

## Economics of Cannabis Legalization

### Detailed Analysis Of The Benefits Of Ending Cannabis Prohibition (1994)

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#### Abstract

Marijuana legalization offers an important advantage over decriminalization in that it allows for legal distribution and taxation of cannabis. In the absence of taxation, the free market price of legal marijuana would be extremely low, on the order of five to ten cents per joint. In terms of intoxicating potential, a joint is equivalent to at least \$1 or \$2 worth of alcohol, the price at which cannabis is currently sold in the Netherlands. The easiest way to hold the price at this level under legalization would be by an excise tax on commercial sales. An examination of the external costs imposed by cannabis users on the rest of society suggests that a "harmfulness tax" of \$.50 - \$1 per joint is appropriate. It can be estimated that excise taxes in this range would raise between \$2.2 and \$6.4 billion per year. Altogether, legalization would save the taxpayers around \$8 - \$16 billion, not counting the economic benefits of hemp agriculture and other spinoff industries.

#### The Case For Legalization

As drug war hysteria subsides it becomes increasingly certain that there must be a serious re-examination of the laws prohibiting marijuana. The decriminalization of soft drugs has now emerged as an active political issue in Germany, Italy, Switzerland, France and Australia. The policies being considered range from "decriminalization," or repeal of criminal penalties for private use and cultivation of cannabis, to full "legalization," in which cannabis is commercially sold like alcohol, tobacco and other commodities.

Decriminalization has enjoyed impressive support from a succession of official panels, including the Presidential Commission on Marijuana (1973), the California Research Advisory Panel (1990), the National Academy of Sciences (1982), and the Canadian Le Dain Commission (1970). Decriminalization was also officially the policy of the state of Alaska from 1976 through 1990, when it was narrowly overturned in a referendum. The basic appeal of decriminalization is to reduce the harm of criminal punishment and respect personal freedom and privacy, while avoiding offensive commercialization. The basic flaw in decriminalization is that it does not make allowance for pot users who cannot or will not grow their own. The result is to create an illicit black market for cannabis that is neither regulated nor taxed, leaving many of the same basic enforcement problems as prohibition.

These problems can be avoided by legalization, under which cannabis could be legally sold, taxed and regulated like alcohol or tobacco. (It should be noted that legalization need not involve the evils of commercialization, given suitable restrictions on advertising.) The world presently has no example of a completely legalized cannabis market, since this is forbidden by the Single Convention Treaty on

Narcotics. The nearest approximation may be seen in the Netherlands, which officially tolerates the possession and sale of up to 30 grams of hashish or marijuana in coffeehouses, although distribution and manufacture are technically illegal and large-scale traffickers are punished. The apparent success of the Dutch in controlling hard drug abuse without a major hashish abuse epidemic has led a league of 15 European cities to endorse the principle of legalized cannabis in the so-called Frankfurt Resolution. An important advantage of legalization is to open the door to taxation of marijuana - a potentially valuable source of public revenue - while eliminating the need for an illegal market.

In the following, we will examine more closely the economics of a legalized cannabis market.

### **The Cheapest Intoxicant**

In an untaxed free market, cannabis ought to be as cheap as other leaf crops. Bulk marijuana might reasonably retail at the price of other medicinal herbs, around \$.75 - \$1.50 an ounce. Premium cured and manicured sinsemilla buds might be compared to fine teas, which range up to \$2 per ounce, or to pipe tobacco, which retails for \$1.25 - \$2.00. This appears to have been the historical price range for cannabis in the days when it was still legal: advertisements from medical catalogs imply that it sold for around \$2.50 - \$5 per pound in 1929-30.<sup>1</sup> Adjusting for inflation, this works out to \$1.20 - \$2.40 per ounce, a breathtaking 100- to 300-fold reduction from today's illicit prices, which range from \$100 - \$200 per ounce for low-grade Mexican to \$400 - \$600 per ounce for high-grade sinsemilla.

It is useful to translate these prices to a per-joint basis, where one joint is defined to represent the standard dosage of marijuana. The number of joints in an ounce depends on the potency of the product involved, where potency is measured in terms of the concentration of tetrahydrocannabinol (THC), the chief psychoactive ingredient in marijuana. THC potencies typically range from 2 - 3% for low-grade leaf to 10 - 15% or more for premium sinsemilla buds. We will define a standard dose of THC to be that contained in the government's own marijuana joints, which NIDA supplies to researchers and selected human subjects. These consist of low-quality 2.5% - 3% potency leaf rolled into cigarette-sized joints of 0.9 grams, yielding a 25 milligram dose of THC. The same dose can be had in a slender one-third or one-quarter gram joint of 10 - 12% sinsemilla. A typical joint has been estimated to weigh about 0.4 grams.<sup>2</sup> Taking this as a standard, we will define a "standard joint" to be 0.4 grams of average-quality 6% buds. Thus an ounce of "standard pot" equals 60 joints, an ounce of 12% sinsemilla 120, and an ounce of government pot only 30 joints. Due to the fact that the price of marijuana tends to be proportional to potency, the price of a one-quarter gram joint of \$600-per-ounce sinsemilla is about the same as a one-gram joint of \$150-per-ounce ditchweed, that is around \$6.

We have seen that in the absence of taxation, the price of legal marijuana would be cut by a factor of 100 or more. At this rate, a joint costing \$6 today would cost less than \$.06 in a free legal market. It therefore appears that marijuana would be a very cheap bargain compared to other intoxicants, including alcohol.

The free-market price of joints can also be calculated by comparison to tobacco cigarettes, which would probably cost the same to manufacture. Cigarettes now sell

at an average of \$1.83 per pack, or \$.09 per cigarette, one-quarter of which represents federal and state taxes.<sup>3</sup> There is no reason to think that joints could not be sold for the same price under legalization.

At a nickel per joint, marijuana would be a uniquely economical intoxicant. For only one-half dollar per day, a pothead could nurse a whopping ten-joint per day habit. It may be doubted whether public opinion would tolerate so low a price for marijuana. On one hand, it would invite extensive abuse. Parents would no doubt object against making a serious marijuana habit so affordable for their young. Moreover, cheap pot would also pose a serious challenge to the alcohol industry, a powerful political interest, whose products are over ten times as expensive. In order to make legalization politically palatable, it would almost certainly be necessary to raise the price through taxation or regulation.

### **Putting a Value on Cannabis**

One way to estimate a reasonable price for marijuana is to evaluate it in comparison to the major competing intoxicant, alcohol. While it is impossible to make an exact comparison between pot and booze, since their duration and effects are different and dosages vary from person to person, a joint might be roughly equated to an intoxicating dose of alcohol—between one and two ounces, or two to four drinks. Thus one joint might be worth two to four 12-oz. beers or 1/3 - 2/3 bottle of wine. These are currently sold on grocery shelves at a minimum price of around \$1.25 - \$2.50. It may therefore be concluded that a reasonable minimum price for marijuana should be around \$1.25 - \$2.50 a joint, with higher prices for premium grades. This works out to \$75 - \$150 per ounce for standard 6%-potency marijuana.

Coincidentally, this price range is in line with that presently seen in the Netherlands, where coffeehouses sell hashish and sinsemilla by the gram for 4 to 15 guilders, or \$2.15 - \$8.10.<sup>4</sup> Taking the cheaper grade to yield two joints per gram and the premium grade four, this works out to \$1 to \$2 per joint. The fact that the Dutch have not been plagued by widespread cannabis abuse and indeed believe they have obtained public health benefits from their system provides reassurance that this price level is realistic.<sup>5</sup>

It should be noted that Dutch prices are inflated by the fact that cannabis remains illegal, not by any form of legal taxation (though the state does tax cannabis indirectly through the sales tax on cafes). Although Dutch authorities tolerate a number of small-scale domestic producers, international traffickers and domestic distributors are both subject to busts at the whim of the police. As a result, Dutch consumers pay inflated black market prices. This is not necessarily the optimal model for marijuana price control, since the lion's share of the profits go to illicit traffickers.

In a legalized market, the easiest way to maintain marijuana prices would appear to be through some form of excise tax, as presently imposed on alcohol and tobacco. This could conveniently be assessed on licensed manufacturers or wholesalers, like the federal tax on cigarettes. Aside from a strict prohibition against sales to unlicensed distributors, cultivators need not be directly regulated. Excise taxes have the advantage of being easy to enforce, since they involve a relatively small number of distributors. The latter in turn pass the tax along with a markup, magnifying the

price increase throughout the distribution chain.

Another way to control the market would be to tax or regulate cultivation. However, experience shows that it is no easy task to track down and regulate marijuana growers. More so than alcohol or tobacco, marijuana lends itself easily to small-scale home cultivation and production. The problem therefore arises as to how to treat home cultivation in the legal market. Clearly, the sale of untaxed home marijuana must be banned. In theory, home cultivation could also be taxed and licensed in order to maintain high prices. However, it seems unlikely that such requirements could be enforced in a world of legalized marijuana. The policing of home growers would appear to require many of the most odious and objectionable techniques of current marijuana enforcement, such as helicopter surveillance, snooping on homes and spying on garden stores.

The most practical policy is thus likely to be the one most consistent with principles of personal freedom and civil liberties, namely to let Americans grow their own cannabis at home, just as they might grow tomatoes, apples or grapes. The inducements to home cultivation should not be exaggerated: in Alaska, where it was the one legal way to get marijuana before 1991, pot continued to be sold illicitly at prices around \$250 an ounce, proof that many pot smokers are quite disinclined to grow on their own. Nonetheless, home cultivation would effectively put a lid on the amount marijuana that could be taxed, since consumers would be induced to grow their own if prices rose too high.

Another possible way to limit marijuana abuse would be to regulate consumers directly, for instance, by requiring "user's licenses" for the right to buy or use marijuana, as proposed by Kleiman.<sup>6</sup> By charging fees for these licenses, the state could raise tax revenues. User fees are apt to be more costly to administer than excise taxes, since they must be collected from a much wider population. More importantly, they are also apt to be unenforceable, given the ease with which unlicensed users can grow their own at home. One situation in which user fees might be attractive would be under a regime of decriminalization, where commercial sales were illegal. Consumers might then be allowed to purchase a license to consume and grow marijuana for personal use. In this system, licenses would afford the one opportunity for the government to derive tax revenues from marijuana, while an active marijuana surveillance program would still be needed to prevent commercial sales and unlicensed use.

The problem of cannabis enforcement was first rigorously addressed one hundred years ago by the British Indian Hemp Drugs Commission.<sup>7</sup> The commission concluded that cannabis prohibition was not practicable, and that the best solution was to tax it to the extent possible. After examining the different regulatory systems in various provinces of India, the Commission especially recommended the system in Bengal, where cannabis was taxed more rigorously than in other provinces by means of a system of excise fees and vendors' licenses. Noting that hemp drugs tended to be much cheaper than liquor, the Commission argued that cannabis was undertaxed.<sup>8</sup> It also noted that there were regions where cannabis grew wild, in which it was virtually impossible to control traffic in bhang, a low-potency beverage made from leaves. Cannabis remained legal in India until 1989, when it was banned under terms of the international Single Convention Treaty on Narcotics.

## **Computing a Harmfulness Tax**

The question might well be asked from a libertarian free-market perspective why cannabis (or other drugs) should be taxed in the first place. Why should government concern itself with regulating what is in essence a private decision, that is, what kind of drugs to ingest? Why shouldn't prices simply be settled by supply and demand?

The best answer is that marijuana consumption may impose costs on innocent third parties who do not consume it. According to standard economic theory, such "external costs" may be compensated by means of a harmfulness tax.<sup>9</sup> Examples of external costs of drug abuse include increased insurance costs, accidents affecting third parties, and drug-induced violence and criminality. In principle these costs must be distinguished from "internal costs" that fall on the user, such as ill-health, reduced personal income, poor achievement, etc. Because users already pay for the latter, there is no sense in making them pay again through a tax.

From a non-libertarian, public health perspective, higher taxes are often justified simply as a disincentive to prevent people from overindulging in what is presumably an unhealthy habit. This argument is most persuasive in the case of highly addictive drugs such as nicotine, where naive users run a high risk of getting themselves trapped in an unhealthy habit due to initial misjudgment. Punitive taxation appears less justifiable in the case of cannabis, not only because it has low addictivity, but also because of the ease with which home growers can evade excessive taxes.

In the following discussion, we will examine the external costs of marijuana abuse as the basis for a prospective harmfulness tax. At the outset, it should be noted that much further epidemiological research is needed to accurately assess the costs of marijuana; nonetheless, it is possible to hazard a guess at their magnitude. Overall, the general scientific consensus is that marijuana has definite deleterious effects, though less so than alcohol or tobacco. In the words of the California Research Advisory Panel: "An objective consideration of marijuana shows that it is responsible for less damage to society and the individual than are alcohol and cigarettes."<sup>10</sup>

From a physiological standpoint, the major health risk of heavy marijuana use appears to be respiratory harm due to smoking.<sup>11</sup> A recent epidemiological study by the Kaiser Permanente Center for Health Research found that daily cannabis smokers had a 19% higher rate of respiratory complaints.<sup>12</sup> Aside from cases of passive smoking, these must be counted as internal costs, except to the extent that they may raise group health insurance costs for others. (There are actually good grounds to believe that legalization would reduce the costs of respiratory damage from marijuana smoking by encouraging the development of better smoke filtration technology, the substitution of more potent, less smoke-producing varieties of marijuana, and the substitution of oral preparations for smoked marijuana.)

More important than the respiratory harm of marijuana is the increased risk of accidents due to mental impairment. In the Kaiser study, this emerged as the number one hazard of marijuana use, with daily users reporting a 30% higher rate of injuries than non-users. Presumably, these injuries reflected an increased risk of accidents that might also involve third parties. Hence, accidents should probably be counted as the major external cost of marijuana use. Other concerns, such as amotivation, poor school performance and the controversial "gateway drug" syndrome are more properly classified as internal costs.

In order to quantify the external costs of marijuana, it is useful to consider those of alcohol and tobacco. These are shown in Table 1, based on an analysis by W. Manning et al.<sup>13</sup> aimed at estimating the appropriate level of taxation for alcohol and cigarettes. Manning's analysis shows how the health costs imposed on the insurance system by tobacco- and alcohol-related illness tend to be counterbalanced by the fact that smokers and drinkers die younger, and therefore collect fewer pension and retirement benefits.

Table 1  
External Costs of Drug Use

	Cigarettes (pack of 20)*	Alcohol (1 excess oz)*	Marijuana (1 joint)
Net Health Costs	\$0.15 smoking diseases \$0.23 passive smoking	\$0.26	\$0.01 - .02 smoking
Accidents		\$0.93	\$0.38 - 0.93
Total	\$0.38	\$1.19	\$0.40 - 0.95

\*Source: Manning et al., "The Taxes of Sin: Do Smokers and Drinkers Pay Their Way?," JAMA 261:1604-9.

In the case of tobacco, Manning estimates the gross cost of medical care for smoking-related diseases at \$.26 a pack, or just over one penny per cigarette. This turns out to be largely compensated by savings in retirement pensions and nursing home care for smokers. The final balance is highly sensitive to technical assumptions about the economic discount rate, and can even be made to show net external benefits at interest rates under 3%. Manning's final net estimate of \$.15 per pack assumes a 5% interest rate.

By estimating the equivalency between joints and cigarettes, one can translate these costs to marijuana. On a weight-for-weight basis, pot smokers inhale about four times as much noxious tars as cigarette smokers;<sup>14</sup> as we have seen, however, the average joint weighs about half as much as a cigarette. Also, cannabis lacks nicotine, a leading factor in tobacco-related heart disease. It seems reasonable on this basis to suppose that a joint is equal to less than two cigarettes, putting the net external cost of marijuana smoking at under 1.5 cents per joint.

One fault in Manning's accounting of external costs is that it excludes the costs of second-hand smoking, which he estimates at \$.23 per pack, on the questionable grounds that these costs are mainly internal to the users' families. We treat them here as external costs instead. There are grounds to think that passive smoking is of much less concern with cannabis since pot smokers emit less smoke than cigarette smokers. It therefore seems reasonable to conclude that the total smoking-related costs of active and passive pot smoking are unlikely to exceed two cents per joint.

Turning to alcohol, Manning concludes that the net medical-less-pension costs of alcoholism-related disease are \$.26 for every "excess ounce" of alcohol, which is

defined to mean an ounce in excess of one per day (Manning does not try to account for the possibility that moderate consumption may actually extend life.) These costs turn out to be greatly outweighed by the cost of alcohol-related accidents, which he estimates at \$.93 per excess ounce. This figure includes traffic accidents to third parties caused by drunken drivers, but does not appear to include other alcohol-related accidents. Also missing from Manning's account are the external costs of alcohol-related violence. Altogether, Manning concludes that the total cost of alcohol is \$1.19 per excess ounce, or \$.48 per ounce when averaged over all alcohol drunk.

While the cost of alcohol seems clearly dominated by accidents, it is unclear how to relate these to marijuana. The burden of expert opinion appears to be that marijuana is less of an accident risk than alcohol, though this is disputed.<sup>15</sup> Studies of fatal car accidents indicate that, at least on the road, marijuana tends to be a secondary risk factor compared to alcohol.<sup>16</sup> On the other hand, one survey of trauma patients found that with respect to all accidental injuries, cannabis may be every bit as much a risk factor as alcohol.<sup>17</sup> In terms of intoxicating potential, one joint probably lies between one ounce and one excess ounce of alcohol. At the high end, if one equates a joint with one excess ounce, the accident costs of pot would be \$.93 per joint. More reasonably, one could equate a joint with an "average" ounce of alcohol, the accident costs of which work out to \$.38. There are reasons to favor a lower external cost on marijuana relative to alcohol, notably the fact that marijuana tends to suppress violence, whereas alcohol tends to aggravate it. From this perspective alone, an overall shift from alcohol to marijuana may be desirable.

In conclusion, one can reasonably argue that marijuana should be assessed a harmfulness tax of \$.40 to \$.95 per joint—or, say, \$.50 - \$1 in round figures. Experience indicates these taxes would probably be magnified at least twofold in the market, resulting in a minimum retail price of \$1 - \$2 per joint.<sup>18</sup> Happily, this is consistent with the target price range we derived previously.

Different lines of reasoning thus converge to argue that cannabis should be taxed at \$.50 to \$1 per joint. That is \$15 - \$30 per ounce for low-grade 3% leaf or \$30 - \$60 per ounce for 6% standard cannabis. Ideally, the tax rate per ounce should be proportional to THC potency. In practice, this could be implemented through a schedule of fixed product categories similar to those used for alcohol (beer, wine and hard liquor). These categories might include: (1) leaf (potency <3%), (2) standard blend cannabis (4 - 10% potency), and (3) high-grade sinsemilla or hashish (potency >10%). Other cannabis-based products, such as hashish, hash oil, tonics and foodstuffs, could be taxed according to their leaf or bud content. It should be noted that low-grade leaf, though harsh for smoking, could play a valuable role in the market as a source for cooked preparations and extracts, which are likely to play an increasing role in the market as health-conscious consumers seek to avoid smoking.

### **Revenues From Legalization**

Assuming a tax of \$.50 or \$1 per joint, we can venture a rough estimate of the revenues that could be raised from legalized cannabis. According to the 1991 National Household Survey on Drug Abuse, some 19.5 million Americans used marijuana at least once in the year, of whom 5.3 million used at least once a week

and 3.1 million daily. About one-half of the latter are thought to be multiple daily users, who can be expected to make up the bulk of total consumption.<sup>19</sup> Assuming the mean consumption of all daily users is two or three joints per day, current national consumption can be figured to exceed 7 to 10 million joints per day, or 1200 to 1800 metric tons of 6% THC cannabis per year. These figures may well be low, since the Household Survey underestimates actual use. A considerably higher estimate is given by Kleiman, who puts 1986 consumption at the equivalent of 2700 metric tons of 6% THC cannabis; other trafficking-based estimates range as high as 4700 tons.<sup>20</sup>

Consumption would surely expand further in a legal market where joints were freely and cheaply available. At the height of marijuana's popularity around 1979, consumption was over twice that of today. One factor that could significantly expand the demand for legal cannabis in the future would be the development of mild cannabis beverages like bhang, which traditionally constituted the bulk of demand in India. It is therefore not unreasonable to forecast ultimate consumption at 15 - 30 million joints per day, or 2750 - 5500 metric tons of 6% THC cannabis per year.

The obvious question remains what portion of consumption would be absorbed by home growers. As we have seen, it is probably hopeless to limit personal use cultivation. Home growing would naturally be most attractive to heavy users with little money, who probably account for a major share of consumption. At \$2 per joint, a three-joint per day habit would cost over \$2000 a year, a hefty incentive for any home gardener. It therefore seems likely that home cultivation would absorb a substantial portion of the consumption of multiple daily users, who are estimated to account for 60% of the total market.<sup>21</sup>

We shall estimate the size of the commercial cannabis market by posing two price scenarios. (1) Given a \$.50 excise tax and a minimum price of \$1 per joint, we will assume that home growing absorbs 20% of consumption (that is, one-third of the consumption of multiple daily smokers), leaving a commercial demand of 12 - 24 million joints per day. This works out to about \$2.2 to \$4.4 billion per year in tax revenues. (2) Given a \$1 excise tax and a price over \$2 per joint, we assume commercial consumption would be cut by 40% to 9 - 18 million joints, yielding \$3.2 to \$6.4 billion per year. We conclude that revenues from cannabis excise taxes might range from \$2.2 to \$6.4 billion per year. This is comparable to the revenues currently raised through the federal tax on alcohol (\$8 billion) and cigarettes (\$5 billion).

By comparison, in the Netherlands, a nation of 15 million people, total domestic sales of soft drugs have been estimated at under 1 billion guilder, or \$500 million.<sup>22</sup> Extrapolating this to the U.S. population, one arrives at total retail sales of about \$8 billion. If one-half of this went to taxes, one would get \$4 billion per year.

Similarly, in Bengal, with a population of 50 million, the Indian Hemp Drugs Commission reported total tax revenues from ganja of 24 million rupees in the year 1892-3, or about \$10 million (1892 dollars).<sup>23</sup> Extrapolated fivefold to the current U.S. population, this would work out to \$700 million in 1992 currency. The tax on ganja was about 8 rupees per kilo in Bengal, or just \$.04 per joint in current dollars.<sup>24</sup> Were the tax increased tenfold to the level we have proposed, revenues would presumably increase to \$7 billion, minus a substantial amount due to

decreased demand from higher prices.

In addition to excise taxes, states could impose sales taxes on cannabis. Unlike excise taxes, sales taxes would be proportional to final retail price, including the added markup for premium brands. Just like alcohol, it can be expected that marijuana would often be sold for substantially more than its minimum price: in a hotel bar, a good sinsemilla joint might well go for \$5. Assuming average retail prices of \$ 1.50 - \$2.50 per joint, and sales taxes between 4% and 6%, the total revenues raised might range from \$200 million to \$1.3 billion.

In addition, legalization would create numerous revenue-generating spinoff industries, such as coffee houses, gardening equipment and paraphernalia. The city of Amsterdam, with a million people, boasts 300 coffee houses retailing cannabis.<sup>25</sup> Translated to the U.S, this would amount to over 60,000 retailers and 100,000 jobs.

Finally, the legalization of cannabis would also permit the agriculture of hemp, a versatile source of fiber, protein, biomass and oil, which was once one of America's top crops. Hemp production might well rival that of other leading crops such as cotton or soy beans, which are currently on the order of \$ 6 - 10 billion per year.

On the other side of the ledger, legalization would save the considerable economic and social costs of the current criminal prohibition system. Current federal drug enforcement programs run at \$13 billion per year. State and local programs are probably of similar or greater magnitude: in California, the Legislative Analyst's Office estimated the cost of state drug enforcement programs at around \$640 million per year in 1989-90, plus perhaps twice as much more in local expenditures.<sup>26</sup> A sizable chunk of these costs involve cannabis, which accounts for 30% of drug arrests nationwide. Legalization of cannabis would also divert demand from other drugs, resulting in further savings. If legalization reduced current narcotics enforcement costs by one-third to one-fourth, it might save \$6 - \$9 billion per year.

The economic benefits of marijuana legalization are summarized in Table 2. The total direct savings to government in taxes and enforcement come to some \$8 - \$16 billion per year. These figures are somewhat lower than those sometimes bandied about in public discourse, as both legalizers and prohibitionists have a tendency to make consumption estimates that are in our opinion inflated. Nonetheless, the benefits of legalization seem both substantial and undeniable, and deserve to be taken seriously.

Table 2  
Economic Benefits of Cannabis Legalization

Excise Taxes	\$2.2 - \$6.4 Billion
Sales Taxes	\$0.2 - \$1.3 Billion
Enforcement Savings	\$6 - \$9 Billion
Hemp Industry	\$6 - \$10 Billion
Others: Spinoff industries, Reduced hard-drug and alcohol abuse	

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## FOOTNOTES

Economics of Cannabis Legalization (1994) Detailed Analysis of the Benefits of Ending Cannabis Prohibition

1. A 1929-30 Parke-Davis catalog advertised a 4 oz. bottle of tincture of cannabis of 20% potency for \$5, which works out to the equivalent of \$5 per pound at 5% potency. Another Squibb catalog of uncertain date lists powdered cannabis at \$2.50/lb: from the collection of Dr. Tod Mikuriya.
2. Peter Reuter, cited in Mark Kleiman, *Marijuana: Costs of Abuse, Costs of Control*, Greenwood Press, N.Y. 1989: p 38.
3. Tobacco Institute, *The Tax Burden On Tobacco: Historical Compilation*, Washington DC 1992.
4. A.C.M. Jansen, *Cannabis in Amsterdam: A Geography of Hashish and Marihuana*, desktop publishing: Dick Coutinho, Postbus 10, 1399 ZG Muiderberg, Netherlands, 1991: p. 67.
5. A similar price range may be found in the state of South Australia, where the cultivation of fewer than 10 plants has been decriminalized to a minor misdemeanor punishable by a fine. There cannabis is sold on the black market for about \$100 - \$150 per ounce, about one-half to one-third the price elsewhere in Australia.
6. Mark Kleiman, *Against Excess: Drug Policy for Results*, Basic Books, N.Y. 1992.
7. Report of the British Indian Hemp Drugs Commission, 1893-4, Simla, India (7 Volumes).
8. In Bombay, the commission heard testimony that "the ordinary liquor consumer pays twice as much for what he wants as the ordinary ganja consumer would, or three times as much as the ordinary bhang drinker. I think the rates should be equalized." (Report of the British Indian Hemp Drugs Commission, 1893-4,, Vol. 1, Chap. XVI, p. 327). Even in Bengal, where taxes were higher, the Commission found that "the average allowance of liquor to the habitual consumer was "much higher than in the case of ganja." It concluded, "Judged by this test, there is room even in Bengal for increased taxation" (ibid., p. 311).

9. Lester Grinspoon, "The Harmfulness Tax: A Proposal for Regulation and Taxation of Drugs," North Carolina Journal of International Law & Commercial Regulation 15#3: 505-10 (Fall 1990)
10. 20th Annual Report of the Research Advisory Panel Report, 1989 Commentary Section: available from Dr. Frederick Meyers, Univ. of California, San Francisco.
11. Dr. Donald Tashkin, "Is Frequent Marijuana Smoking Harmful to Health?" Western Journal of Medicine 158#6: 635-637 (June 1993).
12. Michael Polen, Stephen Sidney, Irene Tekawa, Marianne Sadler and Gary Friedman, "Health Care Use by Frequent Marijuana Smokers Who Do Not Smoke Tobacco," Western Journal of Medicine 158#6: 596-601 (June 1993).
13. Willard Manning, Emmett Keeler, Joseph Newhouse, Elizabeth Sloss , and Jeffrey Wasserman, "The Taxes of Sin: Do Smokers and Drinkers Pay Their Way?" JAMA 261:1604-9 (March 17, 1989).
14. TC Wu, D Tashkin, B Djahed and JE Rose, "Pulmonary hazards of smoking marijuana as compared with tobacco," New England Journal of Medicine 318: 347-51 (1988).
15. Peter Passell, "Less Marijuana, More Alcohol?" New York Times, June 17, 1992 p. C2.
16. D. Gieringer, "Marijuana, Driving, and Accident Safety," Journal of Psychoactive Drugs 20 (1): 93-102 (Jan-Mar 1988).
17. Dr. Carl Soderstrom et al., "Marijuana and Accidents: Use Among 1023 Trauma Patients," Archives of Surgery , 123: 733-37 (June 1988). Conceivably, alcohol may be a greater risk factor in traffic accidents because it promotes speeding, whereas pot smoking-drivers tend to slow down. On the other hand, marijuana may be more involved in other kinds of accidents where forgetfulness or loss of concentration are a risk factor.
18. In Bengal in 1892-3, excise taxes and licensing fees on ganja totaled more than 10 rupees per ser (i.e., kilo), over one-half the average retail price of 20 rupees. This appears to have represented a 10-fold increase over the free-market price of cannabis, which sold for as little as 2 rupees in other provinces where it was lightly taxed. Report of the British Indian Hemp Drugs Commission, Vol. 1, Ch. XV p.295 and Ch. XVI pp. 311-2, p.321. The U.S. cigarette tax has historically accounted for about 25% - 50% of retail prices, according to the Tobacco Institute (op. cit.).

19. Among 18-25 year-olds, four-sevenths of daily users reported being multiple daily users, according to NIDA in its National Survey of Drug Abuse: Main Findings 1982.
20. M. Kleiman, *Marijuana: Costs of Abuse, Costs of Control*, pp. 38-9.
21. Peter Reuter, "Prevalence Estimation and Policy Formulation," *Journal of Drug Issues*, Vol 23, No. 2, 1993: p 173.
22. A.C.M. Jansen, *op. cit.*, p. 59.
23. Report of the Indian Hemp Drugs Commission, Vol. 1, Chap. XVI, p. 312.
24. This assumes 1000 joints to the kilo, or 3% potency for Indian ganja.
25. Jansen, *op. cit.* p. 64
26. "Drug Use in California, 1989-1990," California Legislative Analyst's Office, Sacramento.