

**The Budgetary Implications of Marijuana
Decriminalization and Legalization for Hawai`i**

Lawrence W. Boyd, Ph.D.
Economist
University of Hawai`i West Oahu
Lboyd@hawaii.edu

Executive Summary

Economic analysis of current public policies on marijuana reveals that Hawaii state and county governments could reap up to \$33 million annually in new revenues and cost savings if tax and regulatory policies were to replace law enforcement to control marijuana distribution. Furthermore, research indicates that enforcement expenditures of up to \$10 million each year statewide have failed to reduce the amount of marijuana available in Hawaii.

This report focuses on the economic effects of two alternative policies:

Decriminalization of marijuana is a policy that reduces the punishment for its possession to a civil fine rather than criminal penalties or jail time. Trafficking, selling, and distributing to minors, remain subject to standard criminal punishment.

Legalization is a policy that would eliminate criminal and civil penalties for both possession and sale of marijuana and replace them with regulation, which would include restrictions on marijuana use similar to those applicable to alcohol and tobacco. The regulation model uses taxes, minimum age requirements, and licensing to control distribution.

Currently, thirteen states have decriminalized marijuana possession. Spain, Portugal, Luxembourg, Belgium, and Austria have decriminalized marijuana possession; in addition, there are seven other countries either considering decriminalization or having a *de facto* policy that in essence, decriminalizes or legalizes marijuana (e.g. the Netherlands).

The primary cost of the criminalization of marijuana is law enforcement. In Hawai'i, possession of less than one ounce of marijuana is a petty misdemeanor. Approximately 65 percent of the cases are dismissed, not prosecuted, or stricken in any given year. First offenses generally receive probation or a deferred acceptance of a guilty plea. Given the current usage levels, the low risk of arrest, and further risk of punishment, the current criminalization policy is not deterring marijuana use.

The report concludes:

- State and county law enforcement agencies spend \$4.1 million per year to enforce marijuana possession laws; an additional \$2.1 million is spent by the courts. Enforcement of marijuana distribution laws costs approximately \$3 million. The total costs of enforcing all marijuana laws in Hawaii are approximately \$9 to 10 million per year.
- Between 1994 and 2003, the price of one ounce of high quality marijuana dropped by 12 percent. The price decline reveals that law enforcement efforts to restrict supply have not been effective.

- Research on the effects of decriminalization has tended to find either no relationship or a weak positive relationship between decriminalization and drug use. Given the current low prosecution levels and small penalties, it is doubtful that decriminalization would have much effect on marijuana use in Hawai`i.
- Decriminalization of marijuana possession in Hawai`i would save state and county governments approximately \$5 million per year.

Legalizing, taxing and controlling marijuana would save an additional \$5 million per year and would create tax revenues of between \$4 million and \$23 million.

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Introduction

Decriminalization of marijuana is a policy that reduces the punishment for possession of marijuana to a civil fine rather than a criminal offense. Trafficking and selling, or distributing to minors, remain subject to standard criminal punishments.

Decriminalization is a policy that has been substantially discussed nationally. A number of states have decriminalized marijuana possession.

In contrast, legalization would decriminalize both possession and sale of marijuana and replace them with a system of regulation and possible taxation. There is also a substantial literature on legalization of various drugs although no state or national government has actually legalized marijuana.

This study addresses three issues related to marijuana decriminalization, and legalization. First, what savings from legalization or decriminalization can be expected to occur in state and local budgets. Second, in the case of legalization, what tax revenues could be projected. Third, what would be the impact of these measures on marijuana use.

The United States, like other countries, has chosen to regulate some substances that are addictive, or potentially addictive, such as cigarettes and alcohol, and ban others.¹ Regulation uses taxes, minimum age requirements, other restrictions on use, and education about harmful effects in order to limit the potential damage these goods can do. Bans involve outlawing the use of certain substances. Taxation and bans both raise the price of these substances; taxation directly raises the price, while bans limit supply. In addition, bans create black markets, encourage illegal activities, and may result in harm to innocent victims.²

¹ Potentially addictive means a relatively small part of the population can become addicted to a substance. Alcoholism, for example, is recognized as a disease, and those addicted to alcohol represent a small percentage of those that consume alcohol on the order of 15 percent. The addictive nature of marijuana is questionable. Those who support its continued ban claim that it is a “gateway drug” whose use leads to more harmful drugs; although recent research disputes that theory.

² This discussion follows that of Michael Grossman, “Individual Behaviors and Substance Use the Role of Price,” National Bureau of Economic Research Working Paper 1048.

During the 1970's, eleven states decriminalized marijuana possession, as have a number of countries since.³ Currently thirteen states have decriminalized marijuana possession. Proponents of decriminalization argue that it can have positive outcomes that include savings on enforcement for state and local governments, an improved allocation of criminal justice resources, and expanded funding for prevention education and treatment for marijuana users. Opponents have claimed that decriminalization produces a substantial increase in marijuana use along with increased crime and other negative effects.

Those who favor legalization point to the inefficient use of social resources and argue that policies like those involved in the regulation of alcohol and tobacco are far more effective in limiting the individual and social costs involved. There is also a significant literature that suggests legalization could also be more efficient in limiting the negative consequences of marijuana use. Taxation, for example, can ameliorate whatever social costs occur, and the price effects can significantly reduce its use, especially among adolescents.⁴ Furthermore it can be demonstrated that taxation is significantly cheaper in terms of enforcement and outcomes than outlawing substances.

This report reviews evidence and literature that suggest marijuana decriminalization would not lead to a measurable increase in marijuana use. This report does not take a stance on whether, or not, marijuana use is harmful. The conclusion reached below is that decriminalization would save state and local governments in Hawai`i approximately \$5

³ Alaska, California, Maine, Minnesota, Mississippi, Nebraska, New York, North Carolina, Ohio and Oregon decriminalized. Alaska (1990) voted to recriminalize, but Alaska's state courts have ruled that privacy rights protected marijuana use in the home. A twelfth state, South Dakota decriminalized and then recriminalized within a year. In 1996 Oregon recriminalized, but in 1998 voters rescinded recriminalization and returned to decriminalization. Nevada decriminalized in 2001. Colorado has also decriminalized. See <http://www.norml.org/> and <http://www.drugpolicy.org/> for details. Countries that have decriminalized are Italy, Spain, Portugal, Luxembourg, Belgium, and Austria. Several other countries have either *de facto* decriminalized or are in the process of decriminalizing. These include Netherlands, Germany, Denmark, France, Switzerland, United Kingdom and Canada. See <http://eldd.emcdda.org/>.

⁴ See Becker, G. S., M. Grossman, et al. (1994). "An Empirical Analysis of Cigarette Addiction." American Economic Review 88(3): 396-418. They find prices have a greater effect on adolescents.

million dollars per year. Legalization would save an additional \$5 million per year for a total of \$10 million should legalization be adopted. In addition, legalization would create tax revenues between \$4 and \$23 million. The estimates provided here must make use of approximations in cases where data do not make possible a more detailed analysis.

Wherever possible this report has used detailed information and approximations that bias estimated budget effects downward.

Methodology of Estimating Budgetary Implications of Decriminalization and Legalization

By and large this report follows the methodology used by Miron (2003) in his analysis of the effects of decriminalization in Massachusetts.⁵ As he suggests, the two major budgetary implications of decriminalization are the savings in criminal justice resources and criminal fines that are shifted to civil fines. The former is the savings that result to the extent that police, prosecutors, forensic laboratories and court personnel are not used for marijuana possession offenses. Miron (2003) suggests that the savings on law enforcement is the predominant one. The amounts and collection of civil as opposed to criminal fines would likely be at about the same level; therefore the second effect would be small. A look at court statistics, reported below tends to confirm this.

The methodology used by Miron involves the following steps:

1. Determine the percentage of all Hawai`i arrests that is for marijuana possession.
2. Determine the criminal justice budget for Hawai`i
3. Multiply the first number by the second

As Miron points out, these steps yield reasonable estimates based on certain assumptions. First, that average costs equal marginal costs. This means that law enforcement is a constant cost industry; increased dollars spent on enforcement leads to

⁵ See, Jeffrey A. Miron, “The Effect of Marijuana Decriminalization on the Budgets of Massachusetts Governments, With a Discussion of Decriminalization’s Effect on Marijuana Use,” Drug Policy Forum of Massachusetts. Also Jeffrey A. Miron, “The Budgetary Implication of Marijuana Decriminalization,” June, 2005, The Marijuana Policy Project.

approximately the same increase in arrests. Police also engage in activities unrelated to arrests, such as traffic control, but these sorts of activities are minor in terms of costs relative to the overall law enforcement and arrests.

Miron (2003) focused primarily on police enforcement of marijuana laws and did not quantify costs associated with prosecution within the court system. Because court statistics make it possible to do this in Hawai`i, this report adds these costs to enforcement costs. Court and legal costs, related to prosecution and defense, are reported in addition to enforcement costs.

A second question is what exactly does decriminalization mean? Currently under Hawai`i law marijuana possession is a misdemeanor. Possession of less than one ounce is a petty misdemeanor punishable by 30 days in jail and or a fine up to \$1,000. Possession of between one ounce and one pound is a misdemeanor punished by up to one year in jail and up to a \$2,000 fine. One proposal, HB 1751 and SB 1056, introduced in the 2005 state legislative session, decriminalizes possession of less than one ounce. Generally, however, the data do not break down arrests by weight, but rather record arrests for possession that include all types of misdemeanors. So the results below are calculated for all misdemeanor marijuana possession charges, although the vast majority of these appear to be for under one ounce.

The statistics on arrest are Uniform Crime Statistics reported by law enforcement agencies to the United State Department of Justice. Other statistics used come from Reports of the Hawai`i State Judiciary and the U. S. Census of Governments.

A difficulty raised by Miron (2003, 2004) is that some arrests are the result of an investigation related to a different crime. Thus these arrests can be broken down into three categories. The first are “stand alone” arrests, where someone is arrested because an officer sees them smoking marijuana. A second type is an arrest made in conjunction with a traffic stop, also referred to as “civil incidental”. A third type is an arrest that occurs because police have detained a suspect for a crime and then find that the suspect possessed marijuana, known as a “criminal incidental” arrest. Generally the police resources saved under decriminalization would correspond to the first two categories.

Miron states, “it is useful to know what fraction of arrests are in these first two

categories ‘stand alone’ and ‘civil incidental’ as opposed to the criminal incidental.”⁶ As a result, Miron finds the proportion of stand alone arrests and reduces the total of arrests by this amount. A review of the data definitions used in reporting Uniform Crime Statistics indicates that in the case of multiple counts the most serious charge is the only one reported. Given the law in Hawai`i and the nature of the arrests, marijuana possession is only more serious than traffic violations. Thus it is more accurate to use the arrest statistics reported for Hawai`i under the Uniform Crime Information System without adjustment. In this instance this report differs from Miron.⁷

Estimating the budgetary implications of legalization is somewhat more difficult. In terms of enforcement costs the same procedure used in analyzing decriminalization is employed. Because additional costs include jail time for offenders, and because actual numbers exist for persons incarcerated and associated costs, these are added. Taxation, which would play a significant role in legalization, requires assumptions about the public policy that would be pursued, the social costs of legalization, and estimates about how much supply would increase. Miron (2004) reports \$4 million per year as potential tax revenue from legalization in Hawai`i. A different methodology would be to use per capita tax revenue from alcohol and tobacco as a basis for estimating tax revenue.

Budgetary Effects

Table 1, below contains possession arrests, total arrests, percentage of possession arrests, county police expenditures and the cost of enforcement. Arrests are from the Uniform Crime Statistics of the Department of Justice. County police expenditures are from the United States Census, State and Local Government. These statistics cover 1998 through 2002. The Census does not provide state and local data for every year. Although alternative statistics and budgets are available, using Census data combines state and

⁶ Ibid. p. 4

⁷ Miron reduces Massachusetts’ arrests by two-thirds as a result of this adjustment. Thus this means there would be significant differences between the two reports. However the difference is data driven. Miron finds 1.7 percent of all arrests in Massachusetts in 2000 would fall into these two categories. In 2000, in Hawai`i 1.72 percent of all arrests were marijuana possession arrests. Given similar marijuana use patterns and risk of arrest this indicates that the results are comparable when the revision is not used.

county police expenditures that include many anti-drug programs such as the state’s drug interdiction program at the Honolulu airport. It also facilitates national comparisons.⁸ Following the methodology above, the expenditures on enforcement that would be reduced by decriminalization are approximately \$4.2 million per year. Note that the data fluctuate around this number over several years. Because Hawai`i does not have the same sort of statewide law enforcement agencies other states do, this is a burden in Hawai`i primarily for county government.⁹

Year	Arrests Marijuana Possession	Total Arrests	Percent Marijuana Possession	State and Local Police Budgets	Cost of Possession Enforcement
1997	1,411	70,060	2.01%	\$192,287,000	\$3,872,637
1998	1,257	63,208	1.99%	\$207,743,000	\$4,131,328
1998	1,232	61,393	2.01%	\$221,151,000	\$4,434,331
2000	1,152	64,685	1.72%	\$221,899,000	\$3,951,884
2001	1,142	60,177	1.90%	NA	NA
2002	1,032	63,021	1.64%	\$254,636,000	\$4,169,790
2003	1,098	58,722	1.87%	NA	NA
2004	1,054	58,547	1.80%	263,768,000	\$4,748,518

Sources: Arrests from Hawai`i State Department of the Attorney General, “Crime in Hawaii,” <http://hawaii.gov/ag/cpja/main/rs/Folder.2005-12-05.2910>; Police Budgets, U. S. Census Bureau, Federal State and Local Governments, State Government Finances, <http://www.census.gov/govs/www/state.html>

Related to the arrest statistics are the criminal proceedings that follow. The U. S. Census Bureau reports that during the fiscal year 2001-2002 the budget for state and county judicial and legal services was \$213, 854,000.¹⁰ Approximately 1% of the total

⁸ For example police budgets are available in county Comprehensive Annual Financial Reports. Summing these county numbers does not always produce identical results due to minor differences in definitions between county reports.

⁹ The Hawai`i State Department of Public Safety participates with local and federal agencies in statewide drug enforcement and interdiction efforts.

¹⁰ This includes state judiciary expenses, county prosecutors’ offices, drug courts and the attorney general’s office. Probation and investigation related to sentencing is also part of this budget. For 2001-2002 see:

http://www.census.gov/govs/estimate/0212his1_1.html

criminal cases heard were for marijuana possession.¹¹ Multiplying the 1% by the \$213 million means a total of \$2.1 million is used in various court-related possession activities.

Also of interest is the actual disposition of these misdemeanor drug cases in District Court. Approximately 65% are dismissed, not prosecuted, or stricken in any given year. A very small number is committed to Circuit Court for jury trial and a relatively small proportion, about 25%, results in conviction. In addition first offenses generally get probation.¹²

Table 2 Disposition of District Court Misdemeanor Drug Cases						
Year	By Discharge/ Dismissal	By Nole Prosequi	Stricken	By Commitment to Circuit Court Jury Trial	By Conviction	Total
2000	300	31	3	39	150	523
2001	276	20	4	37	124	461
2002	310	36	2	42	127	517
2003	304	42	12	85	141	584

Source: The Judiciary State of Hawai'i Annual Report Statistical Supplement, Various Years, Table 17.

These statistics tend to confirm that the primary cost of the criminalization of marijuana criminalization is enforcement. Few are actually prosecuted under the law, fewer convicted, and virtually none serve jail time. Of those convicted, probation is the usual sentence for first time offenders. The burden in terms of enforcement costs fall on county level enforcement efforts.

Table 3, below, reports estimates of marijuana use from the National Survey on Drug Use and Health. Beginning in 1999 this survey was expanded so sample sizes were large enough to cover states. Combining samples into two-year averages is a means by

¹¹ See The Judiciary State of Hawai'i "Annual Report Statistical Supplement." Various Years; misdemeanor drug cases which are identical to misdemeanor marijuana possession are reported. These numbers are divided by the total criminal cases heard in district and circuit court to arrive at the 1 percent figure.

¹² In addition some are offered deferred guilty pleas, where a defendant is released on good behavior, provided he or she does not re-offend. These outcomes will also be found in these statistics since those who do re-offend are found in the convictions category.

which trends can be measured. A change in the methodology of the survey greatly expanded it in 2003 and also greatly expanded reported marijuana use; therefore 2002-2003 is not directly comparable to previous time periods. The question on past year use was added in 2003. During 2002-2003 about 7% of the population over twelve used marijuana within the past 30 days, a measure indicating regular users. Almost 12% used it in the last year, indicative of infrequent users. Adjusting the number of arrests so they match the time periods of the survey, makes it possible to estimate the risk of arrest for regular marijuana users. This was 1.5% in 2002-2003. In terms of punishment it was effectively zero.

Table 3 Marijuana Use in Hawai`i, National Household Survey on Drug Abuse					
Year	30 Days Use	Past Year Use	Percentage 30 Days	Percentage Year	Risk of Arrest
2003-2004	66,000	110,000	6.52%	10.80%	1.59%
2002-2003	69,000	115,000	6.95%	11.56%	1.54%
2000-2001	55,000	NA	5.82%	NA	2.09%
1999	57,000	NA	5.80%	NA	2.16%

Source: <http://oas.samhsa.gov/nhsda>, Substance Abuse & Mental Health Services Administration, Office of Applied Studies

Criminal justice resources used in the enforcement of the current marijuana law on possession in Hawai`i are about \$6 million dollars. Given the usage levels, risk of arrest, and further risk of punishment it is questionable whether criminalization serves as a deterrent to use. This can be further analyzed by looking at research done nationally on use.

Table 4 below reports arrests for distribution and the costs associated with it. Those costs were approximately \$1 million in 2002.

Table 4 Marijuana Distribution Arrests			
Year	Marijuana-Sale/Manufacture	Marijuana-Sale/Manufacture	Cost of Manufacture Enforcement
1997	210	0.30%	\$576,861
1998	166	0.26%	\$545,697
1999	159	0.26%	\$568,208
2000	167	0.26%	\$574,859
2001	125	0.21%	NA
2002	240	0.38%	\$969,749
2003	159	0.27%	NA
2004	110	0.18%	\$495,576

Sources: Arrests from Hawai`i State Department of the Attorney General Uniform Crime Report, <http://www.cpja.ag.state.hi.us/rs/cih/index.shtml>. Police Budgets, U. S. Census Bureau, Federal State and Local Governments, State and Local Government Finances, <http://www.census.gov/govs/www/state.html>

Stronger enforcement efforts are directed at suppliers of marijuana. Assuming that all 240 distribution arrests were tried during fiscal year 2002, and that there were approximately 56,000 cases terminated that year by the judiciary which had a budget of approximately \$214 million, then the court costs were approximately \$850,000. According to the Department of Public Safety’s Budget Office in 2005, each prisoner costs the state approximately \$38,000 dollars per year to incarcerate. There were between 14 and 21 prisoners incarcerated for marijuana distribution over the past several years. These prisoners cost the state between approximately \$582,000 and \$800,000 in direct costs.¹³ In addition to enforcement efforts directed towards finding dealers, there are special units directed at eradicating marijuana plants. The federal government funds these, in part, with additional funds provided at the local level. Matching three to one

¹³ It should be noted that Hawai`i prisons suffer from severe overcrowding to the point that mandated court ordered relief has led to the export of prisoners to private prisons on the mainland. Overcrowding has other indirect costs including early release of prisoners and the potential return of these prisoners to criminal activity. See Ilyana Kuziemko and Steven Levitt, “An empirical analysis of imprisoning drug offenders,” Journal of Public Economics, 88, 2004. Discussed further below.

grants from the federal government fund various marijuana eradication programs. These total \$360,900, so the one-third matching funds would be approximately \$110,000.

The costs of enforcement of distribution laws appear to be approximately \$3 million. Thus the total costs for enforcing all of the marijuana laws are in the \$9 to \$10 million range.¹⁴

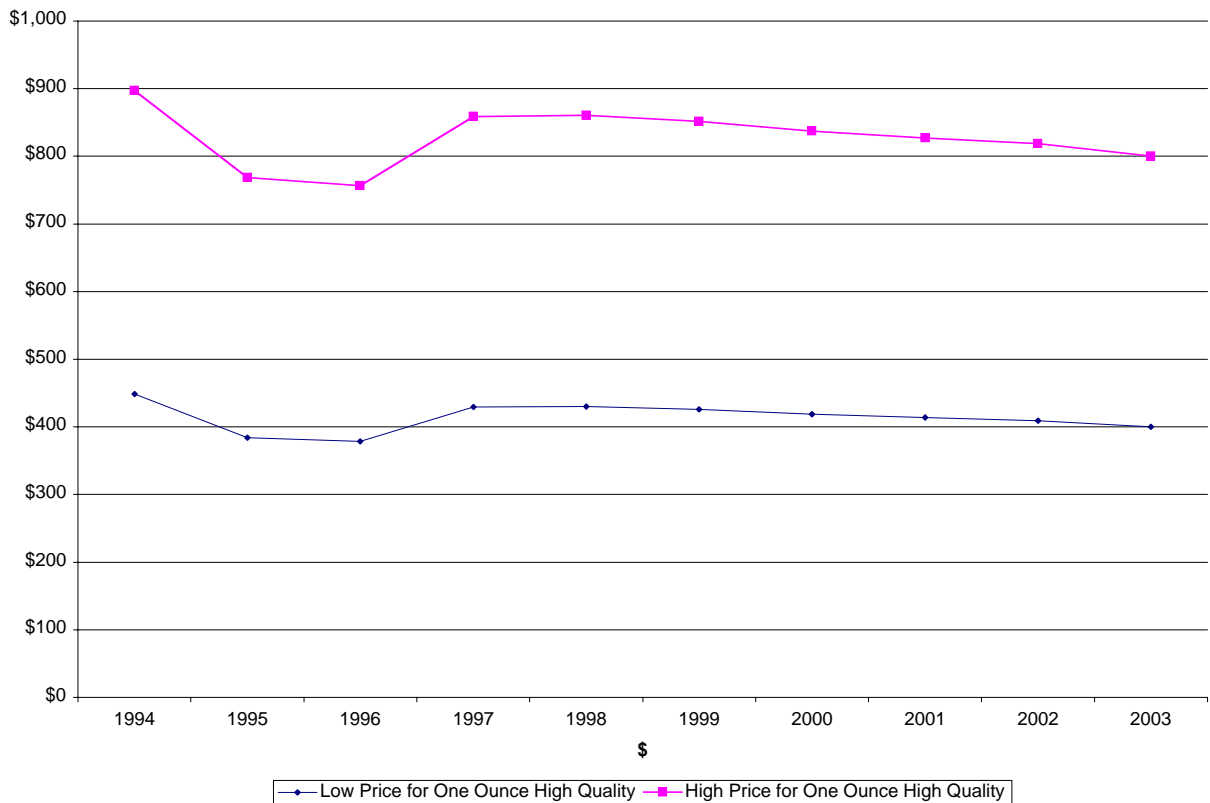
Enforcement efforts should restrict the supply of an illegal substance to such an extent that they affect the price of that product. Therefore it is useful to report prices for various amounts of marijuana, which is done in Table 5. Figure 1, plots the “real” price of marijuana in Honolulu, that is the price of marijuana net of inflation. The real price indicates what its cost is relative to the other prices of goods that consumers buy. The price series indicates a 12% drop in the real price of one ounce of high quality marijuana between 1994 and 2003. Given various estimates of the relationship between marijuana prices and consumption, this would suggest a 6% increase in marijuana consumption.

¹⁴ A minimum of \$8 million, plus other legal costs. Miron (2005) estimates that the total cost of marijuana prohibition in Hawai`i is \$22 million. The differences between his estimates and these found here are first, I estimate police resources at \$4 million while Miron estimates them at \$2.7 million. The reason for this is that Miron reduces these arrests to stand alone arrests, a procedure I believe is flawed in Hawai`i for reasons outlined above. Second, Miron was unable to find data on the percentage of possession convictions for marijuana and assumes it was equal to the percentage of trafficking convictions. In turn he estimates trafficking convictions at 10.9 percent, which he then multiplies by the judicial budget for 2002. In this report it was possible to determine actual possession hearings. It was further assumed that all trafficking arrests were heard in the following year. The difference is substantial. Miron estimates judicial costs at \$19.6 million, while using the actual numbers found in the Hawai`i State Judiciary Reports were in the \$1 million range. In terms of incarceration, Miron estimates that 1 percent of the penal system’s budget is used for incarcerating marijuana prisoners. His estimate is \$1.96 million. In this report the actual number of prisoners are used and multiplied by per capita prisoner costs. The result is \$910,000. Although the results are different from Miron’s estimates, it should be noted that the difference lies in the fact that a large proportion of the court’s resources are not used for marijuana enforcement.

Table 5 Honolulu Marijuana Prices					
Year	Joint	Gram	Ounce-High Quality	Pound	
1994	\$3-\$5	NA	\$400-\$800	\$6000-\$9000	
1995	\$5	\$25	\$350-\$700	\$5000-\$9000	
1996	\$5	\$25	\$350-\$700	\$5000-\$9000	
1997	\$3-\$10	NA	\$400-\$800	\$6000-\$9000	
1998	\$3-\$10	NA	\$400-\$800	\$6000-\$9000	
1999	\$3-\$10	NA	\$400-\$800	\$6000-\$9000	
2000	\$3-\$10	NA	\$400-\$800	\$6000-\$9000	
2001	\$5-\$20	\$25	\$400-\$800	\$6000-\$9000	
2002	\$5-\$20	NA	\$400-\$800	\$6000-\$9000	
2003	\$5-\$20	\$25	\$400-\$800	\$6000-\$9000	
2004	\$20-\$40		\$300-\$550	\$6000-\$9000	

Source: Hawai'i Community Epidemiology Working Group, National Institute of Health

Figure 1
Real Price of One Ounce of Marijuana in Honolulu Hawaii



Legalization can affect the price of marijuana in two ways. First, supply can increase and thereby prices will fall. In the Netherlands, where marijuana possession laws are laxly enforced, the price of marijuana is between 50% and 100% of U. S. prices. On

the other hand, taxes can raise the price of marijuana. Miron (2005) chooses two tax regimes; a relatively normal one and one that imposes “sin” taxes on marijuana that are equivalent to those charged for alcohol and tobacco. He then allocates a national number to each state based on either consumption or population, and divides that total between federal and state taxes. Miron’s estimate for Hawai`i tax revenues is in the \$4 million range. By contrast, tax revenues for tobacco in Hawai`i during 2003 were \$77.5 million and for liquor were \$41 million, with 462,000 adults consuming alcohol in the last 30 days and 221,000 consuming cigarettes.¹⁵ This provides a range of annual per capita tax collections of \$91.23 for alcohol and \$350.59 for tobacco. There were approximately 58,000 adult marijuana users during that year. Assuming that they will pay a per capita amount of taxes similar to cigarette and alcohol users, then the range of marijuana tax collections would be between \$5.3 million and \$20.3 million.

The Implications of Decriminalization and Legalization on Use

Decriminalization:

Currently in Hawai`i, the chance of a marijuana user being arrested and convicted is approximately 0.4 percent. The apparent lower priority given by law enforcement and relatively mild penalties for marijuana offenses reflect policy decisions that make the probability of arrest and punishment of marijuana users insignificant and decreases the potential effects of decriminalization. Gary Becker suggests two efficient means of allocating enforcement resources. One would be to have lots of police, so law-breakers face a high risk of arrest but the punishments are somewhat mild. A second regime would be to have fewer police, reducing the risk of arrest but have severe or draconian, punishments for those who are caught. Either can function as a deterrent. Hawai`i, it can be said, meets neither. There is a low risk of arrest and a mild punishment. This means marijuana users in Hawai`i perceive the probability of arrest and punishment as insignificant.

¹⁵ Use from 2002-2003 National Surveys on Drug Use. Tax data from Hawai`i State Department of Taxation <http://www.hawaii.gov/tax/>

Research on the effects of marijuana decriminalization has tended to find either no relationship or a weak positive relationship between marijuana decriminalization and drug use. Johnston, O'Malley, and Bachman (1981) use data from Monitoring the Future, an annual survey of U. S. high school seniors, to see whether there were difference over time in marijuana use between states that decriminalized and those that did not. They found little difference. Thies and Register (1993) use data from the National Longitudinal Survey of Youth between 1984 and 1988 to analyze differences in use of alcohol, marijuana and cocaine among states who decriminalized and those that did not. They also find little evidence of any effect. In addition DiNardo and Lemieux (1992) find no effect of decriminalization on use.

Some studies have found a correlation between decriminalization and use. Model (1993) finds a statistically significant and positive result from decriminalization, but because he used hospital emergency room drug mentions these results are difficult to interpret. It might simply reflect attitudes on the part of the population in decriminalized states toward drug use, which could correlate with the establishment of decriminalization. Other studies that relied on cross-state variation in decriminalization status using recent data and showing a positive and statistically significant effect were Saffer and Chaloupka (1999); Chaloupka et al (1999); and Chaloupka, Grossman and Taurus (1999). Again these are difficult to interpret because they used a measure that assumed decriminalized state laws were identical and fundamentally different from criminalized states. The measure used could also reflect attitudes on the part of the population towards drug use.

Pacula, Chriqui and King (2003) found that attitudes on the part of the population towards drug use could play a role. They included actual legal dimensions such as penalties and found that these did not diminish the association between decriminalization and recent use. They conclude that their results tend to indicate that attitudes toward drug use simply tended to be more tolerant in decriminalized states leading to the positive association found in some studies between decriminalization and marijuana use. In other words, decriminalization did not cause increased drug use, but that it existed independently of the decriminalization statutes. They also demonstrate the extent to which non-decriminalized states have reduced penalties associated with possession of small amounts of marijuana as early as 1989, and call into question the interpretation of

studies evaluating this policy based on a simple cross sectional use of a variable denoting decriminalization.

Miron (2003) concludes, “The result that decriminalization has little impact on marijuana use might seem surprising since standard economic principles suggest that lowering the penalties for use should increase demand and therefore quantity consumed. The explanation for this counterintuitive result of little impact on use is that decriminalization frequently ratifies what has already taken place in the form of reduced enforcement of marijuana laws.”¹⁶ Given the limited prosecution and penalties associated with marijuana possession in Hawai`i it is doubtful that decriminalization would have much effect on marijuana use.

Legalization:

Regulation and legalization means governmental agencies enforce tax, and other laws, in a way that regulates the use of a product. The economics of substance use and abuse assumes that the substances in question share two properties. First, they are addictive in the sense that an increase in past consumption of the good leads to an increase in the current consumption. Second, their consumption harms the consumer and others. Because of these qualities there are both individual and social costs associated with their use.

Many social costs arise from outlawing the use of some goods, which creates black markets. Resulting social costs range from violence that affects innocent citizens as illegal gangs compete for markets, to a decline in respect for the law.¹⁷ Often overlooked is that black market dealers can also lower costs of production in a number of ways. For example they do not obey labor laws, thereby reducing their costs of production.¹⁸ Standard economic theory suggests that taxation can be used to offset some of these

¹⁶ Miron, “The effect of Marijuana Decriminalization the Budgets of Massachusetts Governments...” p. 8

¹⁷ See Becker, G., Grossman, M., Murphy K., 2001. “The Simple Economics of the War on Drugs, Mimeo, University of Chicago Department of Economics.

¹⁸ Levitt found almost all members of a drug gang in Chicago were paid less than the minimum wage forcing most gang members to live with their mothers.

social costs. As a result harmful activities can be reduced through both price effects and legal sanctions.¹⁹

In terms of economics, one could simply assume that addictive goods are “like” other goods and analyze the effects of prices and incomes on consumption. Or one could view addiction as “myopic” behavior: past consumption increases future consumption and there is no thought of future consequences. Becker and Murphy (1988) develop a model of addiction that suggests that addicts in some way also incorporate future consequences. Grossman suggests that despite its somewhat controversial nature, “Becker and Murphy’s main contribution is to suggest that it is a mistake to assume addictive goods are not sensitive to price.”²⁰

On the other hand there is a growing concern about the efficacy of the war on drugs and the use of incarceration as a deterrent. Nationally, in 1980 there were 24,000 drug offenders in state prisons; in 2004 there were 400,000. There was virtually no increase in other types of offenders. While basic statistics on total marijuana production and consumption do not exist in any reasonable form, accurate estimates exist for drugs like heroin. As a result, studies related to these other drugs can inform our understanding of the consequences of legalization of marijuana.

For example, out of 700 metric tons of cocaine produced, world wide efforts, largely by United States authorities, interdict 300 tons. In addition there is the massive incarceration cited above. Despite these efforts the price of cocaine during this period fell by more than two-thirds and the consumption of cocaine grew by ten times. Of course the effects could have been worse without these efforts.

This is the question Kuziemko and Levitt (2004) take up. They analyzed the effect of incarcerating cocaine drug offenders on cocaine prices. Their results are the highest found for incarceration. They find that cocaine prices were 5% to 15% higher as a result of increases in drug punishment since 1985. There is a broad range of estimates related to the effect of the price of cocaine on use, so this price rise would have resulted in anywhere from a 5% to 20% drop in cocaine use. They also found that locking up drug offenders leads to a crowding out effect in that time served for other offenses dropped by

¹⁹ Provided that taxes are not set so high that they encourage a black market to develop.

²⁰ Grossman, “Individual Behavior,” p. 15

7.6 months on average. Incarceration had about the same effects on violent and property crime as locking up other offenders, about 3%.²¹ Their results are the most positive found for the effects of incarceration.

Their research, while demonstrating that massive incarceration of drug offenders can deter drug use, also demonstrates how costly such a policy is. They find that such levels of imprisonment are excessive. In order to justify the level of imprisonment, the individual and social costs of cocaine consumption would have to be \$270 per gram. Estimates of the economic costs of alcohol and drug abuse in 1992 were approximately \$30 billion. That is \$12.1 billion in health care costs and \$17.5 billion in lost productivity, with half of the lost productivity coming from jail time. For cocaine this added up to about \$50 per gram. Thus the costs were more than five times greater than the benefits. Therefore even though jail time does affect use, it is an extremely expensive means of doing it. Further, suppliers have responded in a number of ways that reduce the cost of production such that the deterrent effect tends to be overwhelmed by these other effects.

Becker, Murphy and Grossman (2004) in a study of cigarette addiction find that in the short run a 10% increase in cigarette prices resulted in a 4% drop in consumption. In the long run, however, this increased to 7.5%. Grossman (2004) finds that the 70% rise in the real price of cigarettes, accounts for almost the entire 12 % drop in cigarette smoking between 1997 and 2003. Becker et al's results suggest that these effects will be magnified over time. Grossman also finds the 7% rise in the real price of beer between 1990 and 1992, as a result of federal excise tax hikes, "accounted for 90 percent of the 4 percentage point decline in binge drinking."²² Even with illegal substances, such as marijuana, price swings account for 60 to 70% of the changes in consumption since 1975.²³

Legalization would have the effect of probably increasing supply and thereby reducing the price. This in turn would probably increase consumption. This, however, could be offset by setting an appropriate tax level. A related question is the social and

²¹ It should be noted that Hawai`i and Missouri were excluded from their data due to poor reporting quality

²² op cit, abstract

²³ Ibid, marijuana prices rose and fell dramatically over that period

individual costs related to marijuana use. Even so the evidence is fairly thin on what the actual social costs of marijuana are.

Conclusion

The cost savings from decriminalizing marijuana are approximately \$4 million although this leaves out some additional costs related to legal defense, and some state programs like drug courts. These would bring the total to \$5 million. The reason that these are so low is that Hawai'i appears to have a *de facto* policy of lax enforcement of this law. Legalization would save an additional \$4 to \$5 million. Taxes from legalization would bring in anywhere from \$4 million to \$23 million depending on tax rates. A large body of literature suggests that decriminalization would not lead to additional use. Legalization would increase the supply of marijuana and thereby reduce the price and increase use. Should the social costs, and thus public policy warrant it, this could be controlled through appropriate tax rates.

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