

A Critique of Estimates of the Economic Costs of Drug Abuse

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Executive Summary

- Much advocacy for drug prohibition relies on cost-of-illness (COI) studies of the economic costs of drug abuse. The most recent of these studies estimates that drug abuse cost the U.S. economy roughly \$143.4 billion in 1998.
- Despite the enormity of this estimate, however, COI studies provide no evidence on the merits of prohibition. These studies document harms that occur under prohibition, but they contain no information on whether prohibition increases or decreases the harms from drug abuse.
- Existing COI studies also suffer numerous methodological difficulties that render them problematic, even as estimates of the harms from drug abuse under current policy. Thus, these studies contain little that is relevant to evaluating prohibition.
- A valid analysis of prohibition must specify an alternative policy, such as legalization, and compare prohibition to this alternative with respect to each of three issues:
 - The direct costs of enforcing the policies;
 - The auxiliary consequences of the policies; and
 - The effects of the policies on the harms from drug use.
- This study estimates that prohibition enforcement cost roughly \$33 billion in 2002.
- This study explains that prohibition is likely to have numerous auxiliary consequences, including
 - increased violence and corruption,
 - diminished civil liberties,
 - heightened racial tensions,
 - distorted foreign relations,
 - added restrictions on medicinal drug use,
 - the transfer of wealth to criminals, and
 - civil unrest within drug-producing countries.
- This study also explains that prohibition potentially increases the harms from drug abuse—even if it reduces the overall quantity of drug use—because drug users under prohibition face elevated prices, reduced product quality, and the threat of arrest and incarceration.
- This study does not draw a specific conclusion about the desirability of prohibition. But it shows that a scientific evaluation must address a broad range of issues on which COI studies are silent. And it shows that the costs of drug abuse, by themselves, say nothing about whether prohibition is good policy.

Section 1: Introduction

Government policy toward illegal drugs is one of the most contentious issues in modern society. The United States prohibits a range of drugs, and the attempt to eliminate drug use has escalated into a “war” that costs tens of billions of dollars each year. Under prohibition, the possession, sale, and distribution of drugs are punishable by lengthy jail terms and substantial fines. The U.S. currently arrests more than 1.5 million persons per year on drug law violations and imprisons hundreds of thousands of drug law violators at any given time.¹

Advocates of prohibition often cite the “costs of drug abuse” as a key justification for the war on drugs. These advocates rely, in particular, on studies that purport to estimate the economic costs of drug abuse in the U.S. Usually referred to as “cost of illness” (COI) studies, this work estimates the contribution of drug abuse to increased health care costs, lowered productivity, and elevated crime rates, amongst other alleged effects of drug abuse. The most recent of these studies claims that drug abuse cost society more than \$143 billion in 1998 (ONDCP 2001).

The sheer magnitude of this \$143 billion figure might seem to make a compelling case for continuing or expanding current prohibition of drugs. Despite the enormity of the figure, however, COI estimates of the costs of drug abuse have no implications for the wisdom of prohibition.

The reason is that COI studies address only the *level* of drug-related harm that occurs under current prohibition, rather than the *difference* in harm that occurs under prohibition compared to an alternative policy. It is this latter quantity that is critical for evaluations of prohibition, and COI studies are silent on this issue. Moreover, a valid analysis of prohibition must account for any auxiliary consequences of prohibition relative to an alternative policy, and COI studies contain no information on this topic either. Thus, COI estimates, in and of themselves, say nothing about whether prohibition is good policy.

This criticism of current advocacy on behalf of prohibition is irrefutable. In fact, recent COI studies state explicitly that estimates of the costs of drug abuse provide no basis for policy conclusions. COI studies potentially contain information about the consequences of drug use, but that information is relevant to analyzing prohibition only when combined with information about the degree to which prohibition *changes* those costs, and with information about the costs of prohibition itself. Nevertheless, prohibition advocates continually cite COI estimates as evidence that prohibition makes sense.

This report therefore explains in detail why COI studies provide no basis for supporting prohibition, and it shows that methodological difficulties make interpretation of COI studies problematic, even as estimates of the harms from drug abuse under current policy. The report then outlines an approach to analyzing prohibition that *can* shed light on whether prohibition is in society’s best interests. The report does not draw a specific conclusion about the desirability of prohibition, but it clarifies the issues that need to be discussed and indicates the kind of evidence that is relevant to this discussion. In particular, it emphasizes that harms from drug abuse under current policy, no matter how large and no matter how estimated, are only one element in a valid evaluation of prohibition.

¹ Arrest data are from U.S. Department of Justice, Bureau of Justice Statistics (2001, Table 4.1, p.342). Prisoner data are from U.S. Department of Justice, Bureau of Justice Statistics (2001, Table 6.30, p.499). Accessed at <http://www.albany.edu/sourcebook/> on April 23, 2003.

The remainder of the report is organized as follows.

Section 2 reviews existing COI studies and explains why they provide no information about the merits of prohibition. The critical problem is that COI studies do not compare prohibition to an alternative policy and determine the *difference* in costs between the two policies; instead, they tabulate the *level* of costs that arises in relation to drug abuse under the current policy of prohibition. An auxiliary problem is that existing COI studies are riddled with methodological difficulties that render much of their analysis uninterpretable, even as estimates of the harms of drug abuse. Thus, these studies contain little that is relevant to the analysis of prohibition.

Sections 3-5 then outline the steps in a valid analysis of prohibition. Such an analysis must do four things. It must specify the alternative policy to which prohibition is to be compared. It must consider the costs of enforcing prohibition relative to the costs of enforcing the alternative policy. It must account for the degree to which prohibition has auxiliary consequences that would be smaller or non-existent under the alternative policy. And it must determine the degree to which prohibition reduces or increases the harmful effects of drug use relative to this alternative.

The alternative policy considered in this report is legalization of currently prohibited drugs. This does not mean legalization is the only relevant alternative, nor does it mean legalization is necessarily preferable to prohibition. But legalization provides a simple benchmark against which to compare prohibition.

Section 3 therefore estimates the direct costs of enforcing prohibition relative to a regime in which the production, distribution, and use of drugs are legal. These costs consist of expenditure for police who make drug arrests, for prosecutors who pursue drug crimes, for judges who try these cases, and for prisons that incarcerate drug offenders. According to the analysis below, these costs amounted to roughly \$33 billion in 2002.

Section 4 then discusses the auxiliary consequences of prohibition. Under plausible conditions, these include increased violence and corruption, diminished civil liberties, the transfer of wealth to criminals, heightened racial tensions, added restrictions on medicinal uses of drugs, more difficult foreign relations, and civil unrest within drug-producing countries, amongst other consequences. There is room for disagreement about the magnitude and even the desirability of some effects of prohibition. There can be no serious disagreement, however, that whatever its affect on the harms from drug use, prohibition generates a broad range of auxiliary consequences that must be addressed in a full analysis.

Section 5 then considers the effects of prohibition on the harms caused by drug abuse. On the one hand, prohibition likely reduces drug use, implying reductions in the harms related to drug abuse. On the other hand, prohibition increases the harmfulness of the use that does occur under prohibition, since drug users face higher prices and lower quality, implying increased overdoses, accidental poisonings, exposure to HIV, and the like. In addition, drug users under prohibition risk arrest and incarceration. Existing evidence does not pin down whether prohibition increases or decreases drug-related harms on net, but the discussion shows these harms can increase in aggregate even if prohibition lowers drug consumption relative to what would occur under legalization.

Section 6 concludes. This report discusses the range of issues that must be considered to evaluate prohibition. The report does not provide a bottom line determination of whether prohibition is a good policy; rather, it shows that one argument frequently employed in support of prohibition—that drug abuse has substantial costs—is woefully misguided. The report also explains that prohibition has a broad range of negative consequences that must be addressed in a correct evaluation. Thus, the report indicates the key issues that must be addressed by a rational debate about prohibition relative to alternative policies.

Section 2: Why COI Studies are Irrelevant to the Evaluation of Prohibition

For the past several decades, a substantial body of work has attempted to estimate the economic costs of drug abuse in the U.S.² Widely known as Cost-of-Illness (COI) studies, this research receives considerable attention in debates over government policy toward alcohol and illegal drugs. Advocates of drug prohibition, in particular, often cite the estimated costs of drug abuse as evidence that prohibition is good policy.³

This report explains, however, that COI studies shed no light on the desirability of drug prohibition. The principal problem is that these studies are not designed to evaluate or compare alternative policies; instead, they estimate one component of the costs that need to be accounted for in a proper evaluation of alternative policies toward drugs. A secondary problem is that existing COI estimates suffer from methodological problems that make interpretation of their estimates problematic. Thus, there is little in COI studies that is relevant to the analysis of prohibition.

COI Studies of the Costs of Drug Abuse

This section first summarizes the canonical COI study and then explains why such studies do not support conclusions about the desirability of drug prohibition. To illustrate the magnitudes involved in recent COI studies, this report relies on estimates for 1998 in *The Economics Costs of Drug Abuse in the United States, 1992-1998* (ONDCP 2001). This is an updated version of *The Economic Costs of Alcohol and Drug Abuse in the United States, 1992* (Harwood, Fountain and Livermore 1998), which is the most recent, full-blown attempt to estimate the economic costs of drug abuse.

The costs of drug abuse considered in standard COI studies fall into three main categories: health care costs, productivity losses, and crime costs. The precise grouping of costs within these broad categories varies somewhat across studies, but the key components are similar in most cases. There are some costs not included in these groups, but they are quantitatively unimportant.⁴

² See, in particular, Rufener, Rachal, and Cruze (1980), Harwood et al. (1984), Rice et al. (1990), Harwood, Fountain, and Livermore (1998), and ONDCP (2001). These all build on the methodology developed in Rice (1966).

³ See, for example, Walters (2002). John Walters served as director of the ONDCP under President George W. Bush. Numerous additional examples are available on request from the author.

⁴ These consist of Social Welfare costs related to drug abuse (ONDCP 2001, p.8).

The first main component of the estimated costs of drug abuse is health care costs. This consists mainly of expenditure for treatment of drug abuse and expenditure for treatment of health problems attributed to drug abuse. It also includes a small amount for health care costs of victims of drug-related crime. According to ONDCP (2001), health care costs amounted to \$12.9 billion in 1998.⁵

The second main component of the estimated costs of drug abuse is reduced productivity related to drug abuse. This includes the foregone earnings of those who die prematurely due to drug abuse; the reduced earnings of those with reduced employment or lower wages because of drug abuse; the lost earnings of those institutionalized or hospitalized for treatment of drug abuse; the lost earnings of victims of drug-related crime; the lost earnings of those who are incarcerated for drug-induced crimes; and the lost earnings of those who engage in crime because of drugs. According to ONDCP (2001), productivity losses amounted to \$98.5 billion in 1998.

The third main component of the estimated costs of drug abuse is crime costs. This includes the federal, state, and local government expenditure for policing, prosecution, and incarceration due to drug crimes; the federal government expenditure for drug interdiction efforts; and the private legal costs caused by drug crimes. According to ONDCP (2001), crime costs amounted to \$32.1 billion in 1998.

The logic of the COI methodology is that drug abuse *causes* each of the estimated costs described above. For example, this logic holds that drug abuse causes the increased health costs, the lower wages, the reduced life expectancies, and the elevated criminality of drug abusers. Using this logic, ONDCP (2001) estimates that drug abuse imposed economic costs of approximately \$143.4 billion in 1998.

COI Studies and the Analysis of Prohibition

The logic employed in COI calculations seems, at first glance, irrefutable. If drug abuse did not exist, there would be no drug abuse treatment, no illness caused by drug abuse, no productivity losses from drug abuse, no crime caused by drug abuse, nor any of the other costs estimated in these studies. This is the reasoning implicitly employed by advocates who cite these costs in defense of prohibition.

Further reflection, however, shows that COI studies suggest nothing about the desirability of prohibition. COI studies show there are costs associated with drug abuse. This indicates there is potentially a problem for policy to address, but it does not determine the merits of any particular response to this problem. This is because policy cannot eliminate drug abuse by fiat; it must adopt specific interventions that attempt to change the costs and benefits of using drugs. But these interventions are not always effective, and they have their own costs and auxiliary consequences. All of this must be addressed in a proper analysis.

The key issues in evaluating prohibition are therefore whether prohibition reduces the harm it attempts to address and whether prohibition itself causes harm. More broadly, there are many policies that potentially reduce the harms from drug abuse, but all have costs and consequences, and none is fully effective. Choosing among them requires knowing which policies are most effective and which have the worst side effects.

⁵ All dollar figures reported in this section are 1998 dollars.

COI studies do not shed light on the wisdom of prohibition because they do not specify an alternative policy and evaluate the costs and consequences of prohibition relative to this alternative. Instead, they merely estimate the costs of drug abuse that occur under current prohibition. Thus, COI studies are not designed to evaluate policies.

Recent COI studies state this clearly. For example, the *Introduction* to ONDCP (2001) states:

The results of this study were not designed to address specific policies to control drug abuse or the alternatives to drug prohibition versus legalization. The purpose of this study has been to identify and quantify particular negative consequences from the abuse of illicit drugs. These data are likely to inform the evaluation of particular policies. However, this study has not undertaken specific policy evaluations. (p.12)

Likewise, the *Discussion* notes that

while these data may inform the evaluation of particular policies, the results of this study were not designed to address any specific policies related to drug abuse. (p.62)

Thus, there should be no surprise that COI studies do not support policy conclusions; they were not designed with that objective in mind.

This point can best be illustrated by considering what an appropriate analysis of prohibition would entail. After specifying an alternative policy to compare to prohibition, this analysis would determine what, if anything, is different as a result of prohibition compared to the alternative policy. The potential differences are of three types: differences in the direct cost of enforcement; differences in the auxiliary consequences; and differences in the harms from drug abuse.⁶

COI studies do not support policy conclusions because they contain no information about any of these differences. COI studies say nothing about the costs of enforcing prohibition.⁷ COI studies say nothing about the auxiliary consequences of prohibition. And COI studies say nothing about the effect of prohibition on the costs of drug abuse. COI studies do purport to say something about the costs of drug abuse under prohibition, but this does not indicate whether prohibition reduces drug abuse and associated harms. In fact, prohibition can increase the harms caused by abuse use even if prohibition reduces drug use.

Thus, COI studies address only one piece of a broader and more difficult analysis. This does not mean COI studies have no value; the costs of drug abuse under current policy are one element of an overall analysis. But the suggestion that prohibition is good policy because there are large estimated costs of drug abuse is invalid.

In addition to this fundamental problem, existing COI studies suffer several methodological difficulties that make interpretation of their estimates problematic. The

⁶ For further discussion of these issues, see Myrdal (1930), Wagstaff (1987), Ostrowski (1989), Heien and Pittman (1989), Sindelar (1991), Anderson (1992), DiNardo (1994), Reuter (1999), and Kleiman (1999).

⁷ In fact, existing COI studies incorrectly count the costs of drug prohibition enforcement as a cost of drug abuse.

remainder of this section examines these methodological issues and discusses what part of COI estimates remains after addressing the methodological problems.

COI Studies and the Costs of Drug Abuse

Table 1 summarizes the most recent COI estimates of the costs of drug abuse. The first part shows public and private expenditure for treatment of drug-related medical conditions, including both treatment of drug abuse and treatment of illness related to drug abuse. The second part shows the estimated productivity losses related to drug abuse. This includes the foregone earnings of those who die prematurely due to drug abuse, the reduced earnings of those with lower employment or lower wages because of drug abuse, the lost earnings of those institutionalized or hospitalized for treatment of drug abuse, the lost earnings of victims of drug-related crime, the lost earnings of those who are incarcerated for drug-related crimes, and the lost earnings of those who engage in crime because of drug addiction. The third part shows crime related costs, which consists of public expenditure for police protection, legal adjudication, and corrections related to drug crimes; federal spending to reduce drug supply; private legal expenditures connected to drug crimes; and property damage for victims of drug-related crime.

The information in the table documents that there is substantial expenditure “related” to drug abuse. But interpretation of this expenditure is difficult, for several reasons.

The first problem is determining whether the estimated expenditures represent economic costs. The standard definition of economic costs is opportunity costs, meaning costs that are incurred under one option but not under an alternative. The assumption necessary to make COI estimates correspond to opportunity costs is that if drug use abuse were to decline, society would save the related expenditure without an offsetting increase in other costs.

But this assumption is problematic. If prohibition, or any policy, causes drug abuse to decline, the money spent on drugs will be spent on other goods. In particular, reduced drug use might mean increased consumption of alcohol, cigarettes, saturated fats, or other goods that are also associated with elevated health care expenditure, reduced productivity, or increased criminality.⁸ This means such costs might change little or even increase as the result of reduced drug abuse.

Thus, determining the change in costs that would result from a reduction in drug abuse requires knowing how drug users would behave if they did not abuse drugs, and this is difficult to determine at best. It is not reasonable to assume that the health, productivity, and criminality of drug abusers would be the same as those of consumers who do not abuse drugs. Drug abusing consumers might differ systematically in their risk aversion, social responsibility, deviancy, or other behavioral tendencies from non-drug-abusing consumers, and in the direction implying greater costs. Thus, drug abusing consumers might switch to other risky activities if drugs were not available.

This problem of interpretation affects several components of the COI estimates, including expenditure on drug abuse treatment, some of the expenditure on treatment of drug-related illness, and much of the estimated productivity losses. This does not mean these components

⁸ The existing evidence on whether consumers substitute illegal drugs for legal commodities such as alcohol or tobacco provides significant support for this possibility, but the evidence is not unambiguous. See Miron (2003b) for details.

should necessarily be treated as zeros, but it creates a serious question about what portion is an opportunity cost as opposed to a mere shifting of other costs.

A second critical problem of interpretation is determining whether particular costs are due to drug abuse or other factors. The tendency to abuse drugs plausibly correlates with criminality, low productivity, or poor health without necessarily being the cause. For example, persons from disadvantaged backgrounds might be inclined toward both drug abuse and criminality; persons with low motivation or poor interpersonal skills might both abuse drugs and earn low wages; and persons who are unhealthy for other reasons might both incur high medical expenses and use drugs (e.g., as self-medication).⁹ In these circumstances, the correlation between drug abuse and outcomes such as poor health, low productivity, or elevated criminality can substantially overestimate the degree to which drug abuse causes these outcomes.¹⁰

This problem applies to numerous components of the estimated costs of drug abuse, especially several categories of productivity losses and crime costs. As with opportunity cost, the critique does not mean there is no effect of drug abuse, but it suggests the fraction attributable to drug abuse is smaller than reported in COI studies.

A third difficulty of interpretation is that COI estimates include both costs that accrue to the persons who abuse drugs (internal costs) and costs that accrue to other persons (external costs). From the perspective of policy evaluation, however, only the external costs matter. If a person makes a choice that reduces life expectancy, income, or health, that person incurs a cost. But this is a cost to the person making the choice, not a cost imposed on others.¹¹ In the standard economic approach to policy analysis, therefore, it does not justify a public policy intervention.¹²

This issue affects numerous components of the estimated costs of drug abuse. Productivity losses other than those imposed on victims of crime are reasonably interpreted as internal.¹³ Hospital and Ambulatory Costs and Special Disease Costs that are paid with private funds are also properly counted as internal costs.

⁹ In fact, many studies find a positive correlation between drug use and wages; a negative relation emerges only when the analysis is limited to persons with significant drug abuse. See Miron (2003b) for further discussion.

¹⁰ Estimates of the effect of drug abuse on health, productivity, or criminality frequently take account of additional explanatory factors, so they are not necessarily based on the simple correlation between drug abuse and the behavior in question. The problem of “missing factors” is nevertheless present, since many individual characteristics are not readily measured (e.g., motivation, risk aversion, gregariousness, or entrepreneurial skill).

¹¹ Harwood, Fountain, and Livermore (1998, Chapter 7) recognize this point and attempt to estimate who bears the burden of specific costs of drug abuse.

¹² If persons fail to account for the addictive nature of certain goods, they potentially impose costs on their future “selves” that can be considered analogous to external costs (Gruber and Koszegi 2001). If one adopts this paradigm, then some, but certainly not all, of the costs in this category should be counted as external.

¹³ This statement must be modified to the extent that income is taxed, which means the choice to earn lower income causes a negative externality. Systematic application of this principle leads to anomalous results, however; for example, it suggests society should penalize persons who volunteer in non-profits rather than holding down paying jobs.

The final difficulty with interpreting COI estimates is that many of the costs are due to government policy rather than to drug abuse. For example, expenditure for drug abuse treatment, drug abuse prevention, and drug abuse prevention research all occur because government chooses to operate these policies. It is true there would be no such expenditure if there were no drug abuse, but there is no requirement that government make these expenditures. The right question is whether such policies generate benefits that exceed their costs, not whether these expenditures are large or small.

This problem affects numerous components of the estimated costs of drug abuse. In addition to those mentioned so far, several components are properly attributed to drug prohibition itself. The lost productivity due to incarceration and the lost productivity due to crime careers are two key examples. Many prisoners have violated drug laws, so their incarceration is due directly to prohibition. Likewise, some of the spread of HIV reflects prohibition-induced restrictions on clean needles. Perhaps most blatantly, the expenditure on police protection, legal adjudication, corrections, and federal efforts to reduce drug supply are entirely due to prohibition.

Taking all this into account implies drastically smaller estimated costs of drug abuse. Table 1 indicates for each component whether some or all of that component is *not* a cost of drug abuse, due to one or more of the critiques described above. According to the Table, at least \$93.1 billion should be entirely eliminated from the economic cost of drug abuse, and another \$50.4 billion should be at least partially eliminated. Thus, the amount that is attributable to drug abuse is well below the \$143.4 billion figure reported in COI studies as the economic cost of drug abuse.

Section 3: The Costs of Prohibition Enforcement

The previous section has explained that COI studies say nothing about the wisdom of prohibition, and it has indicated that existing COI estimates of the harms from drug abuse are problematic. These conclusions do not mean there is no valid way to evaluate prohibition, but they show valid analyses must proceed in a different fashion.

The remainder of this report outlines the key steps in a valid analysis of prohibition. The purpose is not to reach a specific conclusion but to illustrate the components in a coherent approach. This clarifies why COI studies do not constitute evidence on the merits of prohibition, and it sets the stage for analyses that can be informative.

There are four steps in a valid analysis of prohibition. The first is specification of the alternative policy to which prohibition is to be compared. The second is calculation of the direct costs of enforcing prohibition relative to the direct cost of the alternative. The third is determination of any auxiliary consequences of prohibition that are different under the alternative. And the fourth is analysis of whether the harms from drug abuse are greater under prohibition than under the alternative policy. This section addresses the first two of these steps. Sections 4 and 5 address the third and fourth steps, respectively.

Alternative Policies to Prohibition

The first step in a valid analysis of prohibition is specification of an alternative policy to which prohibition is to be compared. This step is essential because the costs of any policy are properly interpreted as “opportunity costs,” meaning the difference between costs under one policy versus those that would occur if some different policy were in place.

There is broad range of alternatives to current U.S. prohibition. One is continuation of current laws but with a different degree of enforcement. A second is continuation of current laws and enforcement practices but with greater or fewer resources devoted to subsidized treatment or to harm reduction policies such as needle exchanges. Still a third possibility is decriminalization of some or all drugs, meaning the removal of criminal penalties for possession.

The alternative to prohibition considered here is legalization of all currently prohibited drugs. Under legalization, drug markets would be subject to standard tax and regulatory policies such as income and sales taxation, OSHA and environmental regulation, labor market regulation and the like, but they would not be subject to any special regulation or taxation. In other words, drugs would be treated like most legal goods.

The choice of legalization as an alternative policy does not mean this is the best or only alternative to prohibition. Rather, legalization is a benchmark that allows for easy explanation of the principles and calculations discussed here. The approach can be adapted to analyze various alternatives to prohibition, such as reduced enforcement, decriminalization, harm reduction, and the like.

Given the specification of legalization as the alternative policy, the second step in the evaluation of prohibition is calculation of the direct costs of enforcing prohibition relative to the costs of enforcing this alternative. With legalization as the alternative policy, this calculation is simple since there are no direct costs of “enforcing” legalization. The relative costs of enforcing prohibition therefore consist of the expenditures on police, prosecutors, judges, prisons, and the like that are required to enforce prohibition. These expenditures are costs that society would not incur if drugs were legal.

The fact that the cost of enforcing prohibition is “large” or “small” says nothing, by itself, about whether prohibition is superior to legalization. As with the costs of drug abuse, the cost of enforcing prohibition is only one element in the overall calculation. But properly accounting for this cost is an important component of the analysis.

Federal Expenditure for Drug Prohibition Enforcement

Federal expenditure for drug prohibition enforcement was \$13.6 billion in 2002.^{14 15 16} This is the amount spent on “supply” side activities, meaning domestic law enforcement,

¹⁴ This consists of expenditure in the following categories: DC Court Services and Offender Supervision (\$86.4 million); Department of Defense (\$1,008.5 million); Intelligence Community Management Account (\$42.8 million); The Judiciary (\$819.7 million); Department of Justice (\$8,140.1 million); ONDCP (\$533.3 million); Department of State (\$832.6 million); Department of Transportation (\$591.4 million); and Department of Treasury (\$1,546.8 million). See ONDCP (2002), p.29-31.

¹⁵ Murphy, Davis, Liston, Thaler and Webb (2000) examine the methods used by ONDCP to estimate these expenditures. They conclude that methodological problems render parts of the estimates biased, in some cases by substantial amounts. These issues do not imply major qualifications to the data considered here, however. Murphy et al. find that the anti-drug budgets of the Coast Guard and the Bureau of Prisons are accurate reflections of the resources expended while the reported expenditure of the Department of Defense probably underestimates its anti-drug budget. The overestimates that they identify occur for demand-side activities.

interdiction efforts, and international efforts. This figure does not include expenditure for drug treatment, research on drugs, or drug education campaigns. It is appropriate to focus purely on supply side expenditure since “demand” side policies are logically separable from the legal treatment of drugs themselves.

State and Local Expenditure for Drug Prohibition Enforcement

The cost of state and local prohibition enforcement is more difficult to estimate than the cost of federal enforcement, since state and local law enforcement agencies do not consistently separate their budgets into drug-prohibition versus other activities.¹⁷ Two methods are available, however, for estimating these expenditures.

The first approach relies on a special survey of state and local drug control spending undertaken by the Bureau of the Census on behalf of the Office of National Drug Control Policy (ONDCP 1993). The survey, conducted in 1992, was addressed to all 50 state governments, all 3,042 county governments, all municipalities with a 1986 population of at least 10,000, and a scientifically designed sample of smaller municipalities (ONDCP 1993, p.20). The survey requested information on all kinds of drug control spending for the years 1990 and 1991.

For 1991, this survey gives state and local drug control spending on criminal justice activities as approximately \$12.6 billion (1991 dollars).¹⁸ Assuming this expenditure grew between 1991 and 2002 at the rate of inflation (32.1%),¹⁹ this implies that 2002 state and local drug control spending on criminal justice activities was \$16.6 billion. This is likely an underestimate, since various indicators suggest drug enforcement increased faster than the rate of inflation over this period.²⁰

The second approach to estimating state and local spending on prohibition enforcement is to allocate state and local criminal justice expenditure on police, judicial and legal activities, or incarceration according to the fraction of arrests, or prosecutions, or prisoners, respectively, that

¹⁶ The 2003 *National Drug Control Strategy* adopts a new methodology for estimating the federal drug control budget that is allegedly more accurate. This new methodology implies a substantial reduction in supply side expenditure (ONDCP (2002, pp.33-34)). For the purposes of this report, the old methodology is more appropriate. For example, the new approach excludes expenditures on incarceration of persons imprisoned for drugs crime.

¹⁷ The problem in estimating state and local prohibition enforcement is that many criminal justice activities cannot be neatly divided between prohibition enforcement and other law enforcement. Consider, for example, the activities of a beat cop who patrols a particular neighborhood. This policeman’s activities might include arresting a burglary suspect who was stealing money to buy drugs, arresting persons for selling drugs, or stopping suspects for other crimes only to find drugs during a routine search. The salary of this police officer should be allocated partially to drug prohibition enforcement, but undertaking this allocation is hampered by both conceptual and practical difficulties.

¹⁸ See ONDCP (1993, Table 1, p.3).

¹⁹ Council of Economic Advisors (2004), Table B-60, accessed at <http://w3.access.gpo.gov/eop/> on April 26, 2003.

²⁰ Basov, Jacobson, and Miron (2001) document that real enforcement at the federal level increased substantially over this period.

is due to drug law violations. As shown in the Appendix, this produces an estimate of \$22.5 billion in state and local prohibition enforcement in 2002.

Total Expenditure by All Levels of Government

Combining the estimates above implies that total U.S. government expenditure for enforcement of drug prohibition has been between \$30.2 billion and \$36.1 billion in recent years. For convenience, this report uses the approximate mid-point of this range, \$33 billion, as the final estimate.^{21 22} This amount is the estimated cost of enforcing drug prohibition in the United States, relative to the cost of enforcing a regime in which drugs are legal.

Section 4: The Auxiliary Consequences of Prohibition

The previous section has documented that enforcement of drug prohibition entails substantial direct costs. As noted, this does not by itself determine whether prohibition is a desirable policy, but the direct costs of enforcing prohibition must be included in a valid, overall analysis.

This section addresses a different issue that must be considered in a full analysis, namely, the auxiliary consequences of prohibition. These occur because prohibition does not eliminate the market for drugs. Prohibition potentially reduces drug use relative to what would occur under legalization, both by limiting demand and by restricting supply. But experience to date indicates that black markets exist even under the most heavily enforced prohibition regime. Given the presence of a black market, several auxiliary consequences of prohibition are likely.

Crime and Corruption

One potential effect of prohibition is increased crime. Prohibition advocates often suggest that crime is a consequence of drug use, which implies prohibition should reduce crime to the extent it reduces drug use. In fact, the evidence usually cited as showing that drug use causes crime is uninformative; it merely demonstrates a correlation between the tendency to commit crime and the tendency to use drugs without indicating whether there is a causal connection.²³ Prohibition enforcement might also reduce crime by incarcerating persons who commit non-drug as well as drug crime (Kuziemko and Levitt 2003). Nevertheless, there are several mechanisms by which prohibition can increase crime, even if prohibition reduces drug use and even if some drug use causes crime.

²¹ This estimate is similar to that provided in other work. National Research Council (2001) quotes an estimate of “at least \$30 billion” for 1999. Reuter (2001) reports an estimate of \$30-35 billion annually.

²² This estimate plausibly errs on the low side. For example, it does not incorporate the deadweight loss from the taxation necessary to support drug prohibition. Taxing economic activity imposes costs—over and above the expenditure itself—by distorting private decision making. Even conservative estimates of this cost (e.g., 2.5% of the revenue raised) suggest an additional \$0.8 billion in enforcement costs. Other plausible estimates of the deadweight loss suggest a substantially larger adjustment (Feldstein 1999).

²³ Reviews of the literature on drug use and crime have consistently concluded there is little evidence that drug use *per se* cause crime. See, for example, Duke and Gross (1993, pp.37-42, 53-54, 64-66, 73-74), U.S. Department of Justice (1992, p.5), and Fagan (1993).

Prohibition potentially increases violent crime through several mechanisms. Participants in illicit markets cannot resolve disputes using courts and lawyers, so they are likely to use violence instead (Miron and Zwiebel 1995; Miron 1999, 2001a). Prohibition also raises drug prices, which encourages income-generating crimes that sometimes involve violence (e.g., robbery). The higher prices caused by prohibition increase the profitability of drug trafficking, which provides a greater incentive for violence. And prohibition makes drug consumers and producers less likely to use the official dispute resolution system for disputes not related to the prohibited commodity.

Existing evidence finds substantial support for these hypotheses. Violence has occurred in the drug trade primarily since 1914, when drugs were first prohibited in the United States (Trebach, 1982). Fluctuations in the U.S. homicide rate over the past century correlate positively with enforcement of alcohol and drug prohibition (Friedman 1991, Miron 1999). Brumm and Cloninger (1995) find that higher drug prohibition arrest rates are associated with higher homicide offense rates across U.S. cities, while Miron (2001a) and Fajnzylber, Lederman, and Loayza (1998, 1999) find a positive relation across countries between the degree of prohibition enforcement and measures of violence such as homicide. Goldstein et al. (1989, 1997) find in a sample for New York City that almost three quarters of “drug-related” homicides are due to disputes over drug territory, drug debts, and other drug-trade related issues rather than to the psychopharmacological effects of drugs. And a substantial body of evidence documents that violence is commonly used in a range of prohibited industries (prostitution, gambling), independent of the characteristics of the good.

Prohibition can also increase income-generating crime, such as theft or prostitution, by raising the prices of illegal drugs. This encourages users who derive their income from crime to commit more per unit of drug consumption. The magnitude of this effect is difficult to determine because persons who finance their drug consumption via crime may also tend to be criminals for independent reasons (Greenberg and Adler, 1974). And drug prices have generally been falling over the past two decades, suggesting this effect of prohibition might be difficult to detect. Brown and Silverman (1974, 1980) and Silverman and Spruill (1977) find evidence suggesting higher drug prices are associated with higher rates of income-generating crime, while Kuziemko and Levitt (2003) fail to find such evidence.

An additional reason prohibition might increase crime is by reducing enforcement of laws against non-drug crimes. This occurs if expenditure for drug prohibition comes partially at the expense of other crime-detering policies; for example, if the police spend time arresting drug users rather than investigating thefts or arsons. This does not necessarily occur in all circumstances; governments might fund drug enforcement by running larger deficits or by reducing expenditures for other items. But the increased effort to enforce drug laws plausibly comes at the expense of non-drug enforcement in some cases.²⁴

A different kind of crime encouraged by prohibition is corruption of police, prosecutors, judges, and politicians. This occurs because lawsuits, lobbying, and campaign contributions do not exist in a prohibited industry. In addition, drug traffickers have high profits to protect and

²⁴ Benson and Rasmussen (1991), Benson, Kim, Rasmussen, and Zuehlke (1992), Rasmussen, Benson, and Sollars (1993), and Sollars, Benson, and Rasmussen (1994) provide evidence that is consistent with this hypothesis.

thus added incentive to bribe or threaten those who might impede these profits.²⁵ Evidence on the magnitude of corruption is difficult to obtain, but anecdotal evidence for such an effect is abundant (e.g., U.S. General Accounting Office 1998).

The effects of prohibition in generating crime and corruption can extend to other countries, especially if the U.S. pressures drug-producing countries to enforce prohibition.²⁶ Beyond the standard violence- and corruption-producing effects discussed above, prohibition can promote civil unrest by providing a source of income to rebel groups such as the Shining Path in Peru, the FARC in Colombia, or the Taliban in Afghanistan. Under prohibition, these groups sell protection services to illegal drug traffickers.²⁷

Changes in Civil Liberties and Criminal Justice Enforcement

A different effect of prohibition is to change accepted definitions of civil liberties and encourage modifications of criminal justice enforcement. In contrast to crimes like murder, assault, burglary or rape, drug crimes do not produce natural complainants. For this reason, enforcement of prohibition requires tactics that are more invasive than those used to address other crimes. For example, Baum (1992, p.888) writes that Supreme Court decisions

in the past decade let police obtain search warrants on the strength of anonymous tips...; did away with the need for warrants when the police want to search luggage, trash cans, car interiors, bus passengers, fenced private property and barns It let prosecutors hold defendants without bail ... It permitted the confiscation of property before a suspect is charged ... It let prosecutors imprison people twice ... for the same crime ... It allowed seizure of defense attorney's legal fees in drug cases ... And ... it let stand a sentence of mandatory life without parole for simple drug possession.

These effects are inevitable products of attempts to enforce laws against victimless crimes.²⁸

One example of these aggressive police and prosecutorial tactics is asset seizure, in which law enforcement authorities lay claim to assets suspected of "facilitating" drug crimes.²⁹ The range of seizeable assets includes cash, bank accounts, houses, land, cars, boats, airplanes, and more. The assets can be forfeited even if the suspect is acquitted, and the owner must prove that the property was not used in a drug crime to reclaim the property. In most states, police keep a

²⁵ Profits are not necessarily high in an illicit industry, since monetary profits are at least partially offset by the risk of incarceration or injury. If there is heterogeneity in the willingness to accept these risks, however, persons with high tolerance for risk will select into black market industries, earn rents from so doing, and take steps to protect these rents.

²⁶ See, for example, Atkins (1998), Lerner (1998), Melo (1998), and Toro (1998) concerning Bolivia, Peru, Colombia, and Mexico, respectively.

²⁷ McClintock (1988) discusses the fact that U.S. drug prohibition efforts cemented a relation between Peruvian drug traffickers and the Shining Path during the 1980s.

²⁸ See Wisotsky (1992) or Gray (2001, Chapter 3) for a more detailed discussion of these issues.

²⁹ See Blumenson and Nilsen (1998) for a more detailed discussion of asset forfeiture and its use in enforcing drug prohibition.

substantial fraction of the proceeds from these forfeitures, which encourages them to pursue drug rather than non-drug crimes.³⁰

A different criminal justice policy fostered by prohibition is mandatory minimum sentences. Mandatory minimums pre-date drug prohibition and exist for other crimes. But their use has resulted mainly from the desire to enforce prohibition; a huge fraction of mandatory minimum sentences are for drug law violations (U.S. Sentencing Commission 1991).

The desire to enforce drug prohibition has likewise spawned a substantial and costly anti-money-laundering effort to track the financial flows associated with the illegal drug trade. Under these laws, banks, financial intermediaries, and other businesses are responsible for substantial record-keeping and must report “suspicious” transactions to law enforcement authorities (U.S. Department of Treasury 2002a). The main justification for these laws has been the desire to enforce drug prohibition.³¹

Whether criminal justice practice should be modified to facilitate prohibition enforcement is a matter of debate. Advocates suggest that prohibition enforcement is sufficiently important to justify these modifications, but critics suggest the modifications have negative consequences for privacy, civil liberties, and the equity and efficiency of the justice system. For example, some critics argue that mandatory minimums generate inequities in sentencing and that the revenue from asset seizure makes police less accountable.³² More generally, the broadened police powers that have been encouraged by prohibition can be misused in other arenas. Thus, these secondary consequences need to be accounted for in evaluating prohibition.

The Medicinal Use of Marijuana and Opiates

A further effect of prohibition is reduced use of marijuana and opiates for medical purposes. Marijuana is classified by the Controlled Substances Act as a Schedule I drug, which means it cannot be prescribed under any circumstance. This classification treats marijuana identically to heroin and LSD and more restrictively than morphine, cocaine, and many other potent medications.

Whether marijuana is superior to alternative medications or treatments is not yet fully determined, mainly because prohibition makes it difficult for researchers to conduct appropriate scientific studies. Nevertheless, a limited amount of scientific evidence suggests that marijuana provides relief from nausea, pain, and muscle spasms and that it alleviates symptoms of glaucoma, epilepsy, multiple sclerosis, AIDS, and migraine headaches, amongst other ailments.³³

³⁰ Under the Comprehensive Crime Act of 1984, federal authorities began the process of “adopting” state and local seizures so that the seized assets would flow back to law enforcement agencies, circumventing laws in some states requiring that such seizures benefit general state coffers or specific uses like education.

³¹ See Andelman (1994). More recently, anti-money laundering efforts have been employed in the fight against terrorism.

³² On mandatory minimums, see Schlosser (1994a,b). He explains, for example, that small fry have little to trade in the way of names or assets, so they sometimes get harsher sentences than the bigger fish who can plea bargain more effectively. On the effects of asset seizure on enforcement practices, Mast, Benson, and Rasmussen (1998) provide suggestive evidence that the opportunity to reap the financial benefits of assets seizures has tilted state and local law enforcement toward increased enforcement of drugs crimes.

³³ See Institute of Medicine (1999) for further discussion of these issues.

In addition, abundant anecdotal evidence is consistent with these claims (Grinspoon and Bakalar 1993). Indeed, the Food and Drug Administration has approved the use of Marinol, a synthetic version of the most important ingredient in marijuana (THC), for treating nausea induced by chemo-therapy.

Most opiates used in medical practice are Schedule II or III drugs, which means they can legally be prescribed by doctors under appropriate conditions.³⁴ Prohibition nevertheless fosters a climate in which doctors worry about legal or regulatory penalties for “over-prescribing” opiates.³⁵

The desirability of prohibition-induced restrictions on medicinal uses of marijuana and opiates is again a matter of debate. Proponents of prohibition believe the restrictions are essential to enforcing prohibition, while critics argue that they discourage the responsible use of these substances as medicine (New York Times 1994, Sullum 1997). The critical point is that any effect on legitimate medical use of controlled substances ought to be considered in evaluating the wisdom of prohibition.

Increased Racial Tension

A further unintended consequence of drug prohibition is increased racial tension. Many persons believe that minorities are disproportionately involved with drugs, whether or not the facts support this conclusion. Given this perception, even non-discriminatory enforcement of prohibition might target minorities, in the form of racial profiling. Under this policy, police, customs agents, and other law enforcement authorities stop and search minorities to a disproportionate degree. Most of these persons have not committed any crime, however, so profiling inflames racial hostility.

Whether this consequence of prohibition is worth enduring to enforce prohibition is a matter of debate. Whatever one’s view, however, prohibition’s tendency to exacerbate racial tension is a cost that must be accounted for in a complete analysis.

Other Consequences

Prohibition has many additional consequences. These are too numerous to discuss in detail, but several deserve a brief mention.

Prohibition makes foreign relations with drug producing countries such as Mexico or Colombia more complicated because U.S. pressure to enforce prohibition generates tension over issues such as extradition of drug traffickers.

Prohibition reduces respect for the law. Even under the most restrictive prohibition regime, a substantial fraction of the population continues to buy and sell drugs. This promotes the view that laws do not matter and thereby reduces compliance with other laws.

³⁴ Heroin is an exception to this statement, since it is a Schedule I drug.

³⁵ For discussion of these issues, see Hill (1993), American Academy of Pain Medicine and the American Pain Society (1997), Joranson and Gilson (1998), or Joranson, Ryan, Gilson, and Dahl (2000).

Prohibition discourages individual responsibility by treating drugs as fundamentally different from other goods. This suggests drugs are so powerful that drug users cannot control their drug use, rather than suggesting that individuals be held accountable for undesirable outcomes that result from this use.

Prohibition transfers wealth to criminals. In a legal market, the government collects a substantial fraction of the revenue as taxes. In a prohibited market, the participants do not pay taxes, so these amounts accrue as profits to drug suppliers. Thus, prohibition enriches those members of society most willing to break the law.

Prohibition means that economic regulation of the drug market, including environmental regulation, OSHA regulation, minimum wage laws, collective bargaining regulation, and the like do not apply.

Prohibition encourages the notion that use of illegal drugs is far more harmful than use of alcohol, cigarettes, or other risky commodities. In truth, the relative risk of these goods does not correlate well with their current legal status.

Prohibition changes teenagers' perceptions of the returns to education. In most occupations, compensation consists of salary and benefits; non-monetary aspects are modest. In a black market, monetary compensation is relatively high, while non-monetary compensation, such as the risk of injury or arrest, is substantial. For a rational person, this difference in the structure of compensation is irrelevant. For myopic teenagers, however, the cash up front can outweigh the long-term risk. Thus, more teenagers drop out of school and attempt to "make it big" in the drug trade.

Section 5: Prohibition and the Harms of Drug Use

The previous two sections have documented that prohibition has both substantial enforcement costs and a broad range of auxiliary consequences. At the same time, prohibition potentially reduces drug use and related harms. Advocates assume that prohibition reduces drug use substantially and that the harms from drug use necessarily decline. The impact of prohibition on drug use is an empirical question, however, and prohibition can raise rather than lower the harm per unit of drug use (MacCoun and Reuter 2001). Thus, the net effect of prohibition on drug-related harms is ambiguous in theory.

This section discusses the possible effect of prohibition on the harms related to drug consumption. It does not produce a specific conclusion but shows that prohibition can increase aggregate harms even if it reduces drug use.

Prohibition and the Quantity of Drug Consumption

Prohibition affects drug consumption by reducing demand and restricting supply. Prohibition potentially reduces demand by imposing prison terms and fines for the possession of drugs. Prohibition might also foster a social norm that drug use is wrong, or it might reduce demand because some people exhibit "respect for the law." Prohibition decreases the supply of drugs because black market suppliers incur costs not borne by legal suppliers, such as conducting

activities in secret, bribing police, or compensating employees for the risk of incarceration or injury.³⁶

The key issues for the analysis of prohibition are the magnitude and distribution of any reduction in consumption achieved by prohibition.³⁷ If the reduction in drug use is relatively modest and tends to occur among users who cause relatively few harms, then the reduction in drug-related harms is also modest. If the reduction is more substantial and occurs among users who generate considerable harm, the reduction in harm is itself more substantial.³⁸

The existing evidence does not pin down the magnitude or distribution of the change in drug use caused by prohibition, but it provides a guide to the range of plausible possibilities.

Table 2 reviews basic data on the frequency of drug use in the United States. As seen, the fraction of the population that admits to having used illicit drugs in the past year is 9.3% for marijuana, 1.9% for cocaine, 0.2% for heroin, and 12.6% for any illicit drug. The lifetime use rates are 36.9% for marijuana, 12.3% for cocaine, 1.4% for heroin, and 41.7% for any illicit drug. These numbers plausibly understate the true frequency of drug use, since some persons forget or lie about their past drug use.³⁹

The data in the table confirm that, whatever the magnitude of prohibition's effect on drug consumption, a substantial fraction of the population nevertheless uses drugs occasionally, and a smaller but still substantial portion uses drugs regularly. These data do not mean prohibition has no effect on drug consumption, but they indicate this effect is far from complete.

Several other pieces of evidence suggest a relatively modest effect of prohibition on drug consumption. The U.S. prohibition of alcohol during the 1920-1933 period appears to have reduced heavy alcohol consumption, as proxied by cirrhosis rates, by no more than 10-20% (Dills

³⁶ There are two possible effects of prohibition that might partially offset the consumption-reducing effects. On the demand side, prohibition might create a "forbidden fruit." This possibility appears plausible for some consumers (e.g., teenagers), but there is little hard evidence for this effect. On the supply side, prohibition means that traffickers evade cost-increasing policies such as taxation, and prohibition potentially increases competition and reduces advertising. Thus, the net effect of prohibition on costs is ambiguous *a priori*. Existing evidence, however, suggests that prohibition raises drug prices (Miron 2003a).

³⁷ The discussion here takes as given that reducing drug use is an appropriate goal for society. A different perspective is that some drug use, including some heavy use, results from informed, rational decision-making and thus improves the welfare of the drug user (Becker and Murphy 1988). To the extent this kind of drug use occurs, policy-induced reductions in drug use are a cost rather than a benefit.

³⁸ This reduction might be offset, however, to the degree prohibition induces substitution from drugs to other harm-inducing goods like alcohol. As noted above, there is evidence of substitution between alcohol and illegal drugs, although this evidence is not entirely consistent. See Miron (2003b) for further discussion.

³⁹ The sampling procedures used to produce these estimates omit several groups that plausibly have higher rates of drug consumption than the included groups. NHSDA, the source for these data, "collects information from residents of households, non-institutional group quarters (e.g., shelters, rooming houses, dormitories), and civilians living on military bases. Persons excluded from the survey include homeless persons who do not use shelters, active military personnel, and residents of institutional group quarters, such as jails and hospitals." See <http://www.samhsa.gov/oas/nhsda/2k1nhsda/voll/chapter1.htm#1.1>.

and Miron 2003). The marijuana decriminalizations that occurred in several U.S. states during the 1970s were not associated with noticeable increases in marijuana use.⁴⁰ And the differences in prohibition enforcement across developed countries do not correlate well with survey measures of drug use (Miron 2003b).⁴¹

There is also suggestive evidence on how prohibition affects the consumption of heavy versus casual consumers. Over the past 25 years in the United States, enforcement of drug prohibition has expanded dramatically (Basov, Jacobson, and Miron 2001). Survey measures of all drug consumption show substantial declines during the 1980s but then substantial rebounds during the 1990s, even while the increase in enforcement continued. In addition, survey measures of heavy drug consumption show substantially smaller fluctuations than measures of any consumption, and proxies for heavy consumption such as the number of drug overdoses display little fluctuation other than an upward trend. These patterns all suggest that heavy consumption has varied less in response to prohibition enforcement than casual consumption. In fact, some measures of heavy consumption indicate persistent increases over time despite an enormous expansion of enforcement.

Thus, the existing evidence suggests prohibition has modest rather than enormous effects on drug use, and these effects appear to be concentrated among casual rather than heavy users. The implication for analyses of prohibition is that, whatever the harms caused by drug abuse, there is only limited evidence that prohibition reduces those harms.

The Harms from Drug Consumption

Given that there is substantial drug consumption under prohibition, a critical issue in the evaluation of prohibition is whether the harms from drug consumption increase or decrease for the consumption that does occur. As noted by many authors (e.g., MacCoun and Reuter 2001), prohibition often raises the harm per unit of drug consumption, so prohibition potentially increases total harm even while reducing drug consumption.

Prohibition can increase the harm from drug abuse because it raises the monetary price of drugs (Miron 2003a). Higher prices mean users spend more of their income to finance a given quantity of drug consumption, implying less income for food, clothing, shelter, or health care. Higher prices also give drug users an incentive to inject drugs (since this method of ingestion delivers the biggest bang for the buck), and prohibition-induced restrictions on the sale of syringes encourages the sharing of contaminated needles. This has become a major reason for the spread of HIV and other diseases, inflicting harm both on users and others (National Research Council (1995, p.9)).

⁴⁰ See Johnston, O'Malley, and Bachman (1981), Thies and Register (1993), and Single (1989). Model (1993) finds some evidence of increased marijuana use but also decreased other drug use. MacCoun and Reuter (1997, 2001) discuss the evidence on marijuana decriminalizations in the United States, Australia, and the Netherlands. They conclude there is no evidence that decriminalization increases marijuana use. Single, Christie, and Ali (2000) reach the same conclusion regarding decriminalization in several Australian states. While finding no significant effect from decriminalization, MacCoun and Reuter do conclude that commercialization of cannabis in the Netherlands contributed to an increase in use.

⁴¹ Kuziemko and Levitt (2001) suggest that increases in enforcement since 1985 have reduced cocaine consumption by 10-15%. Since enforcement has increased substantially over this period (Basov, Jacobson, and Miron 2001), this conclusion is consistent with the view that prohibition has a moderate but not a dramatic effect in reducing drug consumption.

Prohibition also increases the harmfulness of drug use because quality control is poor in a black market. Drug purchasers cannot sue the manufacturer of defective goods, and drug sellers that produce high quality products cannot attract business by advertising. This means accidental poisonings and overdoses are more common for a given quantity of drug consumption, so drug consumption is riskier under prohibition. This not only harms drug users; it also harms others to the extent health care is publicly funded.

Prohibition further raises the harmfulness of drug consumption by subjecting drug consumers to the risk of arrest, incarceration, loss of professional licenses, and reduced eligibility for government benefits.

Prohibition can also increase the harmfulness of drug consumption by reducing the ability of private and public mechanisms to moderate the externalities sometimes generated by drug abuse. For example, drug-using pregnant women may avoid seeking pre-natal care because they fear arrest. Organizations like Mothers Against Drunk Driving cannot easily encourage responsible drug use.

None of this means that drug use is harmless. Many depictions of drug use exaggerate the potential for harm, but there is no question that harm can occur. The question for analyses of prohibition, however, is whether prohibition reduces these harms. Existing COI studies shed no light on this question.

Section 6: Conclusions

This report has undertaken two tasks. First, it has explained that COI studies of the costs of drug abuse shed no light on the wisdom of prohibition. Second, it has outlined the steps in a valid analysis of prohibition.

This report does not provide a specific conclusion about the merits of prohibition relative to an alternative policy such as legalization. The objective of this report is instead to encourage rational discussion of this issue.

A different statement of the key point of this report is that rational analysis of policy must consider both the desired effects and the actual effects. There is little debate that some drug use causes substantial harm, and this fact motivates many persons to believe that drug prohibition is good policy. The critical question, however, is not whether drugs sometimes cause harm; by that standard, policy should prohibit a huge range of goods, from alcohol to ice cream to cars to skiing. The right question is whether policy reduces the harm it seeks to address, and at what cost.

Reasonable persons can disagree about many of the specific issues raised above. But they cannot avoid discussing each of those issues in a rational debate about drug policy.

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Table 1: Estimated Costs of Drug Abuse in 1998 (millions of dollars)

| | | <u>Portion Not Due to Drug Abuse</u> |
|--|------------------|--------------------------------------|
| <u>Health Care Costs</u> | <u>\$12,862</u> | |
| Community-Based Specialty Treatment | \$4,993 | All |
| Federally-Provided Specialty Treatment | | |
| Department of Defense | \$5 | All |
| Indian Health Services | \$32 | All |
| Bureau of Prisons | \$21 | All |
| Department of Veteran Affairs | \$416 | All |
| Support | | |
| Federal Prevention | \$725 | All |
| State and Local Prevention | \$85 | All |
| Training | \$60 | All |
| Prevention Research | \$250 | All |
| Treatment Research | \$328 | All |
| Insurance Administration | \$286 | All |
| Medical Consequences | | |
| Hospital and Ambulatory Costs | \$969 | Some |
| Special Disease Costs | | |
| Drug-Exposed Infants | \$503 | Some |
| Tuberculosis | \$24 | Some |
| HIV/AIDS | \$3,377 | Some |
| Hepatitis B and C | \$434 | Some |
| Crime Victim Health Care Costs | \$127 | Some |
| Health Insurance Administration | \$287 | Some |
| <u>Productivity Losses</u> | <u>\$98,467</u> | |
| Premature Death | \$16,611 | Some |
| Drug Abuse Related Illness | \$23,143 | Some |
| Institutionalization/Hospitalization | \$1,786 | Some |
| Productivity Losses of Victims of Crime | \$2,165 | Some |
| Incarceration | \$30,133 | All |
| Crime Careers | \$24,627 | All |
| <u>Crime Costs</u> | <u>\$31,834</u> | |
| Criminal Justice System and other Public Costs | | |
| Police Protection | \$9,096 | All |
| Legal Adjudication | \$4,489 | All |
| State and Federal Corrections | \$11,027 | All |
| Local Corrections | \$1,660 | All |
| Federal Spending to Reduce Supply | \$4,827 | All |
| Private Costs | | |
| Private Legal Defense | \$548 | Some |
| Property Damage for Victims of Crime | \$186 | Some |
| <u>Other Costs</u> | <u>\$249</u> | Some |
| <u>Total Costs</u> | <u>\$143,412</u> | |

Source: ONDCP (2001, pp.5, 6, 8).

Table 2: Percentage Reporting Illicit Drug Use, Persons aged 12 and over, 2001

| | <u>Lifetime</u> | <u>Past Year</u> | <u>Past Month</u> |
|-----------------------|-----------------|------------------|-------------------|
| Marijuana and Hashish | 36.9 | 9.3 | 5.4 |
| Cocaine | 12.3 | 1.9 | 0.7 |
| Heroin | 1.4 | 0.2 | 0.1 |
| Any Illicit Drug | 41.7 | 12.6 | 7.1 |

Source: National Household Survey on Drug Abuse (NHSDA), Table H.2. Accessed at http://www.samhsa.gov/oas/NHSDA/2k1NHSDA/vol2/appendixh_1.htm#tableh.1, May 8, 2003.

Appendix: Calculating the Cost of State and Law Prohibition Enforcement

One method of calculating state and local drug prohibition enforcement is to determine the fraction of state and local criminal justice expenditure that occurs because of drug prohibition. This expenditure occurs in three main categories: Police, Judicial and Legal, and Corrections. The portion that occurs because of prohibition can be estimated as the percentage of arrests, prosecutions, or prisoners, respectively, that is due to drug abuse violations.

Table A1 takes a first step toward calculating state and local prohibition enforcement by deriving the fraction of state and local arrests attributable to drug law violations. The first line of the table gives the total number of arrests in the United States; the second line gives the total number of arrests for drug abuse violations.⁴² One possible measure of the fraction of arrests due to prohibition is the ratio of line 1 to line 2, but this ratio probably overstates the proportion of arrests due to drug prohibition. The reason is that some arrests for violation of drug laws, especially those for possession, occur because the arrestee is under suspicion for a different crime but possesses drugs that are discovered by police during a routine search. This means an arrest for drug possession is recorded, along with an arrest on the other charge. If drug possession were not a criminal offense, the suspects in such cases would still be arrested on the charge that led to the search, and police resources would be used to approximately the same extent as when drug possession is criminal.⁴³

In determining the fraction of arrests that represents a true cost of prohibition, therefore, it is appropriate to count only those that are “stand-alone,” meaning those in which a drug law violation rather than some other charge is the reason for the arrest. This issue arises mainly for possession rather than trafficking, so it is necessary to treat possession and trafficking arrests separately.

Lines 3 and 4 therefore give the percentage of drug arrests for Sale/Manufacture and for Possession. Lines 5 and 6 gives the products of these percentages and the total number of drug arrests (line 2); these are the numbers of arrests for Sale/Manufacturing and Possession, respectively. Lines 7 and 8 then compute percentages of all arrests due to Sale/Manufacturing and Possession, respectively, by dividing lines 5 and 6 by line 1.

The final adjustment in Table A1 addresses the fact that only some possession arrests represent a net utilization of police resources. There are few hard data on the fraction of “stand-alone” arrests, but the information in Miron (2002) and Reuter, Hirschfield and Davies (2001) suggests it is between 33% and 85%.⁴⁴ To err on the conservative side, this report assumes that one-third of possession arrests are due solely to drug possession rather than being incidental to

⁴² The data in Table A1 are for 2001, the most recent year for which non-preliminary data are available.

⁴³ To the extent that it takes additional resources to process a defendant on multiple charges rather than on a single charge, there is still a net increase in utilization of police resources in such cases due to prohibition. In addition, there is typically a lab test to determine the precise content of any drugs seized when there is an arrest on drugs charges, implying the utilization of additional resources due to prohibition. A different issue is that in some cases, police stops for non-drug charges that subsequently discover drugs and produce an arrest on drugs charges might not have lead to any arrest in the absence of the drug charge (e.g., because of insufficient evidence).

⁴⁴ The data in Miron (2002) and Reuter, Hirschfield, and Davies (2001) are for marijuana possession. I assume this percentage applies for all drugs.

some other crime. Thus, the resources utilized in making these arrests would be available for other purposes if drug possession were legal. Line 9 of Table A1 therefore indicates that 3.1% is the fraction of possession arrests attributable to prohibition.

Table A2 utilizes the information in Table A1 along with other data to calculate the state and local expenditure on enforcement of drug prohibition. There are three pieces to the calculation, corresponding to expenditure on police, prosecutors and judges, and prisons, respectively. The table derives a figure for 1999, the most recent year for which appropriate data are available. This figure is then adjusted for inflation to arrive at a figure for 2002.

The first section of the table derives the expenditure due to drug violation arrests. Line 1 gives state and local expenditure for Police. Line 2 gives the fraction of drug arrests for Sale/Manufacturing (line 7, Table A1). Line 3 shows the product of the police budget with this fraction (line 2 * line 1); this is state and local police expenditure for Sale/Manufacturing arrests. Line 4 gives the fraction of drug arrests for possession, excluding incidental possession arrests (line 9, Table A1). Line 5 shows the product of the police budget with this fraction (line 4 * line 1); this is state and local police expenditure for Possession arrests. Line 6 gives the total police expenditure on drug arrests (line 3 + line 5).

The second section of the table derives the expenditure due to prosecutions for drug law violations. Line 7 gives state and local expenditure for Judicial and Legal activities. Line 8 gives the fraction of felony convictions in state courts due to drug law violations; this is a reasonable indicator of the portion of the Judicial and Legal budget that results from prohibition.⁴⁵ Line 9 shows the product of this fraction with the Judicial and Legal budget (line 7 * line 8); this is the state and local Judicial and Legal budget attributable to prohibition enforcement.

The third section of the table derives the expenditure due to incarcerations for drug law violations. Line 10 gives state and local expenditure for Corrections. Line 11 gives the fraction of prisoners in state correctional institutions incarcerated for drug law violations; this is a reasonable indicator of the portion of the Corrections budget that results from prohibition.⁴⁶ Line 12 shows the product of this fraction with the Corrections budget (line 10 * line 11); this is the state and local Corrections budget attributable to prohibition enforcement.

The last line of the table (line 13) shows the sum of the three components of state and local prohibition enforcement (line 6 + line 9 + line 12). The total is \$20.9 billion for 1999. Assuming this grew between 1999 and 2002 at the rate of inflation (7.98%),⁴⁷ this implies state and local drug enforcement expenditure in 2002 of \$22.5 billion.

⁴⁵ This figure is for 1998.

⁴⁶ This figure is for 1997.

⁴⁷ Council of Economic Advisors (2003), Table B60, p.345.

Table A1: Arrests for Drug Law Violations, United States, 2001

| | | |
|----|---|------------|
| 1. | Arrests, Total | 13,699,254 |
| 2. | Arrests, Drug Abuse Violations | 1,586,902 |
| 3. | % of Drug Arrests for Sale/Manufacture | 19.4 |
| 4. | % of Drug Arrests for Possession | 80.6 |
| 5. | Arrests, Sale/Manufacturing (line 2 * line 3) | 307,859 |
| 6. | Arrests, Possession (line 2 * line 4) | 1,279,043 |
| 7. | % of Total Arrests for Sale/Manufacturing (line 5 / line 1) | 2.2 |
| 8. | % of Total Arrests for Possession (line 6 / line 1) | 9.3 |
| 9. | % of Drug Arrests for Possession, Adjusted, (line 8 *.33) | 3.1 |

Sources:

Lines 1 and 2: U.S. Department of Justice (2001), Table 29, p.233.
Lines 3 and 4: U.S. Department of Justice (2001), Table 41, p.232.

Table A2: Calculating State and Local Expenditure on Drug Prohibition

| | | |
|-----|--|----------|
| 1. | Police Budget | 53,400 |
| 2. | % of Drug Arrests for Sale/Manufacturing (line 7, Table A1) | 2.2 |
| 3. | Police Budget, Sale/Manufacturing Arrests (line 1 * line 2) | 1,174.8 |
| 4. | % of Drug Arrests for Possession (line 9, Table A1) | 3.1 |
| 5. | Police Budget, Possession Arrests (line 1 * line 4) | 1,655.4 |
| 6. | Police Budget, Drug Arrests (line 3 + line 5) | 2,830.2 |
| 7. | Judicial and Legal Budget | 25,300 |
| 8. | % of Felony Convictions Due to Drug Law Violations | 33.9 |
| 9. | Judicial and Legal Budget, Drug Prosecutions (line 7 * line 8) | 8,576.7 |
| 10. | Corrections Budget | 45,708 |
| 11. | % of Prisoners Incarcerated for Drug Law Violations | 20.7 |
| 12. | Corrections Budget, Drug Prisoners (line 10 * line 11) | 9,461.6 |
| 13. | Total, S/L Prohibition Enforcement (line 6 + line 9 + line 12) | 20,868.5 |

Sources:

Lines 1, 7, 10: Pastore and Maguire (2003), Table 1.2, pp.3-4 (millions of 1999 dollars).

Line 8: Pastore and Maguire (2003), Table 5.42, p.444.

Line 11: Pastore and Maguire (2003), Table 6.30, p.499.