://www.thecannabist.co/2014/07/09/colorado-marijuana-consumption-estimate-130-metric-tons-study-medical-marijuana-recreational/16000/>.

in both locations, quality is a priority. In Colorado, for example, “Colorado Marijuana Study Finds Legal Weed Contains Potent THC Levels,” found that typical cannabis from the pre-2000s era contained about 10% THC, whereas current levels average 18.7%, and in many instances, reaches 30%.¹¹⁰ This factor bodes well for the licit market in that the most potent cannabis on the planet is grown in the legal systems in Colorado and Washington. In terms of quality control, the regulatory systems in Colorado and Washington will continue to attract consumers who seek high quality cannabis, even those from outside their states.

Legal and regulatory disparity among states, and a lack of a rational cannabis strategy at the national level, creates a licit business opportunity. Legalizing cannabis in select states opens the door for them to establish legal markets that cater to everyone, regardless of state boundaries. It is significant in that it appears a large portion of consumers come from prohibitionist states. Therefore, cannabis-legal states are capitalizing on regulatory and legal disparity. Coupled with a lack of an enforced national policy on the matter, and high demand in prohibitionist states, states early to legalize will be in a position to gain the most fiscally. This factor will hold true at least as long as other states continue to be prohibitionist. The next section addresses the financial benefits of cannabis in fully legal states.

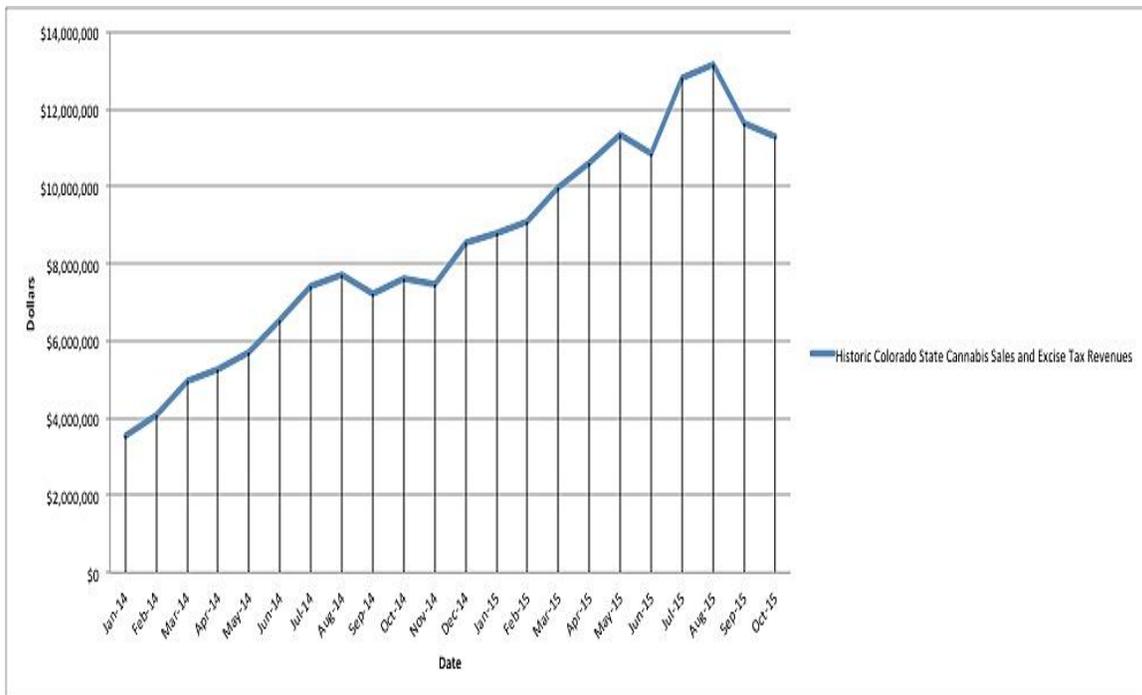
2. Financial Implications

As previously underscored, cannabis-legal states tap into a substantial level of demand for the substance. Historically, as a result of the war on drugs approach to the drug, demand was met by DTOs and other criminal organizations. Today, as a result of state operated distribution of cannabis, a supply shift has occurred from these criminal organizations, to legitimate government regulatory agencies and the private sector. The states and private sector have benefited from legal cannabis by replacing criminal organizations.

¹¹⁰ Bill Briggs, “Colorado Marijuana Study Finds Legal Weed Contains Potent THC Levels,” *NBC News*, March 23, 2015, <http://www.nbcnews.com/storyline/legal-pot/legal-weed-surprisingly-strong-dirty-tests-find-n327811>.

In Figure 2, the benefit of operating a high-demand business that has transitioned from an illegal status to a legal status is demonstrated. In just under two years, the commercial cannabis industry in Colorado has gone from generating \$3.51 million (January 2014) in taxes, licenses, and fees per month to \$13.2 million (August 2015).¹¹¹ As Figure 2 demonstrates, between August and October 2015, revenues in this category decreased from \$13.2 million to \$11.3 million.¹¹² For the period measured, revenues have averaged \$8.4 million a month, with an average monthly increase in revenues of \$370,012.¹¹³ These figures suggest legal cannabis markets continue to grow and absorb what has historically been a black market business not just in state, but from prohibitionist states as well.

Figure 2. Colorado Tax Revenue by Month since Inception of Recreational Cannabis Legalization



Source: “Colorado Marijuana Tax Data,” accessed December 12, 2015, <https://www.colorado.gov/pacific/revenue/colorado-marijuana-tax-data>.

¹¹¹ “Colorado Marijuana Tax Data.”

¹¹² Ibid.

¹¹³ Ibid.

As previously underlined, cannabis tax revenues in the state of Colorado, since the inception of recreational cannabis, demonstrate a paradigm shift from what has historically been a black-market commodity to a legitimate business. Aside from tax and private sector sales, which are well accounted for by the state, some notable economic benefits have also been realized in Colorado. All-encompassing data available in this area is not as reliable as tax income figures maintained by the state because no single source is tracking this information. However, sporadic entities do account for cannabis economic stimulus, as the next paragraph highlights.

As a result of a private sector regulated by the state, Colorado's cannabis industry has not only drawn tax revenues for the state, but it has also helped generate economic stimulus in the form of job creation, real estate value increase, and tourism. According to "Colorado Travel Impacts 1996 to 2014," "the Colorado travel industry experienced a 7.4% increase in spending from 2013 in current dollars, and when adjusted for price changes, the increase in travel spending for Colorado was approximately 6.5%."¹¹⁴ Although it is difficult to ascertain if residential real estate has been directly impacted by legalization, CBRE, the largest commercial real estate company servicing Denver, indicates between 2009 and 2014, cannabis cultivation companies have increased occupancy to more than a third of the industrial space leased in Denver.¹¹⁵ In terms of job creation, in December 2014, 15,992 people were licensed to work in the state's cannabis industry as compared to 6,593 at the beginning of 2014, which equates to an increase of 143% in one year.¹¹⁶

This data is significant because it reflects advantages of legal cannabis in Colorado not only impact tax and sale revenue figures, but also that other areas, such as real estate, employment, and travel sectors, benefit. These areas have realized advantages

¹¹⁴ "Colorado Travel Impacts 1996–2014," June 2015, 8, http://www.deanrunyan.com/doc_library/COImp.pdf.

¹¹⁵ Emilie Rusch, "Marijuana Industry Drives Denver Metro Area's Real Estate Recovery," *The Denver Post*, October 10, 2015, http://www.denverpost.com/marijuana/ci_28993836/marijuana-industry-drives-denver-metro-areas-real-estate-recovery.

¹¹⁶ Enforcement Division—Marijuana, *Annual Report* (Denver, CO: Colorado Department of Revenue, 2015), 5, https://www.colorado.gov/pacific/sites/default/files/2014%20MED%20Annual%20Report_1.pdf.

of legalized cannabis via second-hand economic stimulus. Although an increase in travel to Colorado has not been firmly linked as being caused by cannabis legalization, the increase correlates to data indicating a vast amount of cannabis sales are made to out-of-state residents. As a corollary, a 6% increase in inbound domestic flights to Colorado from 2013 was noted, and this increase is consistent with yearly increases since 2009, the year medical cannabis was legalized in Colorado.¹¹⁷

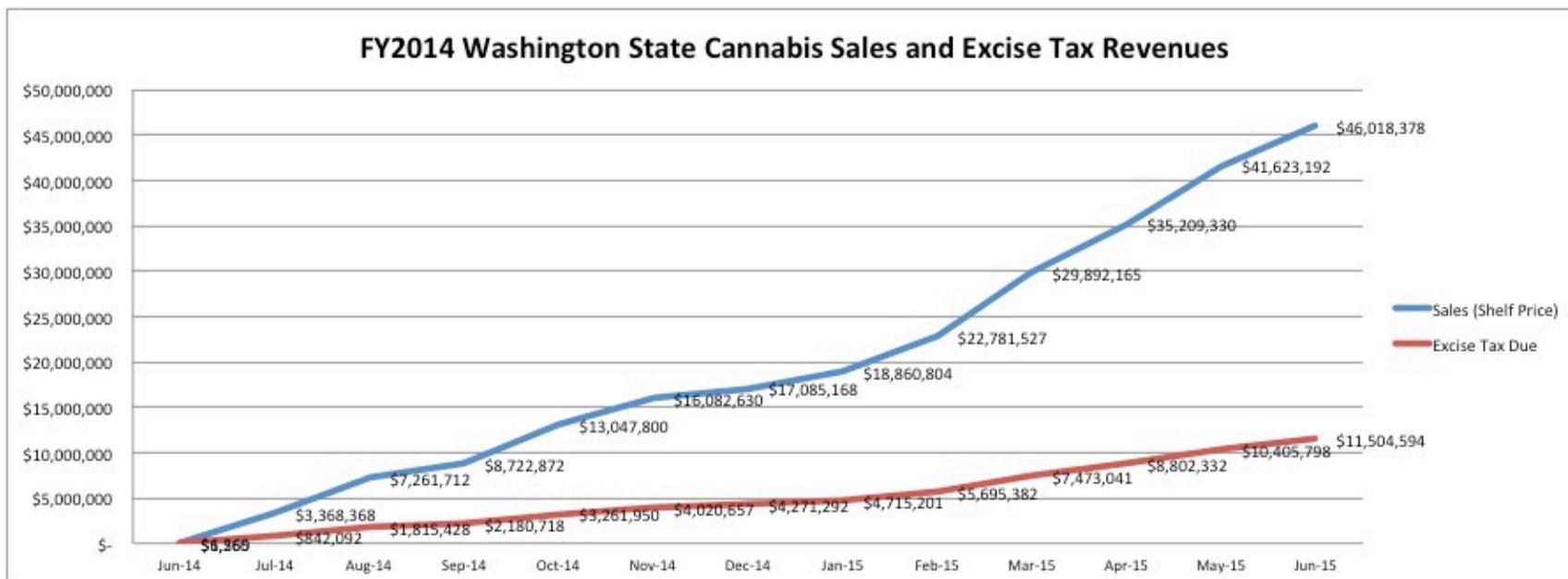
Data from Colorado demonstrates significant financial windfalls in the areas of tax, sales, real estate, employment, and travel increases. Washington state data also follows a similar trajectory as illustrated in Figures 3 and 4. During the 18 months for which statistics are available, the average revenue intake a month for Washington was \$7,271,118, and the average increase per month in revenues for the state was \$770,382.¹¹⁸ Despite operating their legal market for six months less than Colorado, Washington has more than doubled its monthly increase in tax revenues as compared to Colorado, which could be explained by any number of factors, including population growth. For example, between 2012 and 2015, Washington experienced a population growth of 25.5%, while Colorado experienced a growth rate of 10.5%.¹¹⁹ This rate of population growth could help to explain why Washington has an average monthly tax revenue increase about twice the size of Colorado's. However, the tax rates in both locations also differ in rate with Washington collecting approximately 10% more cannabis tax than Colorado.

¹¹⁷ "Colorado Travel Impacts 1996–2014," 4–9.

¹¹⁸ "Frequently Requested Lists."

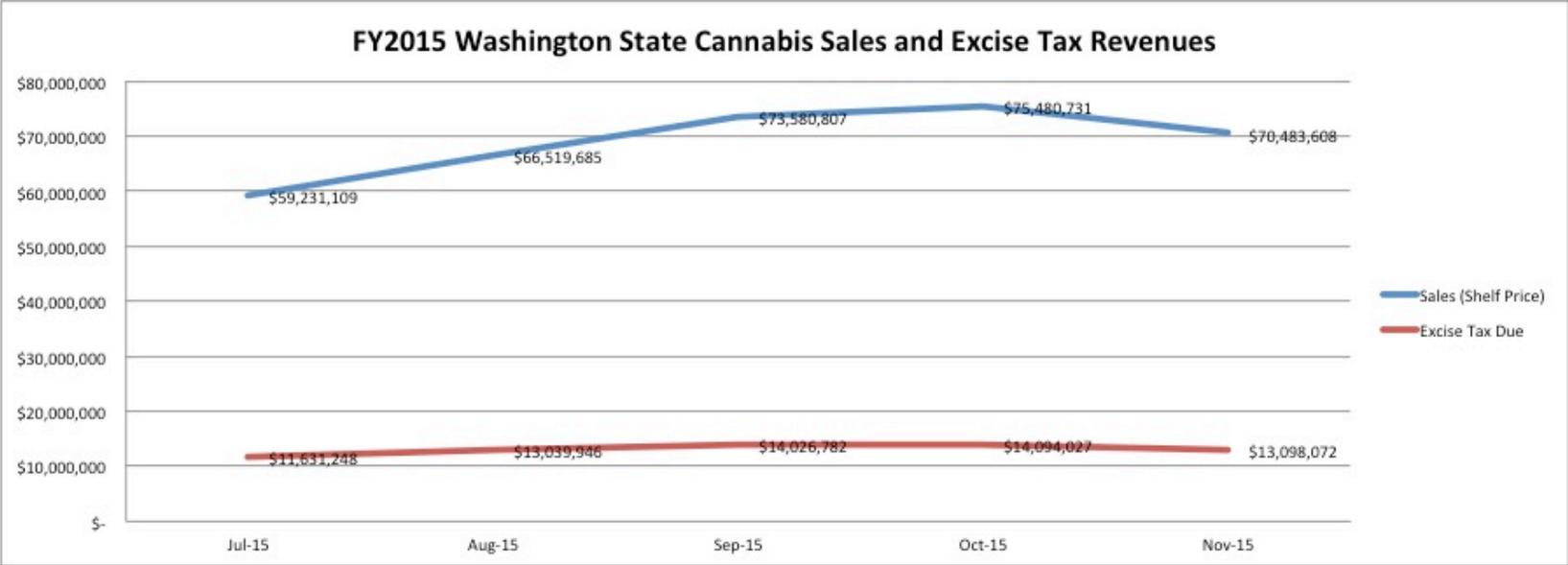
¹¹⁹ "Arrests by State 2012 Table 69," accessed November 21, 2015, https://www.fbi.gov/about-us/cjis/ucr/crime-in-the-u.s/2012/crime-in-the-u.s.-2012/tables/69tabledataadecpdf/table_69_arrest_by_state_2012.xls; "Arrests by State 2013 Table 69," accessed November 21, 2015, https://www.fbi.gov/about-us/cjis/ucr/crime-in-the-u.s/2013/crime-in-the-u.s.-2013/tables/table-69/table_69_arrest_by_state_2013.xls; "Arrests by State 2014 Table 69," accessed November 21, 2015, https://www.fbi.gov/about-us/cjis/ucr/crime-in-the-u.s/2014/crime-in-the-u.s.-2014/tables/table-69/Table_69_Arrest_by_State_2014.xls.

Figure 3. FY14 Washington Tax Revenues by Month



Adapted from “Frequently Requested Lists,” August 2, 2011, <http://www.liq.wa.gov/records/frequently-requested-lists>.

Figure 4. FY15 Washington Tax Revenues by Month



Adapted from "Frequently Requested Lists," August 2, 2011, <http://www.liq.wa.gov/records/frequently-requested-lists>.

Figures 2–4 are significant when compared. They demonstrate that in September/October 2015, revenues in both Washington and Colorado plateaued and even slightly decreased for the first time since legalization. This data suggests that the legal markets may have reached capacity within their respective territories. In short, the finite number of cannabis users who used to partake in black markets in both states may have completely transitioned to legal markets. In this case, that population of consumers will not increase; therefore, the level of revenue generated by private and public sectors will plateau or decrease. Additional analysis over time is needed to assess the volume of this market properly; however, at a certain point, the expectation is that market demand will be satisfied and revenues will not increase as substantially as they have been as the market's capacity is reached.

From a fiscal perspective, it is difficult to argue against cannabis legalization, at least within individual states. In both states where cannabis is fully legal, an enormous stream of revenue for the state, as well as the private sector, has been created. As a secondary benefit, other sectors such as employment, real estate, and travel have been positively impacted. This impact leads to the assertion that revenue for this high demand product is not only being drawn from within the state, but also from outside the state. The ubiquitous nature of drug trafficking leaves a fair amount of speculation in terms of lost market share to DTOs and other criminal organizations, but it is fair to assess that 100% of the revenue currently within the legal systems in Colorado and Washington have been taken from formerly black markets.

Considering these positive fiscal aspects, the next section deliberates positive impacts legalization has had on crime in cannabis-legal areas.

3. Crime

This thesis assessed crime factors in Colorado and Washington before and after cannabis was legalized for recreational sale and this section addresses the matter more extensively. The most advantageous factors relating to crime for cannabis legal states have been that cannabis offenses have significantly decreased, legal cannabis has drawn

consumers from the black market, and DTOs are hedging their cannabis losses into other drugs and crime.

The most prominent, and logical, advantage of cannabis legalization was the decrease in cannabis-related crimes. In Washington, for example, after the first year of fully legalized cannabis, court filings decreased 98% for low-level cannabis offenses by adults 21 years of age and older.¹²⁰ More significantly, between 2000 and 2010, Washington spent over \$200 million on cannabis enforcement.¹²¹ As a result of the decrease in low-level cannabis arrests, savings in police and court expenses on this type of crime could potentially save millions of dollars for the state.¹²² Decreasing the costs of enforcement of cannabis-related crime is one of the foundations of the pro-cannabis debate. Data substantiates this advantage in Colorado and Washington. Furthermore, the absence of potentially being arrested for low-level cannabis crimes is an incentive to consumers. Unsurprisingly, when an illegal substance is suddenly legal, the expectation is that crime in that area will decrease, as the data demonstrates, but continuing concern remains over how DTOs will hedge their losses.

Increased quantity and quality of cannabis products in the legal states of the United States supports the idea that the need to smuggle the drug from foreign countries like Mexico will continue to dwindle. Legal cannabis is cheaper to produce, in most cases grown locally, and more potent than black market cannabis in most cases as well.¹²³ Evading detection during smuggling does not result in an added benefit. Presumably, criminal efforts to decrease production costs to remain competitive in the United States will continue to become more difficult as the drug becomes more prevalent in legal markets.

In terms of drug crime, the FBI's UCR data examined suggests three trends may be occurring within cannabis-legal states. First, law enforcement resource excess is being

¹²⁰ Drug Policy Alliance, *Status Report: Marijuana Legalization in Washington*.

¹²¹ "What Are WA Counties Spending On Marijuana Law Enforcement?" August 24, 2012, <https://aclu-wa.org/blog/interactive-map-what-your-county-spending-marijuana-law-enforcement>.

¹²² Drug Policy Alliance, *Status Report: Marijuana Legalization in Washington*.

¹²³ Briggs, "Colorado Marijuana Study Finds Legal Weed Contains Potent THC Levels."

applied to other areas of drug crime effectively, in this case, the other *dangerous non-narcotic drug* category from the FBI's UCR, resulting in more arrests. This trend makes sense because the increase in arrests for possession of other dangerous non-narcotic drugs has increased 7% between 2012 and 2015, while cannabis possession arrests have decreased 5.1% during the same period.

Secondly, a migration in drug trafficking activity to the *other dangerous non-narcotic drugs* category may occur by criminal organizations as a result of their presumed loss of market share in black market cannabis. The FBI's UCR arrest data indicates this migration effect is only happening in the region in which cannabis has been legalized recreationally, and not throughout the remainder of the United States, which may be an indicator of a third trend.¹²⁴

The third trend suggests this UCR activity is a combination of both law enforcement resource excess and migration of drug crime activity from cannabis to *other dangerous non-narcotic drugs*. Whichever trend may be occurring, the pricing and promotion of the legal market appears to have impacted drug crime in the region in which both fully cannabis-legal states are located.

Overall, criminal data supports the argument that cannabis legalization increases the capacity of the criminal justice systems by removing the need to address low-level cannabis crime. An indicator that cannabis legalization is detracting from black market profitability is the notable increase in arrests for *other dangerous non-narcotic drugs*. This trend suggests a hedge of illegal activity from the cannabis market where it is becoming increasingly difficult for criminal organizations to remain competitive.

Fully legalizing cannabis in Colorado and Washington has brought some positive benefits to both states. Data supports the argument that the majority of cannabis consumers from these states have transitioned from the cannabis black market to the legal

¹²⁴ "Persons Arrested by Drug 2012," accessed November 21, 2015, <https://www.fbi.gov/about-us/cjis/ucr/crime-in-the-u.s/2012/crime-in-the-u.s.-2012/persons-arrested/persons-arrested>; "Persons Arrested by Drug 2013," accessed November 21, 2015, <https://www.fbi.gov/about-us/cjis/ucr/crime-in-the-u.s/2013/crime-in-the-u.s.-2013/persons-arrested/persons-arrested>; "Persons Arrested by Drug 2014," accessed November 21, 2015, <https://www.fbi.gov/about-us/cjis/ucr/crime-in-the-u.s/2014/crime-in-the-u.s.-2014/persons-arrested/main>.

markets. In addition to consumers within cannabis-legal states, consumers outside the states, presumably in prohibition states, make up a large percentage of the sales within the legal systems. Thus, cannabis black markets in prohibition states are also losing market share. The transition of consumers to the legal market in both states has generated a substantial economic stimulus. Taken in conjunction with the decreased burden on the criminal justice systems, both states are in a fiscally advantageous position. However, some disadvantages have resulted from cannabis legalization. These effects are considered in the next section.

C. SUBSTANTIAL DISADVANTAGES OF CANNABIS

Certainly, the advocates of cannabis legalization have lauded the advantageous points previously identified. The following sections elaborate on data that point toward some of the disadvantages or drawbacks of cannabis legalization. The next section is similarly arranged and assesses disadvantages within regulation, finance, and crime as they pertain to cannabis legalization in Colorado and Washington.

1. Cannabis Regulation

Distinctive advantages of cannabis legalization were previously highlighted, and while data supported considerable advantages, some disadvantages can also result. This section examines those disadvantages further, starting with the regulatory systems that have been implemented in Colorado and Washington. Following an examination of regulatory disadvantages, financial and crime factors are considered.

The commercial model of regulation in Colorado and Washington are profit-motivated. In these states, the cannabis market is finite. In other words, only so many cannabis consumers can exist within the market. Much like any other regulated substance, such as alcohol or tobacco, a commercial model of distribution, while beneficial in the areas of economic stimulus, relies on a finite amount of users. The National Institute on Drug Abuse indicates that cannabis is the most used illicit drug and

that 81.0% of illicit drug users in the United States used cannabis in the last 30 days.¹²⁵ This data implies that the bulk of cannabis users in Colorado and Washington are habitual users; thus, the market primarily caters to this population. Profit motive dictates the commercial aspect of the industry is reliant on habitual drug users to maintain profitability. The same assessment is also applicable to state governments that rely on this population to purchase the drug. Therefore, it is in the best interest of the private sectors in these states for frequent use among this population to continue to occur, with the focus on increasing profit. Effectively, both states accommodate a trade-off, an increase in habitual drug users for revenue under their current systems. An increase in habitual drug use among the population is a distinctive disadvantage because it supports the need to perpetuate the trend. In Colorado, it appears this trend is already underway in that Colorado was ranked third in the nation for current marijuana use among youth aged 12 to 17 years old.¹²⁶ This data represents a 56% higher average than the current national average and is an increase of 24% since 2009.¹²⁷

Despite regulatory efforts in cannabis-legal states to increase youth cannabis drug education, label products, and limit sales to minors, it appears more needs to be done in this area to decrease the propensity for future use. Data supports that it will be difficult to strike a balance between use prevention, treatment efforts, and profit motive in the cannabis-legal states.¹²⁸

Data supporting this thesis highlights that the focus of cannabis regulatory systems is mainly on commerce generation, while curbing current and future cannabis use among youth remains an issue. In the next section, financial disadvantages are weighed.

¹²⁵ Nora D. Volkow, "Marijuana," accessed December 19, 2015, https://d14rmgtrwzf5a.cloudfront.net/sites/default/files/mjrrs_9_15.pdf.

¹²⁶ Kevin Wong and Chelsey Clarke, *2015 Final Legalization of Marijuana in Colorado The Impact* (Denver, CO: Rocky Mountain High Intensity Drug Trafficking Area, 2015), 36, <http://www.rmhidta.org/html/2015%20FINAL%20LEGALIZATION%20OF%20MARIJUANA%20IN%20COLORADO%20THE%20IMPACT.pdf>.

¹²⁷ Ibid.

¹²⁸ Ibid.

2. Financial Implications

Cannabis-legal states have generated a substantial revenue stream for both the industry and respective state governments. It is difficult to argue any disadvantages with the system within the states. One significant disadvantage leads to other problems for the fledgling industry outside the states, however. That problem is federalism in the banking and tax sector.

As the system is currently established, cannabis businesses cannot legally deposit proceeds into the federal banking system because the federal government sees the currency as proceeds from an illegal enterprise. The banking categorization is derived from federal laws, which are guided by the CSA. In 2013, the U.S. Department of Treasury, acting on guidance from the DOJ Cole Memo, enabled limited banking with cannabis businesses but the transactions had to be supported by a suspicious activity report (SAR) filed by individual banks.¹²⁹ This requirement does not relieve banks of criminal liability, however, and the result has been that most banks approach the venture skittishly for fear of being criminally liable or labeled as money launderers. Consequently, cannabis businesses operating in legal capacities at the state level have limited options in terms of access to banking. It is a significant financial disadvantage because the alternative to banking is operating as a cash business. Cash businesses open a variety of criminal vulnerabilities from low-level robberies to tax evasion matters. The tax issue is a significant disadvantage as well.

Cannabis businesses pay state taxes, and consequently, must pay federal taxes on 100% of their gross income.¹³⁰ Taxes present an issue for cannabis businesses because their tax burden is substantially increased. Accordingly, businesses are placed in a difficult position by having to choose not to pay federal taxes, and risk criminal liability

¹²⁹ Alison Jimenez, "Who Is Filing Suspicious Activity Reports on the Marijuana Industry? New Data May Surprise You," *Dynamic Securities Analytics*, April 13, 2015, http://securitiesanalytics.com/marijuana_SARs.

¹³⁰ Robert W. Wood, "Big Court Defeat for Marijuana despite Record Tax Harvests," *Forbes*, July 13, 2015, <http://www.forbes.com/sites/robertwood/2015/07/13/big-court-defeat-for-marijuana-despite-record-tax-harvests/>.

for tax evasion, or pay them and potentially be forced into non-profitability.¹³¹ The banking issues combined with tax issues are significant disadvantages for the cannabis businesses in cannabis-legal states because both areas touch federal criminality. In this case, federalism becomes an encumbrance to the states.

This section demonstrates the complexity of banking and tax issues between the state and federal levels when both entities differ on legality of cannabis. Legal interpretation also bears significant weight in terms of how crime is affected by cannabis legalization. In similar fashion to banking and taxation, interpretations of criminality in different states, and at different levels of government, are a large part of the cannabis legalization debate. In the next section, disadvantages of cannabis as they relate to crime are considered.

3. Crime

One of the main focuses of the cannabis legalization debate is the impact legalization has had on crime. Many speculated crime would spin out of control after full legalization occurred in Colorado and Washington. Findings reveal this hypothesis not to be the case, however. While crime figures before and after full legalization in Colorado and Washington did reflect increases in crime, the data paints a different picture than what was anticipated by anti-cannabis legalization groups.

a. UCR Drug Arrest Activity

The following data is compiled from the FBI's UCR from the years 2012 to 2014, the last year data was available. The reporting represents the percentage of distribution of arrests for drug abuse violations by region. Drug abuse violations are divided into two categories namely *sale/manufacturing* and *possession*. In addition, the violations further breakdown into drug types. Colorado and Washington are both located in the west region for purposes of this data.

¹³¹ Ibid.

(1) Cannabis

The FBI's UCR captures arrest information for drug abuse violations as one component of an array of collected data. It breaks down drug abuse violations by four regions into two categories, *sale/manufacturing and possession*. The report further breaks down arrest activity by drug type. The following UCR data covers the period of 2012 to 2014, with 2014 being the most recent year for which the FBI's UCR collated the information.

During this period, cannabis *sale/manufacturing* arrests decreased as a total percentage of arrests from 0.9% in the west region. In the United States as a whole, this figure also decreased from 0.7%. Summarily, cannabis arrests for *sale/manufacturing* decreased in the United States during this period. During the same period, cannabis *possession* arrests also decreased in the west region from 4%. During the same time frame, in the United States as a whole, this type of arrest decreased from 2.7%, respectively.

As expected, cannabis arrests in both the west region and throughout the United States as a whole decreased. With less emphasis placed on cannabis prosecutions, law enforcement should theoretically experience resource excess that might be able to target other types of harmful drugs or criminal activity. A correlational expectation would be an increase in arrests for other types of drug activity during this period.

(2) Other Dangerous Drugs

The FBI's UCR reveals additional arrest information for other drug types by region and nationally. The additional drug types are categorized as heroin/cocaine or derivatives, synthetic or manufactured drugs, and other dangerous nonnarcotic drugs.¹³² From 2012 to 2014, heroin/cocaine or derivative arrests in both the sale/manufacturing and possession categories remained stable regionally and nationally. This trend also held true for synthetics. Heroin is a Schedule I drug and cocaine is a Schedule II drug

¹³² "Persons Arrested by Drug 2013."

according to the CSA.¹³³ Historically, attitudes toward these drugs have been much more negative than they have been toward cannabis, which has resulted in fewer consumers. The 2014 National Survey on Drug Use and Health indicates the use of heroin accounted for 0.4% of all drug use and cocaine use accounted for 1.5%.¹³⁴ Similarly, synthetics are perceived as more harmful drugs with variable effects with use and are not as prevalent as cannabis. Simply put, these drugs are not as common as cannabis, and because of the perceived harm they cause, they are a top priority for counterdrug efforts, which may explain in part why these statistics remained stable for the period examined.

Sale/manufacturing of other dangerous nonnarcotic drugs demonstrated stability as well. Possession arrests in this drug category, however, demonstrated a national increase of 2.8%. Regionally, arrests for possession of other dangerous nonnarcotic drugs increased by 7%. The FBI defines the *other dangerous nonnarcotic drugs* category as containing drugs, such as barbiturates and benzedrine.¹³⁵ This category of drug arrest was the only area in which a slight increase occurred. The increase was so slight; it may be explainable by factors, such as population increase or another similar factor.

(3) Denver Drug/Narcotics Violations

The city of Denver collects information regarding drug and narcotic violations, which conform to collection requirements of the Colorado Department of Public Safety; however, this information does not further elaborate on drug type.¹³⁶ During the calendar

¹³³ “Legislation—Controlled Substances Act.”

¹³⁴ Sarra L. Hedden et al., *Behavioral Health Trends in the United States: Results from the 2014 National Survey on Drug Use and Health* (Rockville, MD: Substance Abuse and Mental Health Services Administration, 2015), <http://www.samhsa.gov/data/sites/default/files/NSDUH-FRR1-2014/NSDUH-FRR1-2014.pdf>.

¹³⁵ Nathan James, *How Crime in the United States Is Measured* (CRS Order Code RL34309) (Washington, DC: Congressional Research Service, 2008), <http://oai.dtic.mil/oai/oai?verb=getRecord&metadataPrefix=html&identifier=ADA476144>.

¹³⁶ “Crime Statistics and Maps.”

years of 2012, 2013, and 2014, drug/narcotic violations increased 23.4%, 9.6%, and 11.9%, respectively.¹³⁷

The city of Denver is a major focal point of the cannabis legalization effort. Drug and narcotic violations significantly increased in the city during the researched time frame. Data supports the assertion that these types of crimes will increase in major cities where cannabis is legalized; however, additional time and research is needed to further establish if the increase is caused by cannabis legalization.

It should be noted that the Seattle Police Department does not maintain publicly available drug/narcotic arrest data; therefore, further examination of drug crime in the city was not conducted.¹³⁸ This lack of available arrest data is a limiting factor in that drug crime increases in Denver could not be compared to Seattle.

b. Violent and Property Crime

The following information is compiled from the FBI's UCR relating to violent and property crime for the calendar years 2012 to 2014, the last year for which data was available, and covers the states of Colorado and Washington.

The FBI's UCR provides violent and property crime rates, by state, according to arrests made each year.¹³⁹ In November 2012, both states voted to legalize cannabis for recreational use.¹⁴⁰ Concurrently, the steepest increase in violent crime in both states occurred in 2013. In Colorado, violent crimes increased 5.9%, while in Washington, violent crimes rose 6.9%.¹⁴¹ The national average during the same time period decreased 7.8%.¹⁴² As measured from 2012 to 2014, both states increased in levels of violent crime

¹³⁷ "Reported Offenses in the City and County of Denver by Month, 2013," accessed November 21, 2015, http://denvergov.org/content/dam/denvergov/Portals/720/documents/statistics/2013/XCitywide_Reported_Offenses_2013.pdf.

¹³⁸ "Crime Dashboard—Seattle Police."

¹³⁹ "Property Crime"; "Violent Crime."

¹⁴⁰ Room, "Legalizing a Market for Cannabis for Pleasure: Colorado, Washington, Uruguay and beyond: Legalising a Market for Cannabis," 345.

¹⁴¹ "Arrests by State 2012 Table 69"; "Arrests by State 2013 Table 69."

¹⁴² Ibid.

with Colorado increasing a total of 10.4% and Washington increasing 7%.¹⁴³ These figures are high compared to the national average, which decreased by 4.3%.¹⁴⁴

For the same period, the total property crime arrest rate increased in Colorado 39.7%. The national average for this period decreased 5.6%. The number of arrests for property crimes in Washington also increased 13.5%.¹⁴⁵

This data implies violent and property crime has increased in areas in which cannabis legalization occurred, but to establish causation, additional research over time is needed as any number of variables may impact crime rates. The FBI identifies a variety of factors known to affect crime rates to include population, degree of urbanization, variations in population composition, transportation modes, economic conditions, and effectiveness of policing.¹⁴⁶

c. City-Level Crime

The highest concentration of dispensed legal cannabis occurs in the largest cities in Colorado and Washington. As such, it is important to analyze crime levels in these cities, as the industry is most firmly rooted in these locations and the crime statistics are more representative of the effect legalized cannabis has on a locality. Crime statistical data includes information from 2012 to 2015 from Denver, Colorado and Seattle, Washington.

The Denver and the Seattle police departments maintain criminal statistics for each state's Department of Public Safety. This data is kept independently of FBI's UCR data. Data from Denver and Seattle, where retail cannabis was legalized in 2013, and retail sales commenced in 2014 at some point, can act as an independent data verification of criminal statistic trends maintained within the FBI's UCR.

¹⁴³ Ibid.

¹⁴⁴ Ibid.; "Arrests by State 2014 Table 69".

¹⁴⁵ Ibid.

¹⁴⁶ "Variables Affecting-Crime," accessed January 25, 2016, <https://www.fbi.gov/about-us/cjis/ucr/nibrs/2012/resources/variables-affecting-crime>.

(1) Denver

The city of Denver enumerates crime by four categories of arrest: crimes against persons, crimes against property, crimes against society (drug crimes are counted in this category), and all other offenses.¹⁴⁷ Data for 2015 is current as of November 1, 2015; thusly, data has been projected for the months of November and December based on the previous 10 months of collected data. In Denver, between 2012 and 2015, crimes against persons increased by 51.6% from 7,255 to 11,001.¹⁴⁸ During the same period, crimes against property rose from 32,553 to 33,229, an increase of 2.1%.¹⁴⁹ Similarly, crimes against society increased during the coinciding period from 2,358 to 5,788, representing a 145.5% increase.¹⁵⁰ Arrests for all other offenses during the corresponding time frame increased from 2,172 to 14,638.¹⁵¹ Accordingly, a 573.9% increase occurred in all other offenses.¹⁵²

(2) Seattle

The Seattle Police Department collects statistics for two crime types for reporting purposes. The two types of crime tracked are person crimes and property crimes. Data from the years 2012 to 2015 was collected and similar to Denver data. Crime projections were estimated for the final two months of 2015 based on the previous 10 months of crime data. Between 2012 and 2015, person crime increased from 3,486 to 3,756, an increase of 7.7% over four years. Property crime was also evaluated for the same time

¹⁴⁷ “Variables Affecting-Crime” ;“Crime Statistics and Maps.”

¹⁴⁸ “Reported Offenses in the City and County of Denver by Month, 2013”; “Reported Offenses in the City and County of Denver by Month, 2015,” accessed November 21, 2015, http://denvergov.org/content/dam/denvergov/Portals/720/documents/statistics/2015/Xcitywide_Reported_Offenses_2015.pdf; “Reported Offenses in the City and County of Denver by Month, 2014,” accessed November 21, 2015, https://www.denvergov.org/Portals/720/documents/statistics/2014/XCitywide_Reported_Offenses_2014.pdf.

¹⁴⁹ “Reported Offenses in the City and County of Denver by Month, 2015.”

¹⁵⁰ Ibid.

¹⁵¹ “Reported Offenses in the City and County of Denver by Month, 2013”; “Reported Offenses in the City and County of Denver by Month, 2015”; “Reported Offenses in the City and County of Denver by Month, 2014.”

¹⁵² Ibid.

period, revealing a 13.9% increase over four years from 32,212 to 36,697. These figures correspond to the FBI's UCR reporting for the state.¹⁵³

Seattle and Denver both demonstrate crime increases between 2012 and 2015. Overall, Seattle revealed a total crime increase of 35,698 incidents in 2012 to 40,453 in 2015, representing an overall crime rate increase of 13.3%. In Denver, the overall crime rate increased from 44,338 incidents in 2012 to 64,657 in 2015. These figures reveal the overall crime rate in Denver increased 45.8% during this time frame.

Criminal data examined for this thesis demonstrates increased crime overall for both Colorado and Washington. As the data was cross-examined at the city level, these increases were exacerbated. This data lends to the argument that crime has increased in response to cannabis legalization; however, causation cannot be firmly established at this early stage in the process. This data reflects a correlational relationship only. One area in which adverse impacts are being felt as a direct result of cannabis legalization is prohibitionist states. The next section addresses this dynamic.

d. Adverse Impact on Prohibitionist States

Disparity in cannabis policy across the country creates a significant problem as far as diversion is concerned. The proximity of legal states to non-legal states means criminals looking to cash in on the diversion of legal cannabis will fuel illegal behavior. Disparity boils down to the will of the population in a particular state. Thus, states like Colorado and Washington, having seen the fiscal windfalls of cannabis legalization, appear to be sold on legalization. It is a significant problem for non-legal states because legalization drives illegal activity to locations where cannabis is still illegal and demand is high.

This problem is evident in the nature of the relationships between Colorado and surrounding states. As Colorado enjoys the economic stimulus of legalizing a controlled substance, surrounding states have to contend with legal Colorado cannabis diversion. The Rocky Mountain High Intensity Drug Trafficking Area (RMHIDTA) estimates a

¹⁵³ "Crime Dashboard—Seattle Police Department."

592% increase in interdiction seizures of Colorado cannabis destined for other states when comparing the 2005–2008 with 2014; the year cannabis was fully legalized.¹⁵⁴ In other words, the burden of enforcement relinquished by the DOJ and placed on individual states, is not being maintained by those states. Nearby states that never signed on for added burden now have inadvertently taken on the additional cost for enforcement responsibilities not being enforced in cannabis-legal states.

Proximity between states seems not to be a factor. Certainly, states that are farther from legalized states seem to be a focal point for the trafficking of legal cannabis presumably because the sale price increases the farther from legalized states a person travels. RMHIDTA highlights that 360 seizures (in highway traffic stops only) occurred in 2014, and it was subsequently determined that 36 different states were the intended recipients of cannabis from Colorado, with Missouri, Illinois, Oklahoma, and Florida topping of the list.¹⁵⁵ In addition to trafficking by vehicle, the postal service has been a popular venue for drug trafficking. An indicator of this smuggling vector is evident in the 2,033% increase in mail parcel interdictions between 2010 and 2014.¹⁵⁶

Consequently, as states legalize cannabis, this data supports the argument that those states become source states for the distribution of cannabis. As highlighted, it is not a problem when prohibitionist populations enter cannabis-legal states to consume cannabis. The problem arises when trafficking to prohibitionist states occurs. Principally, cannabis-legal states violate components of the DOJ Cole and Ogden memos; namely, the prohibition of interstate trafficking, and unfortunately, prohibitionist states must contend with the problem.

D. SUMMARY

The number one significant benefit to cannabis legalization is the revenue stream it creates for both the private and public sectors. The industries in Colorado and Washington have both proven to be big revenue creators. The commercial aspect of the

¹⁵⁴ Wong and Clarke, *2015 Final Legalization of Marijuana in Colorado The Impact*, 102.

¹⁵⁵ *Ibid.*

¹⁵⁶ Wong and Clarke, *2015 Final Legalization of Marijuana in Colorado The Impact*, 123.

industry has also had a beneficial trickle-down effect on tourism, travel, employment, and the real estate sectors in the states. Additionally, another apparent benefit of this trend is the potential to outcompete the cannabis black market by providing higher quality cannabis at a lower cost for production; thereby, creating a difficult environment in which the black market must compete. In contrast, access to banks is a difficult venture for the cannabis industry as a result of the federal level management of the banking system. Banks technically view cannabis revenue as proceeds from an illegal business.

From a social perspective, the commercial nature of the industry primarily caters to habitual cannabis consumers; consequently, the long-term driver to operating this type of system is to gain new habitual users. In the near term, the industry, and government, advocates for youth education and addiction treatment, while in the long term, these efforts conflict with business goals and will potentially impede the number one driver of the industry, which is revenue creation. This trend parallels other industries, such as the tobacco business, where the health consequences are known and an aggressive education program is in place, yet as a result of profit motive, the business continues to thrive.

Another negative effect of disparate legality of cannabis is the potential for diversion from the legal system to the black market in other prohibitionist locations. Interstate trafficking of illegal drugs has always been an issue in the United States. When a state legalizes a controlled substance, however, it effectively becomes a source state. Consequently, the decreased law enforcement burden in cannabis-legal states is transferred to prohibitionist states, which then fuels illegal behavior.

Finally, from a crime perspective, some correlation appears to occur between legal cannabis and crime trends in the areas in which it has been legalized. From 2012 to 2014, violent and property crime increased in Colorado and Washington, as compared to national averages, which decreased. Cannabis arrests decreased, as expected. Other types of drug crime appear to have remained stable with the exception of possession arrests for *other dangerous non-narcotic drugs*.

During 2012, 2013, 2014, and 2015, city crime data from Seattle and Denver both demonstrate amplified figures as compared to federal data. In Denver and Seattle, both

property and person crime increased substantially, as compared with national averages. A subcategory of crime data in Denver, identified as society crime, increased 145.5%.¹⁵⁷ It should be noted this category of crime includes drug crimes. Overall, during the period of measurement, crime in Seattle increased 13.3%, while crime in Denver increased 45.8%.¹⁵⁸

Some concrete advantages and disadvantages result from cannabis legalization, but some level of unity must be guiding the process at the federal level, rather than relegating the management burden to the states. As the matter stands, no national cannabis policy exists to guide this trend. The next chapter concludes with recommendations that address identified disadvantages to the current system in an effort to minimize their impact.

¹⁵⁷ “Reported Offenses in the City and County of Denver by Month, 2013”; “Reported Offenses in the City and County of Denver by Month, 2015”; “Reported Offenses in the City and County of Denver by Month, 2014.”

¹⁵⁸ “Crime Dashboard—Seattle Police”; “Reported Offenses in the City and County of Denver by Month, 2013”; “Reported Offenses in the City and County of Denver by Month, 2015”; “Reported Offenses in the City and County of Denver by Month, 2014.”

VI. CONCLUSION AND RECOMMENDATIONS

A. INTRODUCTION

Chapter I highlights two basic research questions. The first question seeks to determine benefits and drawbacks of legalized cannabis in Colorado and Washington. The second question seeks a workable approach to minimize the identified negative impacts of cannabis legalization. This chapter is structured to answer both questions, with each question addressed in its own subsection. The first section of this chapter addresses the benefits and drawbacks of cannabis legalization and how those potentially impact different stakeholders.

B. BENEFITS AND DRAWBACKS OF CANNABIS LEGALIZATION

Findings in this thesis indicate Washington and Colorado have generated an enormous revenue stream as a result of the commercial cannabis supply models in their states. These state economies are thriving in terms of real estate, employment, and tax revenue figures. While the successes of real estate and employment figures have room for interpretation in terms of varied causation, tax revenue figures are a direct result of sales of cannabis in both states. Cannabis is still a controlled substance, however, and technically, the federal government could intervene to stop these states. Nevertheless, it has not, which lends to disparity in the way different locations deal with regulation, finance, crime, and a host of other issues. These issues have been problematic at times with respect to prohibitionist states, especially ones that border cannabis-legal states.

Crime in Colorado and Washington has increased in most areas, as compared with the rest of the United States, when measured prior to and after recreational legalization. This trend also held true at city levels in Seattle, Washington, and Denver, Colorado. As anticipated by the legalization of cannabis, drug crime indicated a decrease in cannabis-related activity, although some minor offenses were still recorded, such as minors in possession or public use. Other hard drugs, such as cocaine, heroin, and synthetics, demonstrated stabilized activity. No evidence suggests the stable hard drug activity was caused by cannabis legalization. Presumably, the cannabis black market continues to

operate in prohibition areas. Thus, data suggests DTOs have not increased their trafficking of hard drugs in Colorado or Washington as a means to hedge cannabis losses. Additionally, hard drugs make up a relatively small portion of the illicit drug market and they continue to be high value targets of law enforcement. An increase in possession activity occurred in the *other dangerous non-narcotic drugs* category noted. It may be an indication of drug trafficking migration, or it may simply signify law enforcement activity is adjusting to the lack of cannabis enforcement and can put more effort toward these types of drugs.

Causation between cannabis legalization in Colorado and Washington, and increases in crime levels, is difficult to establish. Many factors may influence crime rates. The FBI's UCR program cites a variety of factors known to affect crime rates to include population, degree of urbanization, variations in population composition, transportation modes, economic conditions, and effectiveness of policing.¹⁵⁹

In addition to crime data, this thesis reviewed data prepared by RMHIDTA. The data revealed cannabis being sent through the mail and transported out of the state on highways has increased substantially. Interdiction of Colorado cannabis destined for other non-legal states demonstrates no control is exercised on what leaves cannabis-legal areas, which lends to the notion that it is difficult, if not impossible, to control the legal cannabis supply from spilling over into the black markets as a natural tendency in the competitive market.

Thus, the argument is supported that prohibitionist states are negatively and significantly impacted when cannabis is legalized by other states. As a result of the CSA maintaining the federal prohibition, lax enforcement of the CSA at the federal level, and disparate state acceptance of cannabis, cannabis legal states become source states and they intensify cannabis black markets in prohibitionist states.

At the national level, it will be difficult to strike a public policy balance between revenue generation, in cannabis-legal states, and public security, in prohibitionist states.

¹⁵⁹ "Variables Affecting-Crime." This thesis solely examined and compared the crime rates at the local, state, and federal levels to determine how they performed in fully legal cannabis states both before and after legalization, as compared to national averages.

As the system currently stands, the federal government has given way to states' rights, and tolerates state-level legalization, at the expense of those still prohibitionist states. In the next section, long and short-term policy recommendations are identified that may help address this dynamic more extensively.

C. POLICY RECOMMENDATIONS

National level policy continues to be founded on international drug control conventions. The CSA, which is derived from the international controls put in place by the 1961 and 1988 UN Conventions, maintains cannabis as a Schedule I drug.¹⁶⁰ In the case of cannabis, the most significant part of being a Schedule I controlled substance is that the drug has no medically approved use.¹⁶¹ It seems illogical, considering that over 20 states have medical cannabis laws and regulatory infrastructures, with additional states slated to consider laws in 2016 and beyond. The next section addresses this contentious issue.

1. Reschedule Cannabis under the CSA

Much of the disparate approach to cannabis lies in the science behind it. Lacking the ability to conduct expansive scientific medical research helps perpetuate this attitude. Cannabis is already being used as a therapeutic treatment for various medical ailments; thusly, it should be downgraded to a Schedule II drug, which would allow for easier and more widespread scientific testing from public entities, such as hospitals, pharmacies, and practitioners.¹⁶² As a Schedule I drug, cannabis is viewed as having no medical value and the requirements to conduct medical research are much more of a barrier to the public entities listed previously. By virtue of being listed as a Schedule I drug, a level of aversion to medical research by institutional review boards and other researchers

¹⁶⁰ "Legislation—Controlled Substances Act."

¹⁶¹ Ibid.

¹⁶² John Hudak and Grace Wallack, *Ending the U.S. Government's War on Medical Marijuana Research* (Washington, DC: Center for Effective Public Management at Brookings, 2015), 6, <http://www.brookings.edu/~media/research/files/papers/2015/10/20-war-on-marijuana-research-hudak-wallack/ending-the-us-governments-war-on-medical-marijuana-research.pdf>.

permeates.¹⁶³ A Schedule II designation would reduce this aversion among researchers and ease the requirements to conduct medical research on a wide basis, while allowing for the level of control on par with drugs, such as morphine. Morphine is known to help patients with pain, but is under strict control as a Schedule II drug because of its high potential for abuse. Cannabis is also used to control pain in many areas of the United States.

Coinciding with the ability to conduct more scientific research on the drug, Schedule II designation also allows for continued tight controls over the substance at the federal level. As a reference, cocaine and methamphetamine are also listed as Schedule II substances. Three historical efforts have been made to downgrade cannabis within the CSA schedule. The DEA has denied each of these efforts. An additional petition for rescheduling was filed in 2011 and is currently pending DEA review.¹⁶⁴ These denials highlight the effort would be an uphill battle via the executive branch (DEA). Congress can take a more direct route, however, via legislation, which holds promise for a more expedient resolution, as acceptance of cannabis continues to increase. As of November 2015, Senator Bernard Sanders introduced the Ending Federal Marijuana Prohibition Act and the legislation is pending.¹⁶⁵

Even in the eventuality of Schedule II status for cannabis, a long road of research remains to determine if the drug actually has any medical applicability. Following additional research, cannabis will either be deemed to have medical applicability, or it will not. This outcome will allow governments to create a better drug control policy. Continuing on the current trajectory is not a feasible option for governments because decisions are being based on incomplete information, but change will not come overnight. While changing the CSA may take some time, some issues can be addressed

¹⁶³ David J. Nutt, Leslie A. King, and David E. Nichols, “Effects of Schedule I Drug Laws on Neuroscience Research and Treatment Innovation,” *Nature Reviews Neuroscience* 14, no. 8 (2013): 577–85.

¹⁶⁴ Hudak and Wallack, *Ending the U.S. Government’s War on Medical Marijuana Research*, 4.

¹⁶⁵ GPO, *Ending Federal Marijuana Prohibition Act of 2015* (Washington, DC: GPO, 2015), <https://www.gpo.gov/fdsys/pkg/BILLS-114s2237is/pdf/BILLS-114s2237is.pdf>.

more immediately. In the near term, more should be done to address crime. The next section addresses this issue more extensively.

2. Improve State Level Civil Asset Forfeiture

A long-term need exists for additional scientific testing to determine if cannabis actually serves a medical purpose. In addition to this need, this thesis has demonstrated the potential for increased crime rates in response to legalization. A more immediate priority would be resourcing law enforcement agencies to address this potential issue. Certainly, within cannabis-legal states, cannabis tax revenues would be allocated accordingly based on the need within those states, but for prohibitionist states, the issue is more complex. Cannabis-legal states have deprioritized cannabis legalization and become source states for possession, manufacture, and distribution. In prohibitionist states, diversion and proliferation of cannabis can create a resource issue not caused by that state.

In response to this phenomenon, prohibitionist states need new law enforcement tools for their state, county, and municipal law enforcement officers. Historically, individual states, often with the assistance of federal law enforcement officers, have leveraged civil asset forfeiture programs to impede drug trafficking. When working in conjunction with federal authorities, the process of *equitable sharing* was applied, which states that federal law enforcement authority could be used in joint law enforcement operations as long as at least 20% of total assets seized went to the federal government.¹⁶⁶ Equitable sharing was leveraged to assist state and local agencies in circumventing more stringent forfeiture laws in their respective states. As of 2015, new rules at the DOJ limit this activity and make it more difficult for state and local agencies to leverage asset forfeiture programs.¹⁶⁷

The most sensible short-term recommendation to assist states in this area is to grant states greater leeway in the application of asset forfeiture operations as they pertain

¹⁶⁶ Dick Carpenter et al., *Policing for Profit, The Abuse of Civil Asset Forfeiture, 2nd-Edition* (Arlington, VA: Institute for Justice, 2015), 25, <http://ij.org/wp-content/uploads/2015/11/policing-for-profit-2nd-edition.pdf>.

¹⁶⁷ *Ibid.*, 6.

to cannabis smuggling. The goal of this effort is to change smuggling behaviors from cannabis-legal states to prohibitionist states and to support law enforcement agencies with the resources they need to fulfill their mission. Decreasing the asset forfeiture threshold for individual states and eliminating the need for them to act with federal law enforcement agencies is a logical first step toward countering the negative burden placed on them by cannabis-legal states. Following implementation of this recommendation, additional research will be needed to determine how effectively this option impacts smuggling efforts out of cannabis-legal states.

In summary, long and short-term approaches to disparity in cannabis control in the United States need to be developed. A long-term approach to the cannabis issue is to study the drug more extensively, but such study would require the drug to be downgraded from Schedule I to Schedule II. This downgrade can be accomplished within the executive branch, but a more direct route would be a legislative remedy provided by a congressional act. In the meantime, change at the federal level is not indicated at all, which leaves states to continue on the current path, while states' rights versus the federalism issue continue. To assist prohibitionist states that have taken on the added enforcement burden from cannabis-legal states, more streamlined and expeditious asset forfeiture authority should be granted. These recommendations promote additional scientific research on cannabis, while allowing states to maintain control of their own drug crime issues. Certainly, both recommendations will require additional evaluation, but the trend is relatively new and this aspect limits some of the research to this point. In the next section, some of the additional research limitations associated with this thesis are addressed.

D. RESEARCH LIMITATIONS

Many aspects of cannabis legalization remain ambiguous as a result of the relatively new trend. Within the United States, medical cannabis regulations have been somewhat easily implemented and an adequate time period has been available to study many of the effects of the trend. A significant limitation to research in this area is the relatively short duration of time that has passed since recreational cannabis laws have

been emplaced. It will take a significantly longer amount of time to assess more accurately what works and what does not. Proper structuring of systems that regulate legal cannabis supply and distribution will take years to implement following extensive research.

At the top tier of the drug control hierarchy in the United States have been various agencies of the federal government. Cannabis being a controlled substance means the DEA has historically dealt with control of the drug. With the gradual implementation of medical cannabis regulations and laws, and eventual legalization at the state levels of recreational cannabis, the DEA, at the behest of the DOJ, has slowly withdrawn itself from low-level cannabis drug crime. In cannabis-legal states, the DEA, under the guidance of the Ogden and Cole Memos, actually enables the legal cannabis markets by debilitating DTOs' ability to compete or participate with licit markets; another disincentive for DTOs. While serving cannabis-legal states, it is difficult to ascertain the magnitude of impact it is having on prohibition states. For purposes of this study, the RMHIDTA was the only resource available that could provide limited statistical reporting on the amount of legal cannabis being interdicted in other non-legal cannabis states.

Population growth in geographic areas of study limited the ability to measure criminal activity more precisely. For example, the population of the United States grew 3% between 2012 and 2015. In Colorado during the same period, a 10.5% increase was experienced, and in Washington, a 25.5% increase.¹⁶⁸ As a result of fluctuating populations and methods of data collection from location to location, the actual crime figures may vary.

Drug crime activity as listed in the FBI's UCR was provided by region only. The ability to collect exact drug figures for individual states was not possible at the level of detail provided by region in the FBI's UCR. It delineated arrests by drug type, which allowed for a more thorough analysis of migration from one drug, namely cannabis, to others. Although the region accounted for both Washington and Colorado, it also

¹⁶⁸ "Arrests by State 2012 Table 69"; "Arrests by State 2013 Table 69"; "Arrests by State 2014 Table 69."

accounted for 10 additional states in the area. At the city level, Denver was the only city that collected statistical information relating to drug crime. Drug crime in Denver was not delineated by drug type; rather, all types of drugs were grouped into this category.

E. RECOMMENDATIONS FOR FUTURE RESEARCH

Revenue generation from legal cannabis has proven to be the driving force behind Colorado's and Washington's commercial models of supply and distribution. In late 2015, both states experienced a plateau in earnings, which may indicate the limit of the market share this industry will extend to has been reached. In other words, the bulk of cannabis users who will partake of this market have been reached and incremental earning levels will not increase as compared to earlier periods of time. If the market has not reached its peak, it would be worthy to research the size of the legal cannabis market over time, and also ascertain how effective regulation positively influences this market size.

Assuming the market has reached its peak, it would be worthy to assess what impact youth drug education and treatment programs will have on future market sizes in cannabis-legal states. States currently fund these types of programs from cannabis tax revenues. If the programs are effective at preventing future users, it may have a negative impact on future cannabis market sizes that research may further reveal.

The administration of the CSA looks to be cumbersome and rigid as it pertains to rescheduling drugs, which is readily apparent given the amount of time it has taken to revisit the cannabis rescheduling issue in the past. Given that state governments are now self-legislating around the CSA, additional research is warranted to determine what ethical considerations are at play when contemplating whether to legalize recreational drugs for profit. It will take some time to learn the health implications of legalizing cannabis, but in the event they follow a similar course as alcohol and tobacco, studying the benefit of profit, as compared with public health, is a laudable academic endeavor.

F. CONCLUSION

No silver bullet to this problem exists because of tradeoffs that go along with the options. Cannabis has been a controlled substance for many years because at one point, it was proven to be harmful and have no medical value. It has been researched extensively over the years and has not been found to be a widely accepted medical treatment. Moreover, cannabis advocates are perceived by the mainstream as leveraging the medical aspect of cannabis use as a means to access the federally controlled substance for recreation.

On the other side of the debate is the position that cannabis is a harmful, criminal, societal detractor. Based on historical science and critical narrative, the position is justified.¹⁶⁹ Plenty of polls support the narrative on both sides, but the fact that the issue is so divisive lends to the idea that the federal government has not taken responsibility for getting out in front of the issue. This lack of responsiveness is clearly evident in the way individual states are navigating around a paralyzed, rigid federal government.

One consideration both sides of the debate should agree on is the need for definitive scientific study behind the drug. By downgrading cannabis to a Schedule II drug, both sides of the debate would know the benefits and risks associated with use. Proponents would better understand addiction, overdose, and chronic disease risks, as well as the true application of the drug as a treatment and whether it actually helps medically. Opponents of the drug could use scientific data to craft better public policies at all levels of government, including the implementation of a coherent and enforced federal cannabis policy. Until additional scientific research can be done outside of the federal government, the issue will continue to be divisive. In the meantime, both sides of the argument should appreciate state sovereignty. States should have the ability to enforce their own sovereign laws regardless of neighboring state cannabis laws. If individual states have the right to legalize a controlled substance locally, then neighboring states should have the right to enact measures that help secure their own population.

¹⁶⁹ Volkow et al., “Adverse Health Effects of Marijuana Use.”

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APPENDIX: ASPECTS OF CANNABIS REGULATION IN COLORADO AND WASHINGTON

	Colorado	Washington
Regulatory Body Taxes	Colorado Marijuana Enforcement Division (MED) 15 percent excise tax from cultivation to processing/retail and a 10 percent excise tax on sale in addition to any local/state sales tax	Washington State Liquor and Marijuana Control Board (LMCB) 25 percent excise tax in each phase of sale including production to processing to retail seller to customer
Licensing/Fees	<p>Retail Marijuana Store (\$5500 + \$3300 for annual renewal): facility from which any individual twenty-one years of age or older may purchase up to 1 ounce for Colorado Residents and 1/4 ounce for non-residents. Retail Marijuana may not be cultivated or processed under this license.</p> <p>Retail Marijuana Product Manufacturing (\$4700 + \$2500 annual renewal fee): used exclusively for the manufacture and preparation of retail marijuana products and concentrates. Retail Marijuana may not be cultivated or sold to retail customers under this license - all sales must be made wholesale to Retail Marijuana Stores.</p> <p>Retail Marijuana Cultivation (\$4700 + \$2500 annual renewal fee): used exclusively for the cultivation of Retail Marijuana plants and the harvesting of Retail Marijuana. If not associated with a Product Manufacturer this licensee may sell Retail Marijuana to other cultivations, stores or product manufacturers within the Colorado Regulated system.</p> <p>Retail Marijuana Testing Facility (\$2700 + \$2500 annual fee): facility that performs testing and research on Retail Marijuana for other MED licensees.</p>	<p>Marijuana Producer License Tier 1-3 (\$266 Application Fee and \$1062 Annual Fee for Issuance and Renewal): Dependent on size of canopy growth. Ranging from 0-10k square feet of growth.</p> <p>Processor License (\$266 Application Fee and \$1062 Annual Fee for Issuance and Renewal): To process, package, and label useable marijuana and marijuana-infused products for sale at wholesale to marijuana retailers. Allowed to blend tested useable marijuana from multiple lots into a single package for sale to a marijuana retail licensee providing the label requirements for each lot used in the blend are met and the percentage by weight of each lot is also included on the label.</p> <p>Retailer License (\$266 Application Fee and \$1062 Annual Fee for Issuance and Renewal): To sell only useable marijuana, marijuana-infused products, and marijuana paraphernalia at retail in retail outlets to persons twenty-one years of age and older.</p> <p>Medical MJ Endorsement(Free): if applicant meets Health Department Requirements.</p> <p>Canopy Expansion Request (Free): Applicant request to expand to maximum canopy tier size.</p>
Background Checks	Yes, Criminal. No financing of business criminal means. May not employ criminals of poor character or reputation according to (CRS 24-5-101(2))	Yes, Criminal. Uses Point system that accounts for misdemeanors, felonies, and supervised release for either. 8 points disqualifies applicant. No financing of business via criminal means
Local Regulatory Impact	Municipal governments can prohibit cannabis production, processing, and sale within their jurisdictions. Local health and zoning agencies can also regulate the industry.	Municipal governments can prohibit cannabis production, processing, and sale within their jurisdictions. Local health and zoning agencies can also regulate the industry.
Possession Limits	1 ounce (.25 ounce for non-residents)	1 ounce
Age Limit	21	21
Definition of Cannabis (Retail)	Concentrated retail cannabis and retail cannabis product that are comprised of retail cannabis and other ingredients and are intended for consumption, such as edible products, ointments, and tinctures.	Products that contain cannabis or cannabis extracts and are intended for human consumption. Cannabis infused products are not inclusive as "useable cannabis".
Personal Unauthorized Possession Penalties	Petty Drug Possession Offense with a fine of up to \$100.	Misdemeanor drug offense with up to \$1000 fine and/or 90 days incarceration
Cultivation Limits (home)	Six plants with three in "flower" for personal use and sharing at home.	None
Potency Limits	None	None
Residency Requirements for Licenses	Two years	Three months
Per Transaction Limits	One ounce of cannabis product to Colorado residents or .25 ounce for non-residents. No internet sales.	One ounce of cannabis, 453.5 grams of cannabis-infused product in solid form, 7 grams of cannabis-infused extract for inhalation (vapor inhalation), and 2.13 liters of cannabis-infused product in drink form. No internet sales.
Public Consumption	No open consumption in public. Private consumption only. Carries a \$100 fine for petty offense.	No open consumption in public. Private consumption only. Carries a \$50 fine.
On-site Consumption at Retailer/ Cannabis Clubs	Prohibited	Prohibited
Threshold for Driving Under the Influence of Drugs (DUID)	Five Nano grams of THC/ml of blood	Five Nano grams of THC/ml of blood
Hash oil/Concentrate home production	Prohibited	Prohibited
Cannabis Plant Tracking	Seed to sale	Seed to sale
Packaging	Packaging must preserve the product and be labeled to identify the quantity of the product, the serving size, ingredients, and potency. Must contain a health warning. Container must be child resistant.	Packaging must preserve the product and be labeled to identify the quantity of the product, the serving size, ingredients, and potency. Must contain a health warning. Container must be child resistant.
Product Quality and contaminant testing	Yes	Yes
Regulatory Sanctions	Yes. Tiered up to \$100,000 fine and/or loss of license depending on infraction.	Yes. Maximum fine is \$2,500 and/or revocation/suspension of license.

Sources: "FAQs on I-502," December 17, 2012, http://lcb.wa.gov/marijuana/faqs_i-502; "Marijuana Enforcement," accessed December 20, 2014, <https://www.colorado.gov/pacific/enforcement/marijuanaenforcement>; Bryce Pardo, "Cannabis Policy Reforms in the Americas: A Comparative Analysis of Colorado, Washington, and Uruguay," *International Journal of Drug Policy* 25, no. 4 (July 2014): 727–35, doi:10.1016/j.drugpo.2014.05.010.

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LIST OF REFERENCES

- American Civil Liberties Union of Washington. “What Are WA Counties Spending on Marijuana Law Enforcement?” August 24, 2012. <https://aclu-wa.org/blog/inter-active-map-what-your-county-spending-marijuana-law-enforcement>.
- Baker, Zathan S. “Shifting Drug Policy: The Politics of Marijuana in the 21st Century.” Master’s thesis, Naval Postgraduate School, 2014. <http://calhoun.nps.edu/public/handle/10945/41347>.
- Beittel, June S. *Mexico: Organized Crime and Drug Trafficking Organizations*. (CSR Report No. R41576). Washington, DC: Congressional Research Service, 2015. <https://www.fas.org/sgp/crs/row/R41576.pdf>.
- Bewley-Taylor, Dave, Tom Blickman, and Martin Jelsma. *The Rise and Decline of Cannabis Prohibition: The History of Cannabis in the UN Drug Control System and Options for Reform*. Amsterdam, Netherlands: Transnational Institute, 2014. <https://www.hsd.org/?view&did=752963>.
- Blake, David, and Jack Finlaw. “Marijuana Legalization in Colorado: Learned Lessons.” *Harvard Law and Policy Review* 8 (2014): 359–471.
- Briggs, Bill. “Colorado Marijuana Study Finds Legal Weed Contains Potent THC Levels.” *NBC News*, March 23, 2015. <http://www.nbcnews.com/storyline/legal-pot/legal-weed-surprisingly-strong-dirty-tests-find-n327811>.
- California Department of PublicHealth. “Compassionate Use Act–MMP, Proposition 215.” Accessed September 25, 2015. <https://www.cdph.ca.gov/programs/MMP/Pages/CompassionateUseact.aspx>.
- Carpenter, Dick, Lisa Knepper, Angela Erickson, and Jennifer McDonald. *Policing for Profit, The Abuse of Civil Asset Forfeiture, 2nd-Edition*. Arlington, VA: Institute for Justice, 2015. <http://ij.org/wp-content/uploads/2015/11/policing-for-profit-2nd-edition.pdf>.
- Carter, Jimmy. “Call off the Global Drug War.” *New York Times*, June 17, 2011. http://www.mrgoslin.com/uploads/9/0/6/3/9063086/jimmy_carter_drug_war.pdf.
- Caulkins, Jonathan P., Beau Kilmer, Mark A. R. Kleiman, Robert J. MacCoun, Gregory Midgette, Pat Oglesby, Rosalie Liccardo Pacula, and Peter H. Reuter. *Options and Issues Regarding Marijuana Legalization*. Perspectives. Santa Monica, CA: Rand Corporation, 2015. http://www.rand.org/content/dam/rand/pubs/perspectives/PE100/PE149/RAND_PE149.pdf.

- . “The Marijuana Legalization Debate.” 2015. http://www.rand.org/pubs/research_briefs/RB9825.
- CBRE. “Marijuana Industry Influences Denver’s Real Estate Recovery.” Accessed February 2, 2016. <http://www.cbre.us/o/denvermarket/real-estate-news/Pages/Marijuana-Industry-Influences-Denvers-Real-Estate-Recovery.aspx>.
- Cole, James M. *Memorandum for All United States Attorneys, Guidance Regarding Marijuana Enforcement*. Washington, DC: The Deputy Attorney General, 2013. <http://www.justice.gov/iso/opa/resources/3052013829132756857467.pdf>.
- Colorado Department of Revenue. “Colorado Marijuana Tax Data.” Accessed December 12, 2015. <https://www.colorado.gov/pacific/revenue/colorado-marijuana-tax-data>.
- Colorado Department of Revenue—Enforcement Division. “Marijuana Enforcement.” Accessed December 20, 2014. <https://www.colorado.gov/pacific/enforcement/marijuanaenforcement>.
- Deanrunyan Associates. “Colorado Travel Impacts 1996–2014.” June 2015. http://www.deanrunyan.com/doc_library/COImp.pdf.
- Denver Police Department. “Crime Statistics and Maps.” Accessed November 21, 2015. <https://www.denvergov.org/content/denvergov/en/police-department/crime-information/crime-statistics-maps.html>.
- denvergov.org. “Reported Offenses in the City and County of Denver by Month, 2013.” Accessed November 21, 2015. http://denvergov.org/content/dam/denvergov/Portals/720/documents/statistics/2013/XCitywide_Reported_Offenses_2013.pdf.
- . “Reported Offenses in the City and County of Denver by Month, 2014.” Accessed November 21, 2015. https://www.denvergov.org/Portals/720/documents/statistics/2014/XCitywide_Reported_Offenses_2014.pdf.
- . “Reported Offenses in the City and County of Denver by Month, 2015.” Accessed November 21, 2015. http://denvergov.org/content/dam/denvergov/Portals/720/documents/statistics/2015/Xcitywide_Reported_Offenses_2015.pdf.
- Drug Policy Alliance. *Status Report: Marijuana Legalization in Washington*. New York: Drug Policy Alliance, 2015. http://www.drugpolicy.org/sites/default/files/Drug_Policy_Alliance_Status_Report_Marijuana_Legalization_in_Washington_July2015.pdf.
- Dunford, David. “Colorado Marijuana Statistics Prove Law Enforcement Was Wrong.” *The Inquisitr News*, December 20, 2014. <http://www.inquisitr.com/1208249/colorado-marijuana-statistics-prove-law-enforcement-was-wrong/>.

- Enforcement Division—Marijuana. *Annual Report*. Denver, CO: Colorado Department of Revenue, 2015. https://www.colorado.gov/pacific/sites/default/files/2014%20MED%20Annual%20Report_1.pdf.
- FBI. “Arrests by State 2012 Table 69.” Accessed November 21, 2015. https://www.fbi.gov/about-us/cjis/ucr/crime-in-the-u.s/2012/crime-in-the-u.s.-2012/tables/69tabledatadecpdf/table_69_arrest_by_state_2012.xls.
- . “Arrests by State 2013 Table 69.” Accessed November 21, 2015. https://www.fbi.gov/about-us/cjis/ucr/crime-in-the-u.s/2013/crime-in-the-u.s.-2013/tables/table-69/table_69_arrest_by_state_2013.xls.
- . “Arrests by State 2014 Table 69.” Accessed November 21, 2015. https://www.fbi.gov/about-us/cjis/ucr/crime-in-the-u.s/2014/crime-in-the-u.s.-2014/tables/table-69/Table_69_Arrest_by_State_2014.xls.
- . “Persons Arrested by Drug 2012.” Accessed November 21, 2015. <https://www.fbi.gov/about-us/cjis/ucr/crime-in-the-u.s/2012/crime-in-the-u.s.-2012/persons-arrested/persons-arrested>.
- . “Persons Arrested by Drug 2013.” Accessed November 21, 2015. <https://www.fbi.gov/about-us/cjis/ucr/crime-in-the-u.s/2013/crime-in-the-u.s.-2013/persons-arrested/persons-arrested>.
- . “Persons Arrested by Drug 2014.” Accessed November 21, 2015. <https://www.fbi.gov/about-us/cjis/ucr/crime-in-the-u.s/2014/crime-in-the-u.s.-2014/persons-arrested/main>.
- . “Property Crime.” Accessed December 12, 2015. <https://www.fbi.gov/about-us/cjis/ucr/crime-in-the-u.s/2012/crime-in-the-u.s.-2012/property-crime/property-crime>.
- . “Uniform Crime Reporting.” Accessed November 21, 2015. <https://www.fbi.gov/about-us/cjis/ucr/ucr>.
- . “Variables Affecting Crime.” Accessed January 25, 2016. <https://www.fbi.gov/about-us/cjis/ucr/nibrs/2012/resources/variables-affecting-crime>.
- . “Violent Crime.” Accessed December 12, 2015. <https://www.fbi.gov/about-us/cjis/ucr/crime-in-the-u.s/2012/crime-in-the-u.s.-2012/violent-crime/violent-crime>.
- Gavrilova, Evelina, Takuma Kamada, and Floris T. Zoutman. “Is Legal Pot Crippling Mexican Drug Trafficking Organizations? The Effect of Medical Marijuana Laws on U.S. Crime.” *Norges Handelshoyskole, Norwegian School of Economics*, 2015. <http://brage.bibsys.no/xmlui/handle/11250/274521>.

- GPO. *Ending Federal Marijuana Prohibition Act of 2015*. Washington, DC: GPO, 2015. <https://www.gpo.gov/fdsys/pkg/BILLS-114s2237is/pdf/BILLS-114s2237is.pdf>.
- Hedden, Sarra L., Joel Kennet, Rachel Lipari, Grace Medley, Peter Tice, Elizabeth S. P. Copello, and Larry A. Kroutil. *Behavioral Health Trends in the United States: Results from the 2014 National Survey on Drug Use and Health*. Rockville, MD: Substance Abuse and Mental Health Services Administration, 2015. <http://www.samhsa.gov/data/sites/default/files/NSDUH-FRR1-2014/NSDUH-FRR1-2014.pdf>.
- Hudak, John, and Grace Wallack. *Ending the U.S. Government's War on Medical Marijuana Research*. Washington, DC: Center for Effective Public Management at Brookings, 2015. <http://www.brookings.edu/~media/research/files/papers/2015/10/20-war-on-marijuana-research-hudak-wallack/ending-the-us-governments-war-on-medical-marijuana-research.pdf>.
- Ingold, John. "Colorado Police Chiefs Ask for More Money for Marijuana Enforcement." March 5, 2014. http://www.denverpost.com/news/ci_25283504/colorado-police-chiefs-ask-more-money-marijuana-enforcement.
- . "Colorado Study Pegs Annual Pot Demand at 130 Metric Tons." *The Cannabist*, July 9, 2014. <http://www.thecannabist.co/2014/07/09/colorado-marijuana-consumption-estimate-130-metric-tons-study-medical-marijuana-recreational/16000/>.
- James, Nathan. *How Crime in the United States Is Measured*. (CRS Order Code RL34309). Washington, DC: Congressional Research Service, 2008. <http://oai.dtic.mil/oai/oai?verb=getRecord&metadataPrefix=html&identifier=ADA476144>.
- Jimenez, Alison. "Who Is Filing Suspicious Activity Reports on the Marijuana Industry? New Data May Surprise You." *Dynamic Securities Analytics*, April 13, 2015. http://securitiesanalytics.com/marijuana_SARs.
- Kendell, Robert. "Cannabis Condemned: The Proscription of Indian Hemp." *Addiction* 98, no. 2 (February 2003): 143–51. doi:<http://dx.doi.org.libproxy.nps.edu/10.1046/j.1360-0443.2003.00273.x>.
- Kilmer, Beau, Susan Everingham, Jonathan Caulkins, Gregory Midgette, Rosalie Pacula, Peter Reuter, Beth Han, and Kevin Lundberg. *What America's Users Spend on Illegal Drugs: 2000—2010*. Washington, DC: The White House, 2014. https://www.whitehouse.gov/sites/default/files/ondcp/policy-and-research/wausid_results_report.pdf.
- King, Ryan S., and Marc Mauer. "The War on Marijuana: The Transformation of the War on Drugs in the 1990s." *Harm Reduction Journal* 3, no. 6 (2006): 1–17.

- Kondrad, Elin, and Alfred Reid. "Colorado Family Physicians' Attitudes toward Medical Marijuana." *The Journal of the American Board of Family Medicine* 26, no. 1 (2013): 52–60.
- Kuehn, Bridget M. "Colorado Tackles Medical Implications of Marijuana." *Journal of the American Medical Association* 311, no. 20 (May 28, 2014): 2053–2054. <http://jama.jamanetwork.com/article.aspx?articleID=1873093>.
- Lamar, Jacob. "The Bust of the Century." *Time*, December 3, 1984.
- Lowery, Sean, and Jane Gravelle. *Federal Proposals to Tax Marijuana: An Economic Analysis*. (CSR Report No. R43785). Washington, DC: Congressional Research Service, 2014. <https://www.hsdl.org/?view&did=760029>.
- Lucas, Jim. "Equal & Opposite Reactions: Newton's Third Law of Motion." LiveScience, June 26, 2014. <http://www.livescience.com/46561-newton-third-law.html>.
- McGuire, Marvin H. "The Economics of the Drug War: Effective Federal Policy of Missed Opportunity?" Master's thesis, Naval Postgraduate School, 2002. <http://oai.dtic.mil/oai/oai?verb=getRecord&metadataPrefix=html&identifier=ADA405877>.
- Medical Marijuana—ProCon.org. "23 Legal Medical Marijuana States and DC." Accessed October 10, 2015. <http://medicalmarijuana.procon.org/view.resource.php?resourceID=000881>.
- Mikos, Robert A. "A Critical Appraisal of the Department of Justice's New Approach to Medical Marijuana." Vanderbilt Public Law Research Paper, no. 11–07. *Stanford Law & Policy Review* 22 (February 23, 2011): 633–669.
- Mills, James H. *Cannabis Nation: Control and Consumption in Britain, 1928–2008*. Oxford: Oxford University Press, 2013.
- Mir, Mohammed U., Imran Khan, Bilal Ahmed, and Junaid A. Razzak. "Alcohol and Marijuana Use While Driving—An Unexpected Crash Risk in Pakistani Commercial Drivers: A Cross-Sectional Survey." *Biomedical Central Public Health* 12, no. 145 (February 27, 2012): 2–7. doi:10.1186/1471-2458-12-145.
- Muñoz, Andrés E. "Blunt the Violence: How Legal Marijuana Regulation in the United States Can Help End the Cartel Violence in Mexico." *Seattle Journal for Social Justice* 13, no. 2 (2014): 691–729.
- National Drug Intelligence Center. *National Drug Threat Assessment: 2011*. Washington, DC: U.S. Department of Justice, 2011. <http://www.justice.gov/ndic/pubs44/44849/44849p.pdf>.

- NORML. “Marijuana Law Reform Timeline.” Accessed September 24, 2015. <http://norml.org/shop/item/marijuana-law-reform-timeline>.
- Nutt, David J., Leslie A. King, and David E. Nichols. “Effects of Schedule I Drug Laws on Neuroscience Research and Treatment Innovation.” *Nature Reviews Neuroscience* 14, no. 8 (2013): 577–85.
- Office of the Commissioner. “Legislation—Controlled Substances Act.” Accessed January 5, 2015. <http://www.fda.gov/RegulatoryInformation/Legislation/ucm148726.htm#cntlsbb>.
- Ogden, David W. “Memorandum for Selected United State Attorneys on Investigating and Prosecutions in States Authorizing the Medical Use of Marijuana.” October 19, 2009. <http://www.justice.gov/opa/blog/memorandum-selected-united-state-attorneys-investigations-and-prosecutions-states>.
- Pardo, Bryce. “Cannabis Policy Reforms in the Americas: A Comparative Analysis of Colorado, Washington, and Uruguay.” *International Journal of Drug Policy* 25, no. 4 (July 2014): 727–35. doi:10.1016/j.drugpo.2014.05.010.
- PBS Frontline. “Thirty Years of America’s Drug War.” Accessed September 24, 2015. <http://www.pbs.org/wgbh/pages/frontline/shows/drugs/cron/>.
- Philip, George, and Susana Berruecos, ed. *Mexico’s Struggle for Public Security*. London: Palgrave Macmillan, 2012. <http://www.palgraveconnect.com/doifinder/10.1057/9781137034052>.
- Planas, Roque, and Matt Ferner. “Court Ruling Could Pave Way for Marijuana Legalization in Mexico.” *The Huffington Post*, November 4, 2015. http://www.huffingtonpost.com/entry/mexico-supreme-court-marijuana_563a6962e4b0411d306f5e86.
- Ronald Reagan Presidential Foundation and Library. “Nancy Reagan—Her Causes.” Accessed February 1, 2016. http://www.reaganfoundation.org/details_f.aspx?p=RR1008NRHC&tx=6.
- Room, Robin. “Legalizing a Market for Cannabis for Pleasure: Colorado, Washington, Uruguay and beyond: Legalising a Market for Cannabis.” *Addiction* 109, no. 3 (March 2014): 345–51. doi:10.1111/add.12355.
- Rusch, Emilie. “Marijuana Industry Drives Denver Metro Area’s Real Estate Recovery.” *The Denver Post*, October 10, 2015. http://www.denverpost.com/marijuana/ci_28993836/marijuana-industry-drives-denver-metro-areas-real-estate-recovery.

- Sacco, Lisa N., and Kristin Finklea. *State Marijuana Legalization Initiatives: Implications for Federal Law Enforcement*. (CRS Report No. R43164). Washington, DC: Congressional Research Service, 2014. <http://fas.org/sgp/crs/misc/R43164.pdf>.
- Salomonsen-Sautel, Stacy, Sung-Joon Min, Joseph T. Sakai, Christian Thurstone, and Christian Hopfer. "Trends in Fatal Motor Vehicle Crashes before and after Marijuana Commercialization in Colorado." *Drug and Alcohol Dependence* 140 (July 2014): 137–44. doi:10.1016/j.drugalcdep.2014.04.008.
- Seattle.gov. "Crime Dashboard—Seattle Police Department." Accessed November 21, 2015. <http://www.seattle.gov/seattle-police-department/crime-data/crime-dash-board>.
- Stratfor. "Criminal Commodities: Marijuana." Accessed October 21, 2015. <https://www.stratfor.com/analysis/criminal-commodities-marijuana>.
- . "In Mexico, the Delineation of Cartel Power Becomes More Complex." Accessed October 8, 2015. <https://www.stratfor.com/image/mexico-delineation-cartel-power-becomes-more-complex>.
- U.S. Representative Jared Polis. "Polis, Blumenauer Bills De-Federalize Marijuana Prohibition." Accessed January 5, 2015. <http://polis.house.gov/news/document-single.aspx?DocumentID=318723>.
- United Nations. *United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances, 1988*. Vienna, Austria: United Nations, 1988. http://unicri.us/topics/organized_crime_corruption/archive/training_albania/materials/1988_Convention%20Illicit%20Drug%20Trafficking.pdf.
- United Nations Office on Drugs and Crime. *A Century of International Drug Control*. Vienna, Austria: United National Office on Drugs and Crime, 2009.
- . *Final Act of the United Nations Conference for the Adoption of a Single Convention on Narcotics Drugs, 1961*. Vienna Austria: United Nations Office on Drugs and Crime, 1972. https://www.unodc.org/pdf/convention_1961_en.pdf.
- . "United Nations Office on Drugs and Crime Mandates." Accessed September 23, 2015. <https://www.unodc.org/unodc/en/alternative-development/mandates.html>.
- Volkow, Nora D. "Marijuana." Accessed December 19, 2015. https://d14rmgtrwzf5a.cloudfront.net/sites/default/files/mjrrs_9_15.pdf.
- Volkow, Nora D., Ruben D. Baler, Wilson M. Compton, and Susan R. B. Weiss. "Adverse Health Effects of Marijuana Use." *New England Journal of Medicine* 370, no. 23 (June 5, 2014): 2219–27. doi:10.1056/NEJMra1402309.

- Wallis, Daniel. "Neighboring States Challenge Colorado Pot Laws in Top U.S. Court." *Reuters*, December 19, 2014. <http://www.reuters.com/article/2014/12/19/us-usa-marijuana-colorado-idUSKBN0JW2NH20141219>.
- Washington State Liquor and Cannabis Board. "FAQs on I-502." December 17, 2012. http://lcb.wa.gov/marijuana/faqs_i-502.
- . "Frequently Requested Lists." August 2, 2011. <http://www.liq.wa.gov/records/frequently-requested-lists>.
- Wong, Kevin, and Chelsey Clarke. *2015 Final Legalization of Marijuana in Colorado The Impact*. Denver, CO: Rocky Mountain High Intensity Drug Trafficking Area, 2015. <http://www.rmhidta.org/html/2015%20FINAL%20LEGALIZATION%20OF%20MARIJUANA%20IN%20COLORADO%20THE%20IMPACT.pdf>.
- . *The Legalization of Marijuana in Colorado, The Impact, Volume 3, Preview 2015*. Denver, CO: Rocky Mountain High Intensity Drug Trafficking Area, 2015. <http://www.rmhidta.org/html/2015%20PREVIEW%20Legalization%20of%20MJ%20in%20Colorado%20the%20Impact.pdf>.
- Wood, Robert W. "Big Court Defeat for Marijuana despite Record Tax Harvests." *Forbes*, July 13, 2015. <http://www.forbes.com/sites/robertwood/2015/07/13/big-court-defeat-for-marijuana-despite-record-tax-harvests/>.
- . "Cannabis Tax Millions? Hallucinations up in Smoke, Yet Feds Propose 50% Federal Tax Too." January 11, 2015. <http://www.forbes.com/sites/robertwood/2015/01/11/marijuana-tax-millions-hallucinations-up-in-smoke-yet-feds-propose-a-50-federal-tax-too/#6b2cab7971c0>.

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