The Marijuana Effect on Economy and Crime:
Colorado, Washington, Oregon, Alaska, California

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ABSTRACT

The economic impact of Marijuana Legalization in the states of Colorado, Washington, Oregon and Alaska is still in its infancy, as time has only just began to accrue to note any depth, firm assertion, or any influence upon the economic infrastructure. The same measure applies to its relationship with the crime rates of each state. Nevertheless, the minute findings and/or conclusions that can be made, for the time being, point toward a measure of progress, healthy economic stimulation, increased tax revenues, additional infrastructure and public services funding, and a slow but steady decrease in all facets of criminal activity.

Key words: Legal Marijuana Market, Medical Marijuana, Recreational, Economy, Crime, Taxes.

INTRODUCTION

In November of 2012 voters in the states of Colorado and Washington approved ballot initiatives that legalized a marijuana market for recreational use. Two years later, Alaska and Oregon followed suit. Many other states have considered similar measures and taken initiative or legislative action to legalize marijuana, most recently California passed Prop 64 or the “Adult Marijuana Act” with a 57% approval vote. Advocates of a Legal Marijuana Market assert that its relative impact on society and the economy comes out as beneficial in a risk-utility analytic approach. They claim the effect will reduce crime and crime expenditures, raise tax revenue and public services investment. The wary critics argue that legalization will spur increased drug use which will by consequence raise crime and not be a beneficial stimuli for the economy. The impact of a Legal Marijuana Market in law enforcement in an economic model of crime suggest a cost savings approach and a slow but steady decrease in aspects involving crime. Currently U.S. federal law enforcement is against the sale and possession of marijuana. State and Federal enforcement of marijuana has been estimated to cost close to $8 billion a year in criminal justice resources. Current enforcement is justified if it provides net benefits greater than alternatives such as a legal, regulated market for marijuana.¹

BACKGROUND

Until 1913 marijuana was legal throughout the United States under both state and federal law. Beginning with California in 1913 and Utah in 1914 states began outlawing marijuana, and by 1930, 30 states had adopted marijuana prohibition. Marijuana began to become associated

with terrible crime tendencies and was stigmatized from thereon suggesting consumption could lead additionally to insanity, death, homicidal tendencies, and deterioration of health and self. Starting in 1930, the Federal Bureau of Narcotics pushed states to adopt the Uniform State narcotic Act and to enact their own measures to control marijuana distribution. Mirroring the model of the National Firearms Act, in 1937 Congress passed the Marijuana Tax Act, which effectively outlawed marijuana under federal law by imposing a prohibitive tax with even stricter federal laws that followed thereafter.

The 1952 Boggs Act and 1956 Narcotics Control Act established mandatory sentences for drug-related violations; a first time offense for marijuana possession carried a minimum sentence of 2 to 10 years in prison and a fine up to $20,000. Decriminalization of marijuana repealed strict sentences in the early 1970’s but most were reinstated by the Anti-Drug Abuse Act under President Ronald Reagan.

The Controlled Substances Act is the current controlling federal legislation, which classifies marijuana as a Schedule I Drug, meaning that cannabis has “no currently accepted medical use and a high potential for abuse” as well as a risk of “potentially severe psychological and physical dependence.”

Beginning with Oregon 11 states have begun to decriminalize possession or use of limited amounts of marijuana between 1973 and 1978. In 2001 Nevada and 9 other states with the District of Columbia have gone further by legalizing the market for Medical Marijuana. The most dramatic cases of undoing state prohibitions and departing from federal policy have occurred in the four states: Colorado, Washington, Oregon, Alaska, and most recently California. Effectively begun the integration of a Legal Marijuana Market into the economy.

DATA AND METHODS

Marijuana Policy Group LLC

MPG was formed in 2014, as a collaborative effort between researchers from the University of Colorado Boulder Business Research Division and BBC Research & Consulting in Denver. The MPG is a Denver-based economic and policy consulting firm nationally recognized for its role in shaping regulated medical and recreational cannabis markets. MPG regularly provides actionable research and analysis that empowers businesses, government agencies, and investors to make informed decisions within the regulated cannabis industry.

The MPG is a separate, non-affiliated entity dedicated to new market policy and analysis. The MPG mission is to apply research methods rooted in economic theory and statistical applications to inform regulatory policy decisions in the rapidly growing legal medical and recreational marijuana markets.

Marijuana Impact Model

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The Marijuana Effect
The Marijuana Impact Model is a new constructed model by the Marijuana Policy Group (MPG) that accurately integrates the legal marijuana industry into Colorado’s overall economy. Under this Model lies most of the findings stated below for the state of Colorado as they relate the impact of a legal marijuana market to the economy and crime.3

The Cato Institute

The Cato Institute is a public policy research organization funded in 1977, a think tank that accepts no government funding. Its scholars and analyst conduct independent, non-partisan research on a wide range of policy issues.

Cato Institute, Policy Analysis No. 799

A policy analysis publishing that provides statistical, inferential, and reasonable predictions on past, current and future economic pattern and crime behavior as relative to a legalized marijuana market. This is the fundamental source for the findings noted below primarily for the states of Washington, Oregon and Alaska.4

COLORADO

In 1975 Colorado became on the first states to decriminalize marijuana making possession of less than an ounce of marijuana a petty offense with a $100 fine. In November 2000 the state legalized Medical Marijuana through a statewide ballot initiative. The Medical Use of Marijuana Act or Amendment 20, passed with 54% voter support. In 2009 after Colorado’s Board of Health abandoned the caregiver-to-patient ratio rule and more prescriptions became available, the Medical Marijuana Industry took off. Licensed patients rose from 4,800 in 2008 to 41,000 in 2009 and more than 900 dispensaries operated by the end of 2009. In the fall of 2006 Colorado voters considered legalization through Amendment 44, but it failed with 58% of voter disapproval. In November of 2012 Colorado passed Amendment 64 with 55% voter approval authorizing individuals aged 21 and older to grow up to six plants and to purchase, possess, and use up to one ounce of marijuana per single transaction.5

Integration into the Economic Industry

Upon passage of Amendment 64, the ballot referendum named Proposition AA was passed on November 2013 imposing a 15% tax on sales of recreational marijuana from cultivators to retailers and a 10% percent tax on retail sales, in addition to the existing 2.9% percent state sales tax on all goods. Local governments were also permitted to impose additional taxes on retail marijuana. In Denver, retail marijuana products are subject to a local sales tax of 3.65% in addition to a special marijuana tax of 3.5%. Colorado’s first retail marijuana businesses

opened on January 1, 2014. Each business is required to pay licensing fees of several hundred dollars and adhere to other state and local requirements. The legal marijuana market was $7000 million the first year split among evenly between recreational and medical.

**Effect on Economic Industry**

The average price for an ounce of good quality marijuana is roughly $250 and $190 for medium-quality marijuana. Diverting its commerce from the black market to a Legal Marijuana market through dispensary shops has allowed for the imposition of an excise tax. This allows for the creation of additional revenue for research, education, healthcare, substance-abuse prevention, among other public services. Colorado collects well over 10 million a month from the excise tax on recreational marijuana. In 2015 it collected more or less 135 million in taxes and distributed 35 million for school construction projects.

The Legal Marijuana Market has boost economic activity by creating jobs in the marijuana sector. Marijuana production and commerce has employed many thousands of people. The seasonally adjusted unemployment rate has a downward trend that has been steady since 2014, which coincides with the opening of legalized retail shops. Recreational and Medical Marijuana have created over 18,000 full time jobs and added $2.4 billion to the state’s economy in 2015. Between the dollars customers spend and the money business people invest in their crops and shops, marijuana is generating more wealth and economic activity than almost anything else in the market. Every dollar spent in the industry is generating between $2.13 and $2.40 in economic activity, just below federal government spending. The marijuana industry was larger than gold mining ($634 million) in 2014 and was almost on par with 2014 cigarette sales (1.05 billion) in 2015. Today it is larger than performing arts and sports venues ($777.3 million), new multi-unit residential construction ($761.5 million) and just slightly smaller than coal mining ($1.92 billion) or oil and gas wells ($1.89 billion). The Legal Marijuana Market is expected to surpass aforementioned industries by 2020. Marijuana sales grew by 42.4% from 2014 to 2015 and the state’s economy grew at twice the national average in 2014 at a rate of 3.5%.

Sales by licensed vendors jumped over 56.4% from 2014 to 2015 by weight, and product sales of regulated cannabis are expected to continue growing by 16.2% every year through 2020. Among all the jobs created, 12,591 were employees directly involved with the marijuana business and the remaining 5,414 were full time equivalent positions are intermediate input services. These positions include security guards, real estate agents, construction specialist, consulting, legal and advisory services.

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10 Think Progress, Alan Pyke: “Marijuana’s $2.4 billion impact in Colorado is a lesson for 5 states considering legalization”, October 28, 2016.  
Several collegiate programs have risen promising to help students prepare for jobs on either the business side of the industry or the scientific realm. The University of Denver and Vanderbilt University have begun to offer marijuana courses.\textsuperscript{13}

**Effect on Crime**

Marijuana usage has been modestly increasing for several years even before its legalization, thus when marijuana became readily available the upward trend continued. In comparison cocaine began to exhibit a mild downward trend, while alcohol use shows a pattern of stability. This denotes that marijuana does not necessarily lead to abuse of stronger, more dangerous drugs, it is not a gateway to drug abuse and/or an eruption of crime as a mutually inclusive relation of the two. The patterns observed in marijuana use may be evidence that as marijuana becomes less stigmatized the substitution of cannabis for alcohol, cocaine or other drugs is not a consequence of legalization, but a cause of it. This is important because the relationship between marijuana and criminal activity, or those who tend to use marijuana recreationally and their subsequent predisposed criminal tendencies is quickly fading toward a mute point. Moreover, simply by de-facto legalization of a controlled 1 substance, marijuana possession, cultivation and sale is not illegal. The legal condition alone should free up more revenue, time and resources in state criminal enforcement. In the field of drug prevention alone, alcohol admissions have begun declining around the same time as legalization took effect.

The overall lack of solid evidence demonstrating marijuana use as a crime & social deviancy inducing substance through psychopharmacological and other mechanisms is reason to conclude that the Marijuana Effect, while minimal, is currently providing more benefit than detriment as crime is not rising to the effect previously forecasted. Diversion of the marijuana industry from the black market to legal revenues also reduces crime by de-facto legislation. It has already begun to reduce the burden of law enforcement to patrol for drug offenses, thereby freeing budgets and manpower to address larger crimes. In cities in Colorado and specifically crime data for Fort Collins, for example, reveal no increase in violent or property crime. Denver Police Chief Robert White argues that violent crime dropped almost 9\% in 2012.\textsuperscript{14}

As far as annual state correctional and state police expenditures show no drastic response to the Marijuana Effect and have been on a steady rise since 1992. Nevertheless, the revenue and resources saved from the decriminalization of the drug is self-evident.

There has also been no spike in fatal traffic accidents or fatalities followed by legalization of medical marijuana and overall “highway fatalities in Colorado are at near historic lows” in the wake of legalized recreational use.\textsuperscript{15}

### Washington


The state began to loosen its marijuana laws by 1971 and the state legalized Medical Marijuana in 1998 with Initiative 692 with 59% voter approval. Use, possession, sale, and cultivation of marijuana became legal under state law for verified patients with certain medical conditions. By 2009 and estimated 35,500 Washington residents had prescriptions to buy Medical Marijuana. In 2012 Washington passed Initiative 502 with 56% percent voter approval amid an 81% voter turnout.  

Integration into the Economic Industry

In early 2014 Washington’s licensing board began accepting applications for Recreational Marijuana shops and the first four retail stores opened on July 8, 2014. By June 2016, several hundred legal retail shops were open across the state. Initiative 502 imposed a 25% percent excise tax levied three times: on marijuana producers, processors, and retailers. This system of three separate taxes was eventually replaced by single, 37% excise tax levied at the retail point of sale in July 2015.

Effect on Economic Industry

In Washington recreational marijuana excise taxes generated approximately $70 million in its first year of sales. As time accrues the sales from a Legal Marijuana Market is increasing at a fast pace. The monthly average collection of taxes ranged from 3 million in the first 6 months of sales (June 2014 to December 2014) to an average of over 10 million a month for the 2015 year, up to over 20 million for 2016. It has the potential to reach $270 million per year.

Effect on Crime

Monthly violent and property crime rates as reported by the Seattle police Department have declined steadily over the past 20 years, with no major deviations after marijuana legalization. After the opening of marijuana shops in mid-2014, crime in Seattle has neither soared nor plummeted. In relation to traffic safety marijuana has not seem to substantially affect fatal crash or fatality rate. In fact, statistics reveal that the fatality rate for drug related crashes was virtually unchanged after legislation.

OREGON

In October 1973 Oregon became the first state to decriminalize marijuana upon passage of the Oregon Decriminalization Bill. After state law makers and Oregon’s governor tried to
recriminalize marijuana and restore jail sentences as punishments for possession of less than an ounce. The attempt to recriminalize marijuana failed by a margin of 2 to 1 after activists forced a referendum. In November of 1998 “The Oregon Medical Marijuana Act” legalized cultivation, possession, and use of marijuana by prescription for patients with specific medical conditions. By July 2016, Oregon’s Medical Marijuana program accounted for nearly 67,000 registered patients. On November 4, 2014 with 56% voter approval passed measure 91 or the “Oregon Legalized Marijuana Initiative” with the Oregon Liquor Control Commission regulating sales of the drug.

Integration into the Economic Industry

Amid measure 91 legislators adopted additional laws to regulate the Legal Marijuana Market. The state passed a 17% sales tax on marijuana retail sales and empowered local jurisdictions to charge their own additional 3 percent sales tax. State legislatures gave individual counties the option to ban marijuana sales if at least 55% percent of voters in those counties opposed Measure 91. On October 1, 2015 the first retail dispensaries opened and as of June 2016, Oregon had 426 locations where consumers could legally purchase Recreational Marijuana. As of June 2016, 87 municipalities and 19 counties in Oregon had prohibited Recreational Marijuana businesses or producers in their jurisdiction.\(^{21}\)

Effect on Economic Industry

Oregon’s first month of legal recreational marijuana produced $3.5 million worth of tax revenue.\(^{22}\)

Effect on Crime

Monthly violent and property crime has remained steady after legalization in Portland. One important thing to note is that the legalization of marijuana in the bordering state of Washington, between 2012-2014, had no spill-over effects into Oregon in terms of crime. Elsewhere in Oregon there are no discernible changes in crime trends before or after legalization. There are also no deviations in crash fatality rate in trend after the start of legal sale of Recreational Marijuana.

ALASKA

Alaska’s legislature decriminalized marijuana in 1975, but in November of 1990 an Initiative passed with 54% percent support to ban possession and use of marijuana even in one’s own home. In 1999 Alaskan citizens spearheaded the legalization of medical marijuana with


69% percent approval. Complete legalization of recreational use of marijuana was passed in November of 2014 with 53% percent voter approval.  

**Integration into the Economic Industry**

The state created a Marijuana Control Board to regulate the Legal Marijuana Market and establish an excise tax.

**Effect on Economic Industry**

Similar findings to Colorado, Washington, Oregon, but in a much smaller scale. See Supra.

**Effect on Crime**

While road related offenses seem virtually unchanged among the prior three states, there is no substantial difference with the trends in Alaska, if there is any change they do seem to have decline ever so slightly.

**CALIFORNIA**

California’s Proposition 64 passed on November 8, 2016 and retail sales are set to begin by January 1, 2018. California is the world’s sixth largest economy, only outpaced by the United States in its entirety, China, Japan, Germany, and the United Kingdom. In 2015 the economic output was $2.46 trillion. Considering alcohol style regulation and sale of recreational sale of marijuana to adults, California is looking get an additional $1.5 billion in 2018 to 6.45 billion in sales by 2020. That is before factoring in reduced criminal justice costs of tens of million of dollars annually.

**Integration into the Economic Industry**

The Legal Marijuana Market currently employs around 150,000 people when accounting for all the states in the Union and is one of the fastest-growing industries in the nation. The federal government has been taking small steps to help integrate the marijuana industry with the rest of the market. In 2014 the IRS issued a memorandum assuring accountants who file taxes for marijuana businesses that they won’t face increased risk of an audit or penalties. In December 2014 a measure passed forbidding the Drug Enforcement Agency from raiding medical dispensaries, provided those outlets were in compliance with state law.

One sector of business not expected to participate in depth is banking. As marijuana is still labeled as a Schedule 1

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24 Business Insider, Ben Gilbert: “California just legalized marijuana, and it’s going to have a huge impact on the economy”, November 9, 2016.
Substance, financial institutions are prohibited from taking marijuana industry related monies. As marijuana becomes less stigmatized, and normalized into the economy and culture, relabeling the drug may infuse future participation of banks. If and when that occurs, the potential for accessible revenue for investment opportunities will multiply many times over.27

**Effect on Economic Industry**

If all states legalized and taxed marijuana, states could collectively expect to raise between $5 billion with a 10 percent sales tax upwards to $18 billion per year with a higher tax. It is estimated that the current size of the marijuana market nationally is over 50 billion per year, approximately 30% of the gross domestic product, and comprising over 30 million pounds of marijuana consumed each year.28 The legalization of marijuana has fueled demand for workers who can help sustain the industry, from greenhouse employees and production managers to sales associates and scientist. Realty companies in the prior four states have started hiring agents who specialize in finding properties and lots of land suitable for cultivators and processors. A bud trimmer can make between $12 and $15 an hour while those employments that require more specialized skills are paying upwards of $50 to 100,000 thousand a year.29 Harvard economists estimate that legalizing marijuana for the entire country would result in savings of $13.7 billion.30

With more states voting to legalize some form of marijuana, the opportunities for business and business ventures have increased and that makes good opportunity to invest in companies that work within the industry. Marijuana stocks over the year of 2016 delivered 35.6% percent returns.31 The creation of startup companies is in abundance, among those is Weedmaps, an app that gives users the ability to locate medical marijuana dispensaries and Leafly that offers users the opportunity to rate and review various cannabis strains. Leafly is bringing in a revenue of $100,000 monthly, according to Forbes, after founding the trio of former Kelly Blue Book employees were bought out by the private equity firm Privateer Holdings. Leafline Labs has raised more than $12 million in funding from more than 100 individual investors based in the state of Minnesota. Another startup Palliatech has brought in $10 million in funding for marijuana based pain medication and among the contributors is Gruppa Sputnik OOO, a Russian VC firm. 32

**Effect on Crime**

Please note the findings, assessments, conclusions, and foresight provided by the experience in the prior four states and reasonably assume that similar conditions will spout in state of California but at a grander scale with much more potential.

**DISCUSSION AND CONCLUSION**

State legalization of a Marijuana Market have had modest changes on abating crime and criminal justice expenditures. However, we cannot rule the small benefits the Marijuana Effect has had on state law expenditures and steady decline of crime in all such states. Moreover, a strong observation needs to be made about the lack of crime increasing since legalization. An increase or total maniacal spur of criminal activity and mental deterioration because of marijuana use has been notoriously delivered to the American people as warning time and time again. Through culture in such films as Louis J. Gasnier’s 1936, “Refer Madness”, delivered an aspect of an American society under a Legal Marijuana Market in an unfavorable and detrimental view to the populace. The small decrease in crime or at the very least the little change to the status quo is a pattern that could completely deflate one of the biggest points of argument for those who have been and remain opposed. Moreover, the economic impact of legalization, while still very fresh, has demonstrated a fast-paced upward trend towards creation of an abundance of employment sectors, entrepreneurship opportunities, a great source of tax revenue, and increase in available funding for public services, and a healthy foresight of continued economic positive stimulation.

Insufficient time has elapsed since the five states legalized the marijuana market to allow for stronger inferences. Each of those five separate state legislations legalized a Marijuana Market very recently, and the logistics for each rolled out gradually over several years or are still in the planning stages as in the State of California. The data available for before and after comparisons are therefore limited. The assessments presented are tentative. Nevertheless, given the considerable data and findings available for Legal Medical Marijuana Markets, where the effects are being shared in Recreational Marijuana, infers that the majority of the trends for the former can be forecasted for the latter. The inference is important because the customer base of a Legal Recreational Market is many times over that of a Legal Medical Marijuana Market. Thus the impact on the economy and crime can be predicted to have a greater depth, a more massive input and output of stimuli, and a faster maturing of stabilized conditions. Estimates indicate that as many as 12 million people in the United States use cannabis everyday or almost daily.

REFERENCES


4. Think Progress, Alan Pyke: “Marijuana’s $2.4 billion impact in Colorado is a lesson for 5 states considering legalization”, October 28, 2016.


10. Business Insider, Ben Gilbert: “California just legalized marijuana, and it’s going to have a huge impact on the economy”, November 9, 2016.

