

Drug Prohibition and its Alternatives

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1. Introduction

Illegal drugs, alcohol, and tobacco impose large social costs on society, here and in every major developed country. Interestingly, each of these is estimated -- albeit crudely -- to impose about \$200 billion per year in social costs on the US (although the costs come in very different forms depending on the nature of the legal regime and enforcement policy). These three substances also share some interesting characteristics: many Americans have a serious attachment to one or more of them, and a sizeable proportion of the consumers use one or more of these in a responsible manner, hence imposing little-to-no external costs to society. The bad news is that a non-trivial subset also uses them irresponsibly, and this irresponsible use tends to create very high social costs. This problem is exacerbated by the fact that restricting use of drugs, alcohol, and tobacco to only those who impose minimal social costs is extremely difficult.¹

Cocaine and opiates first became criminalized at the federal level in the United States in 1914, followed by marijuana in 1937. The criminalization of these drugs has led to the modern “war on drugs,” characterized by strict enforcement of drug violations and policing attempts directed at shutting down the drug trade. Scholars and policymakers, however, have questioned whether the “war on drugs” is really the optimal policy, with some suggesting that legalization and regulation may be a better alternative. A remarkable feature of this debate is that strong support exists for almost any position in the drug-policy debate.

The positions of Milton Friedman, Nobel laureate economist, and Robert Weiner, spokesman for the White House National Drug Policy Office from 1995 to 2001, embody the poles of the ongoing debate. Milton and Rose Friedman, famous promoters of free markets and choice, argued for the complete and unregulated legalization of illicit drugs:

¹ Is there "responsible" use of tobacco? Since tobacco may be the most addictive substance and its use causes 300,000 - 500,000 deaths per year, it may be that the scope for responsible use is limited. One could at least imagine that occasional smoking could be possible for some without lapsing into addiction and thereby imposing significant social costs through the elevated risk of premature death. Occasional cigar smoking might fall into this category.

“However much harm drugs do to those who use them...seeking to prohibit their use does even more harm both to users of drugs and to the rest of us...Legalizing drugs would simultaneous *reduce the amount of crime* and improve law enforcement. It hard to conceive of any other single measure that would accomplish so much to promote law and order”²

Robert Weiner, former head of the White House National Drug Policy Office, on the other hand takes a staunch stand in a favor of the “war on drugs.” In a June 14, 2009 address, Weiner³ said: “Drugs have not ‘won the war.’...America’s overall drug use has declined almost by half in the past three decades...In addition, cocaine use, including crack – the source of much of the former record-high violent crime numbers – is down 70 percent. Want to go back?”⁴ Weiner clearly stands by his position, arguing that a “comprehensive anti-drug strategy” has and will continue to produce important social gains. Further, Weiner denounced the prospect of legalization in fiery terms:

“Legalization would be a catastrophe. [T]here are an estimated 15 million alcoholics in this country and 5 million drug addicts; do we want the 5 to become 15? Parents, police and the American people know that taking away the incentive of the normative power of the law would increase drug use and related car crashes, school dropouts and work absences. That is why the law has remained in place...Hospital emergency rooms would be flooded, and crime would return to the crisis levels of the 1970s and ’80s, when drug use was at its highest. Domestic violence and date rape would be substantially higher. The majority of arrestees in 10 major American cities recently tested positive for illegal drugs, a remarkable indicator of a link between drugs and crime.”⁵

The difficult task is to first assess if either of the extreme positions championed by Friedman and Weiner is correct, or if there is some intermediate position, such as grudging legalization with heavy restrictions or retaining criminalization while pulling back from the "War," that would better promote wise social policy.

2. Breaking Down the Polar Positions

Both of the polar positions show a degree of theoretical elegance. Friedman’s position stems from his ideology that individual choices must be honored, and that societal gains (think in terms of the likely consumer surplus to be gained by rational actors in a framework of neoclassical economics) are to be had from this emphasis on individual choice. Further, Friedman draws on evidence from the U.S. experience with prohibition and re-legalization of alcohol to suggest that once legal, the drug trade will become much less violent, saving society from the massive social costs of such violence. And finally, Friedman notes that by legalizing drugs, we would eliminate the massive policing and incarceration costs of prohibition.

On the other hand, Weiner accurately argues that drug consumption itself will produce major social costs if not inhibited by law. From this he argues that drugs should be illegal because the

² *Crime*, reprinted in *In the Name of Justice*, Timothy Lynch, ed., 2009, appendix B at p. 186.,

³ Weiner, Robert [former head, White House National Drug Policy Office]. Address in Washington, June 14, 2009.

⁴ A possible caveat here is that the numbers may reflect drops only in casual crack use; it is unclear that the number of heavy crack users dropped significantly.

⁵ *Id.*

socially optimal level of drug consumption is low or close to zero. Moreover, *given* that these drugs *are* criminalized, Weiner would presumably argue, we develop and propagate *respect for the law* by rigorously enforcing this criminalization.

This fundamental disagreement raises the question of what best promotes *respect for law*? Given prohibition of drugs as the currently established rule of law, theory might suggest that a war on drugs, as suggested by Weiner, would best promote respect for the law. However, if prohibition/criminalization is highly contested in itself, a war on drugs may well breed disrespect for the law, as Friedman argued.

3. Applying Further Economic Theory -- Externalities and Internalities

Free market and libertarian principles of consumer choice obviously favor the Friedman approach, as these were the theoretical building blocks for his position. The libertarian's case for the Friedman approach, moreover, is dramatically strengthened if one believes the external social costs of drug consumption at the level that would occur under Friedman's *laissez faire* approach are no greater than the costs of enforcing the criminal prohibition of drug use.

Of course, if the evidence supports the existence of large and unavoidable externalities and internalities, the case for governmental action is strong (although a libertarian might question the possible relevance or existence of "internalities"). Drug use clearly produce *negative externalities*, or social costs that accrue to non-market participants, in the form of various harm to the dependents of drug addicts, cost of accidents, missed work, certain costs of medical treatment, etc. The concept of *internalities* -- costs that accrue to drug users themselves but that the users fail to account for in making their consumption decisions -- are less frequently discussed, but may be quite large. For example, UCLA Professor of Public Affairs Mark Kleiman argues that a teenager who starts to smoke at age 18 rarely considers that years down the road this choice may hurt the teen's future 12 year old son when the smoking causes the then-parent's premature death.⁶ Yale Professor of Psychiatry Richard Schottenfeld fleshes out this line of thinking and applies it to drug addiction. He stresses that the survival of the human species has depended on love relationships that make a child the special focus of a parent's attention. Drug addiction can supplant that focus as the drug becomes the key love relationship and central focus of the addict's life, much to the detriment of the addict's family.⁷ Internalities can result in severe harm for the drug user (potential harmful brain alterations) or to the user's family or even work associates.

Considering these elements, some form of market correction, whether it be high taxes on illegal drugs or prohibition altogether – policies that make the current cost-to-user of consumption more accurately reflect the long-term and social costs – seems more socially optimal than the free-market libertarian policy of Friedman.

⁶ Kleiman, Mark, at 2011 "Rethinking the 'War on Drugs' through the US-Mexico Prism", Yale University, May 12, 2011.

⁷ Schottenfeld, Richard via Leckman and Mayes. See Landi et al (2011). Maternal Neural Responses to infant Cries and Faces: Relationships with Substance Abuse. *Frontiers in Psychiatry* 2(32).

4. Alternative Approaches

In addition to the polar theories of legalization and a “war on drugs,” less extreme alternatives have been suggested. Two intermediate positions might include (1) prohibition without an “all out” war on drugs and (2) legalization coupled with policies of containment via regulation. Prohibition without war would entail less draconian enforcement and more educational programs about the harms of drugs. Containment policies via regulation would likely include taxes, sales restrictions, advertising restrictions, and age-based prohibition, much like the regulations we see in the modern alcohol and tobacco markets (eg., sales prohibited to those under a given age). Since current alcohol taxes are likely to understate the optimal Pigovian taxes -- although concerns about inviting the involvement of organized crime always constrain tax rates -- the likely optimal taxation and regulatory regime for cocaine and heroin would likely be far stricter than current alcohol policy. An interesting demand-side alternative policy suggestion is one of legalization followed by targeting of “problem users.” Kleiman has discussed the option of identifying “problem users” and presenting them with the choice between immediate sobriety and jail.

5. Determining the Costs of Drug Consumption, Addiction, and Incarceration

In a 2007 article published in *The Lancet*, several collaborating medical professors assembled a panel of 8-16 scientific, legal, and law enforcement experts to rate 20 substances along 3 dimensions – physical harm, dependence, and social harms.⁸ Correlation in scoring between psychiatrists and independent experts was generally high, implying a consensus between the two, and the final averaged scores actually ranked alcohol and tobacco, number three and ten respectively, in the list of most harmful drugs -- both ranking higher than marijuana, which ranked twelfth (see figure below):

⁸ Nutt et al. (2007). Development of a Rational Scale to Assess the Harm of Drugs of Potential Misuse. *The Lancet* 360 (9566): 1047-1053.

Figure 1: Mean Harm Scores for 20 Substances

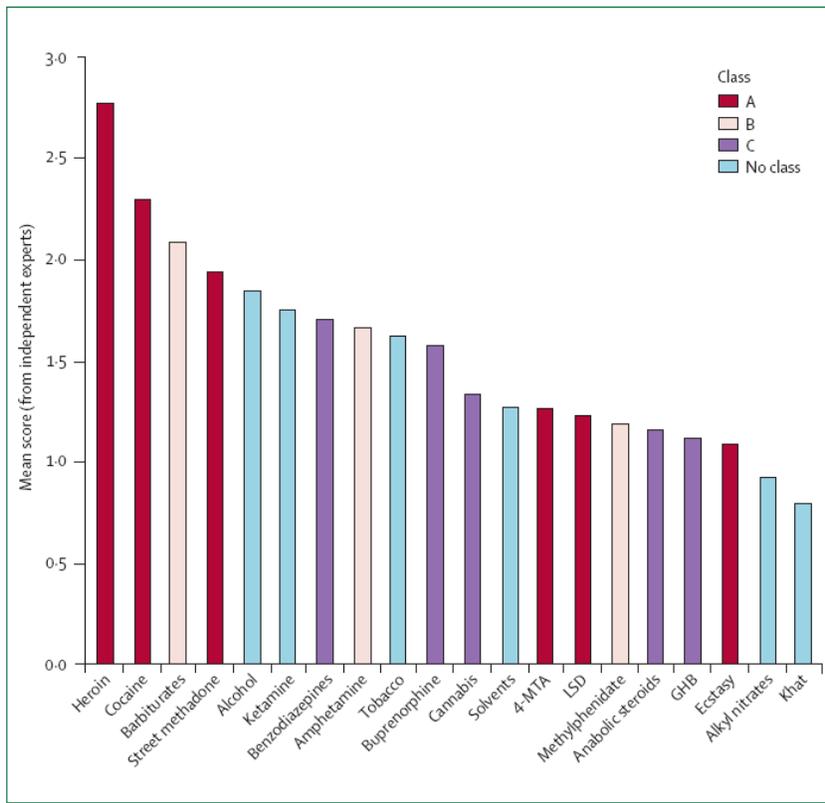


Figure 1: Mean harm scores for 20 substances
Classification under the Misuse of Drugs Act, where appropriate, is shown by the colour of each bar.

Source: Nutt et al. (2007) at 1050.

The Office of National Drug Control Policy (hereinafter ONDCP) undertook a landmark study in 2002, seeking to estimate the economic cost of illegal drug use in the U.S.⁹ In particular, the study evaluated lost productivity, health effects, and crime-related costs including policing expenditures and incarceration. The study estimates the cost of illegal drug use was \$217 billion, in 2008 dollars.¹⁰ Two similar studies estimate the cost of alcohol use at \$244 billion the cost of smoking at \$195 billion,¹¹ again in 2008 dollars.¹²

⁹ See https://www.ncjrs.gov/ondcppubs/publications/pdf/economic_costs.pdf

¹⁰ Harwood, Hendrick et al. (2004). The Economic Costs of Drug Abuse in the United States, 1992-2002. *Office of National Drug Control Policy*, at VI.

¹¹ Harwood, Hendrick et al. (2000). Updating Estimates of the Economic Costs of Alcohol Abuse in the United States: Estimates Updated Methods, and Data. *Institute on Drug Abuse and the National Institute on Alcohol Abuse and Alcoholism* at 1; Rice, Dorothy. (1999)., *Economic Costs of Substance Abuse*, 111 PROC. OF THE ASS'N OF AM. PHYSICIANS, at 119.

¹² The original cost figures as estimated in the respective studies were as follows: Illegal Drugs -- \$180.9 billion in 2002 dollars; Alcohol -- \$184.6 billion in 1998 dollars; Smoking -- \$138 billion in 1995 dollars. To ease comparison, I have converted each figure to 2008 dollars using the CPI-based inflation adjustment calculator provided by the Bureau of Labor Statistics, available at <http://data.bls.gov/cgi-bin/cpicalc.pl>. Figures rounded to nearest billion.

About 56.6% of the estimated cost of illegal drug use was crime related, and over two thirds of these crime-related costs were from lost productivity for those incarcerated on drug charges and from costs related to the criminal justice system. On the other hand, health costs accounted for a very small 8.7% of the total estimated cost of drug use. The important point to note here is that there clearly is a tradeoff between enforcement and health-related costs – more enforcement will reduce consumption and thereby reduce consumption-related costs, while simultaneously driving up enforcement costs.

Of course, there are problems with all of these cost estimates. For example, estimates of tobacco-related deaths sum all deaths with tobacco-related causes, whereas estimates of alcohol and drug-related deaths sum only the "death certificate" numbers of these deaths, which often don't take into account deaths or injuries caused by drug use in the distant past, such as strokes caused by prior cocaine use. Hence, alcohol and illegal drug-related death numbers may be understated relative to tobacco deaths. Moreover, data on drug consumption is fundamentally imperfect. Still, the findings of these studies are strong enough to raise concerns about overall U.S. drug policy, and force us to ask whether a "war on drugs" is truly optimal.

If we accept the premise of the *Lancet* article that many drugs, including alcohol, are more harmful and impose higher societal costs than marijuana, a key question moving forward is whether, for example, alcohol and marijuana are complements or substitutes. There is some debate in the academic literature over this question, with researchers finding empirical support for both positions. Pacula (1998a and 1998b) and Williams et al (2001) find evidence that alcohol and marijuana function as complements using both NSLY and HSPH College Alcohol Survey data.¹³ On the other hand, several studies have concluded that drugs and alcohol function as substitutes, including Conlin et al (2005), Thies and Register (1993), Chaloupka and Laixuthai (1997), Dinardo and Lemiux (2001), and Cameron and Williams (2001).¹⁴ Indeed, since the evidence supporting the substitution hypothesis was on the whole methodologically stronger -- particularly the panel data analysis of Conlin et al (2005) -- it is certainly worth considering whether society might benefit from shifting consumption away from alcohol and towards marijuana. But we would need both a sounder estimate of the relative harms and costs of marijuana than the *Lancet* harm rankings and more precise estimates of how consumption of alcohol would be altered by weakening the laws against marijuana consumption before actually adopting a policy to shift consumption from one substance to the other.

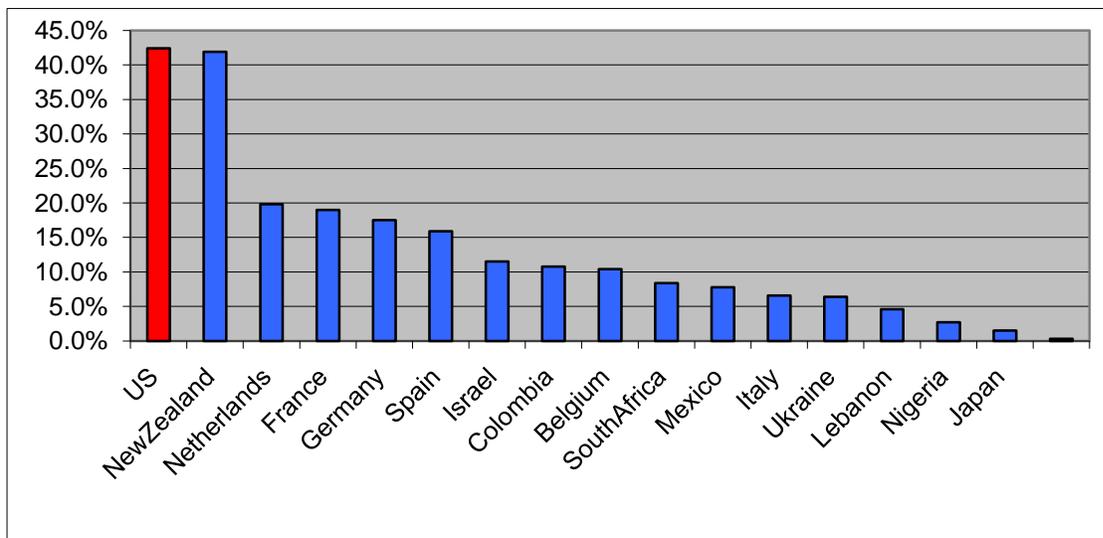
¹³ Pacula, R (1998). Does Increasing the Beer Tax Reduce Marijuana Consumption? *Journal of Health Economics* 17(5): 557-585; Pacula, R (1998). Adolescent Alcohol and Marijuana Consumption: Is There Really a Gateway Effect? *NBER Working Paper No. 6348*; Williams, J; Pacula, R; Chaloupka, F and Wechsler, H (2001). Alcohol and Marijuana Use Among College Students: Economic Complements or Substitutes? *NBER Working Paper No. 8401*.

¹⁴ Conlin, Michael; Dickert-Conlin, Stacy and Pepper, John (2005). The Effect of Alcohol Prohibition on Illicit-Drug-Related Crime. *Journal of Law and Economics* 48: 215-234; Thies, Clifford & Register, Charles (1993). Decriminalization of Marijuana and the Demand for Alcohol, Marijuana and Cocaine. *The Social Science Journal* 30(4): 385-399; Chaloupka, Frank & Laixuthai, Adit (1997). Do Youths Substitute Alcohol and Marijuana? Some Econometric Evidence. *Eastern Economic Journal* 23(3): 253-276; Cameron, Lisa & Williams, Jenny (2001). Cannabis, Alcohol, and Cigarettes: Substitutes or Complements? *Economic Record* 77(236): 19-34.

6. Cross-Country Comparisons of Substance Abuse

A study¹⁵ comparing countries' drug use helps illuminate the U.S. "drug problem." Using *WHO World Mental Health Surveys*, Degenhardt et al (2008) found that the United States population ranks number one in the world in percentage of respondents ever using cannabis, ever using tobacco, and ever using cocaine. Most notably, the U.S. respondents topped other countries in cocaine use by a huge margin – 16% of U.S. respondents indicated they had used cocaine; the next highest was New Zealand, at just over 4% (these results are shown graphically below). The United States is far less of a pathological outlier, however, if one looks at measures of current use, rather than the figures for lifetime ever-use, ranking 4th in annual prevalence of cannabis use and 3rd in annual prevalence of cocaine use.¹⁶ Weiner would suggest that these numbers showing lower *current use* than *ever use* are evidence that the war on drugs is working.

Figure 2: Percentage of Respondents Ever Using Cannabis, 2001-2004, by Country

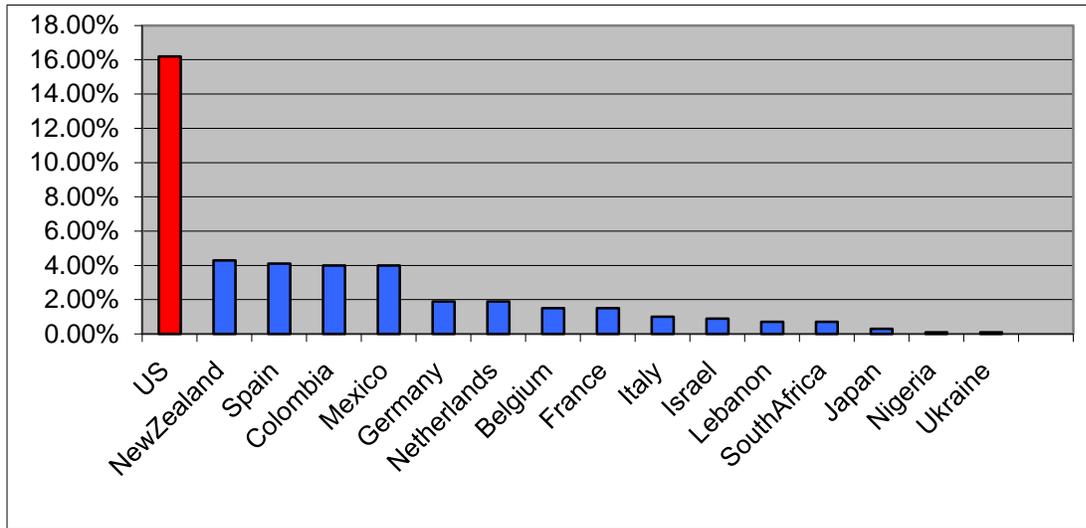


Source: Donohue et al (2011), Rethinking America's Illegal Drug Policy, *Controlling Crime*, at 221.

¹⁵ Louisa Degenhardt et al., *Toward a Global View of Alcohol, Tobacco, Cannabis, and Cocaine Use: Findings from the WHO World Mental Health Surveys*, PLoS Med., July 2008, at 0001, 0005 (supplying data on cumulative use of alcohol, tobacco, cannabis, and cocaine).

¹⁶ World Drug Report 2009, see <http://www.unodc.org/unodc/en/data-and-analysis/WDR-2009.html>.

Figure 3: Percentage of Respondents Ever Using Cocaine, 2001-2004, by Country



Source: Donohue et al (2011), *Rethinking America's Illegal Drug Policy, Controlling Crime*, at 222.

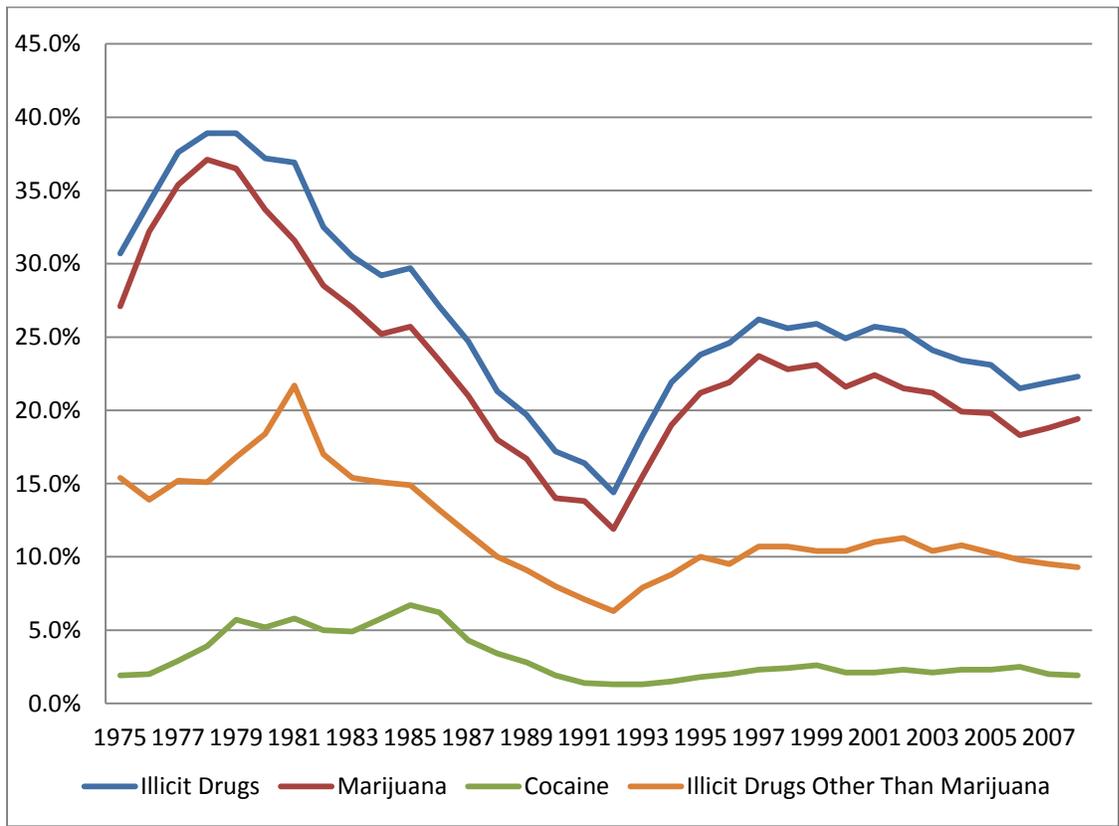
Indeed, illegal drug use in the U.S. is down substantially from the late 1970's, the height of U.S. illicit drug usage.¹⁷ The trend in reported recent marijuana use for high school seniors does show some interesting trends, peaking in 1978-79, dropping steadily until about 1992, rising from 92-98, and then flattening out with a slight downward trend. An important question here is whether these numbers reflect actual use tendencies or reporting tendencies. It seems highly plausible that Reagan's "say no to drugs" campaign in the early 1980's increased the tendency of twelfth graders to simply say "no" when asked if they had recently used drugs, regardless of whether they actually had or not. Still, the size and persistence of the drop gives reason to believe that it does reflect a trend of decreased usage over time. The percentage of twelfth graders reporting to have recently used alcohol or cigarettes has also fallen since the mid 1970's, from over 70% to 40% for alcohol and from almost 40% to about 20% for cigarettes, as shown in the figures below.¹⁸

¹⁷ National Institute on Drug Abuse, *Monitoring the Future, National Survey Results on Drug Use: 1975-2008, Secondary School Students*, pp.198-199, available at:

http://www.monitoringthefuture.org/pubs/monographs/vol1_2008.pdf.

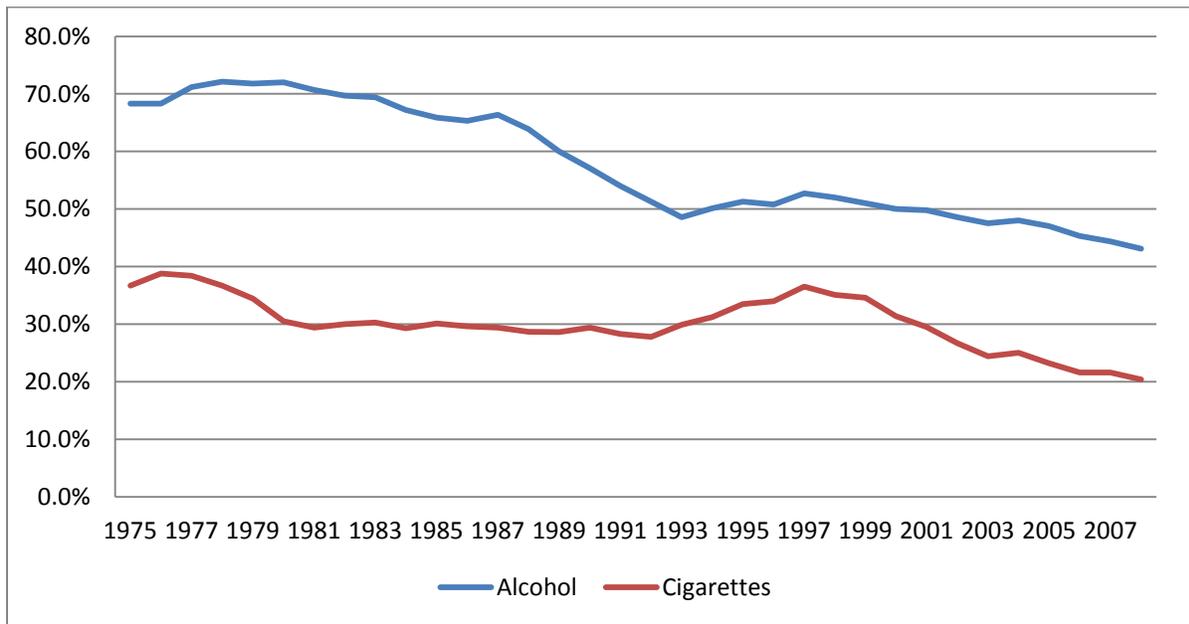
¹⁸ *Id.*

Figure 4: Percentage of 12th Graders Reporting Use of Various Illicit Drugs in Past 30 Days



Source: Donohue et al (2011), Rethinking America's Illegal Drug Policy, *Controlling Crime*, at 229.

Figure 5: Percentage of 12th Graders Reporting Use of Alcohol and Cigarettes in Past 30 Days



Source: Donohue et al (2011), *Rethinking America’s Illegal Drug Policy, Controlling Crime*, at 272.

So, even if Weiner were correct that the all-out war on drugs reduced drug use, the evidence from improvement in controlling consumption of the legal drugs suggests that steps other than prohibition can be effective -- apparently, raising the drinking age and increasing tobacco taxes have helped generate equal or greater drops in the usage levels of these respective substances.

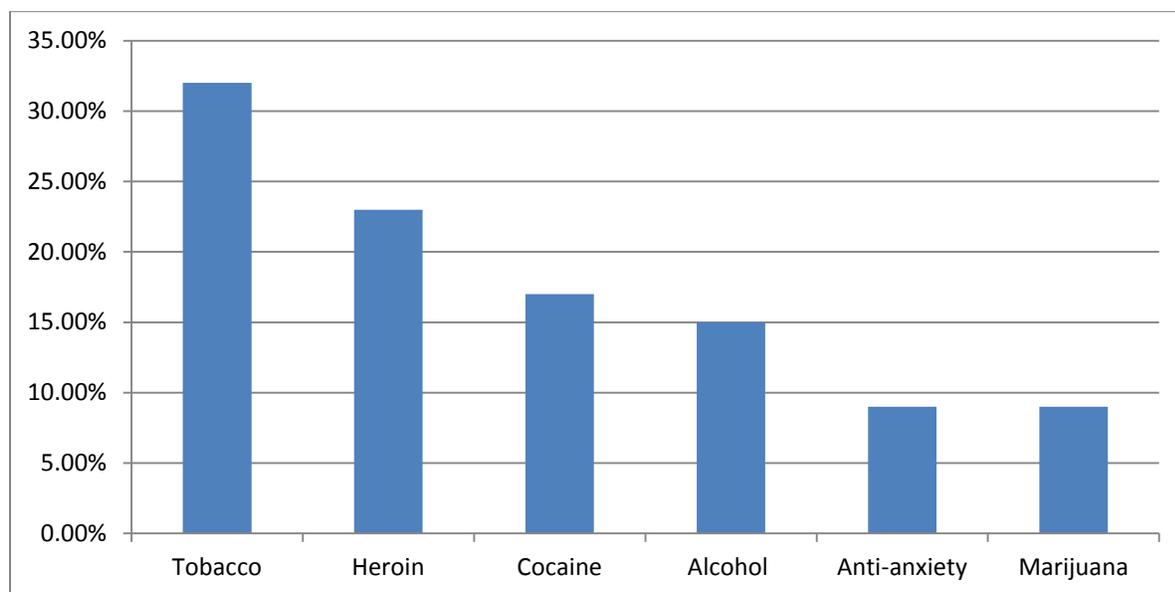
7. Other Features of Drug Use and Abuse: The “Top-Heavy” Distribution & Addiction

Across a variety of drugs and substances, it is generally accepted that a small percentage of users account for a very large percentage of the total consumption and/or abuse – this is what we call a top-heavy distribution.¹⁹ Besides this distribution, the nature of addiction presents an interesting caveat in analyzing drug use and the drug market. A study conducted by the Institute of Medicine of the National Academies has published findings on what percentage of those who try a given substance become dependent. Tobacco ranks first at over 30%, followed by heroine – over 20%, cocaine – over 15%, alcohol – 15%; anti-anxiety drugs and marijuana bring up the rear, each at under 10%.²⁰

¹⁹ See NATIONAL RESEARCH COUNCIL, *INFORMING AMERICA’S POLICY ON ILLEGAL DRUGS: WHAT WE DON’T KNOW KEEPS HURTING US* 60 (2001); C. PETER RYDELL & SUSAN S. EVERINGHAM, *CONTROLLING COCAINE: SUPPLY VERSUS DEMAND PROGRAMS* (1994)

²⁰ Sarah Kershaw and Rebecca Cathcart, *Marijuana is Gateway Drug for Two Debates*, N.Y. TIMES, July 19, 2009 at ST1 (citing Institute of Medicine of the National Academies).

Figure 6: Of Those Who Tried, Percentage that Become Dependent by Substance.



Source: Donohue et al (2011), *Rethinking America's Illegal Drug Policy, Controlling Crime*, at 260.

The role of addiction or dependence in this debate is crucial – yet understanding how to conceptualize these ideas with policymaking in mind presents a challenge. A key question that arises here is how much addiction changes behavior and to what extent it alters one's response to incentives. For example, how responsive are addicts to price changes? Are addicts rational welfare maximizers (as decision-makers are generally assumed to be in economic theory), or are they irrational or myopic?

Becker and Murphy (1988)²¹ develop a rational addiction model, which lays a framework for reconciling rational decision-making with addiction – they argue that addictions can arise from foresighted welfare maximization, assuming that addicts are better off by starting to consume drugs than they otherwise would have been. This is a very libertarian idea. Based on these assumptions, the model states that demand will be responsive to price, but more so to long-term changes than short-term ones. But is this model really correct? Other models of addiction generally treat addicts as irrational, or at the very least having time-inconsistent preferences. Understanding the nature of addiction and how usage would respond to price changes is very relevant to the legalization debate, as arguments for legalization often hinge on the argument that price mechanisms will be effective measures for reducing use.

²¹ Gary S. Becker & Kevin M. Murphy, *A Theory of Rational Addiction*, 96 *J. POL. ECON.* 695 (1988).

8. America's Punitive Approach to Illegal Drugs

To give some context for further discussion of the war on drugs, consider the following: In the United States in 2007, there were 1.8 million arrests for drug-abuse violations, compared with 1.4 million DUI arrests, 1.3 assault-related arrests, and 1.1 larceny theft arrests. Possession arrests account for about 82% of all drug abuse arrests, with marijuana and heroin/cocaine possession making up 42.1% and 21.5%, respectively, of all drug-related arrests.²² Surprisingly, the rate of U.S. marijuana arrests per 1,000 users, 31, is similar to that of many other countries – 34 in Germany, 26 in France, 44 in Austria, 20 in the UK, and 24 in Australia.²³

Mark Kleiman provides a nice illustration of the difficulties in trying to curtail consumption through a purely punitive approach. For example, would it be effective to simply deter the drug trade by executing drug dealers? Occupational hazards data show that in a given industry, for each work-related death the industry's wage bill must rise by \$1-5 million.²⁴ So, let's take the high-end estimate and assume we execute 100 drug dealers – this would raise drug industry costs by \$500 million based on the occupational hazard figures. In the \$50 billion illegal drug trade industry, this would be a 1% cost increase, presumably leading to a 1% increase in drug prices. Even 1,000 executions would raise drug prices just 10%. Assuming inelastic demand, a generally accepted assumption, this would result in only a minor drop in consumption. An alternative would be to only execute drug dealers who kill. Of course, this may bring about the perverse effect of a higher drug-dealer population if drug dealers who kill tend to kill other drug dealers.²⁵

This discussion relates to the “Big Question” of the U.S. punitive approach to the war on drugs: How did prices for U.S. illegal drugs fall so sharply in the face of such intense enforcement?²⁶ A portion of the price drop has undoubtedly come from decreases in demand for drugs. Some of the price drop probably reflects better productivity in product distribution. However, the rest of the price drop may reflect efficiency gains in circumventing enforcement – an alarming thought given the high costs of the war on drugs.

On the other side of the debate, another key question arises: How can or could we predict the impact of legalization? Evidence here is mostly impressionistic – there has been little policy variation for the currently illegal drugs in the U.S. over the past 50 years, and hence there is no panel data to answer the question. Proponents of legalization often draw on anecdotal evidence from the prohibition era to argue that the increase in crime during prohibition occurred directly because of the criminalization of alcohol. Owens (2011), however, offers evidence to the contrary – exploiting state-level variation in prohibition policy, she finds that violent crime trends were better explained by urbanization and immigration, rather than criminalization/decriminalization of alcohol.²⁷

²² Bureau of Justice Statistics, Drugs and Crime Facts: <http://www.ojp.usdoj.gov/bjs/dcf/enforce.htm>.

²³ Boyum and Reuter. (2005). *An Analytic Assessment of U.S. Drug Policy*. AEI Press.

²⁴ Viscusi, Kip. (1991). Toward a Proper Role for Hazard Warnings in Products Liability Cases. *Journal of Products Liability* 13: 139-163.

²⁵ Mark Kleiman, Executing drug lords is absurd. dead wrong. *The New Republic*, 199(13), 14-16 (Sept. 26, 1988).

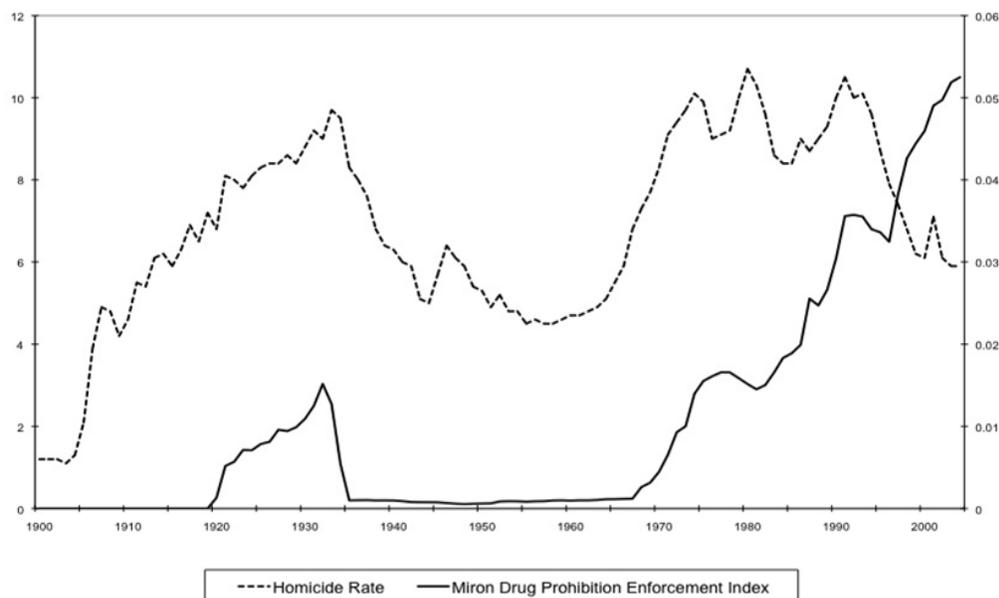
²⁶ See Caulkins, J., Reuter, P. and Taylor, L. (2005). Can Supply Restrictions Lower Price: Illegal Drugs, Violence and Positional Advantage. *Contributions to Economic Analysis and Policy* 5(1): 1-18.

²⁷ Owens, Emily. (2011). Are Underground Markets Really More Violent? Evidence from Early 20th Century America. *American Law and Economics Review* 13(1): 1-44.

Renowned libertarian Jeffrey Miron, on the other hand, draws strong conclusions about the connection between the criminalization of drugs and violent crime using evidence from cross-country comparisons.²⁸ His logic here is straightforward: homicide rates in Western Europe are just 10-20% of those in the U.S. Miron argues that Colombia, where domestic and international efforts to prohibit drugs are considerable, experiences homicide rates about 8-10 times those of the U.S. Miron concludes that stronger prohibition efforts lead to more violence, and that more demand-side policies, as used in Western Europe, will reduce violence. But is it fair to attribute differences in crime rates in Western Europe and the U.S. and South America primarily to policies towards illegal drugs?

Moreover, evidence from the U.S. in the past 20 years somewhat refutes Miron’s suggestion. Since the mid 1990’s, the “Miron Drug Prohibition Enforcement Index”²⁹, which measures the aggressiveness of drug enforcement, has risen consistently, yet the homicide rate has fallen over that time. Most qualitative and empirical evidence suggests that this is a result of illegal drug markets becoming more orderly in the 1990’s, and this may suggest that the crime drop we would get from legalization would be smaller than the one we got, for instance, following prohibition.

Figure 7: Homicide Rate vs. Drug Prohibition Enforcement Index in 1992 Dollars



Source: Donohue et al (2011), Rethinking America’s Illegal Drug Policy, *Controlling Crime*, at 263.

²⁸ Miron, Jeffrey. “Violence and the U.S. Prohibitions of Drugs and Alcohol,” *American Law and Economics Review*, Fall 1999, 1-2, 78-114.

²⁹ See Miron (2005). *The Budgetary Implications of Marijuana Prohibition*. Washington, DC, Marijuana Policy Project.

9. Some Empirical Investigations of the Demand vs. Supply-Side Question

Caulkins et al. (1997) presents an important evaluation of the cost-effectiveness of opposite types of drug policy.³⁰ Overall, the authors find that a demand-side policy -- drug treatment -- was more effective than the aggressive prohibition policy of minimum sentences. Moreover, the authors find the differences in cost-effectiveness to be staggering: each additional \$1 million spent on treatment programs reduced net cocaine consumption by 103.6 kg, while an addition \$1 million on longer sentences reduced consumption by just 12.6 kg.

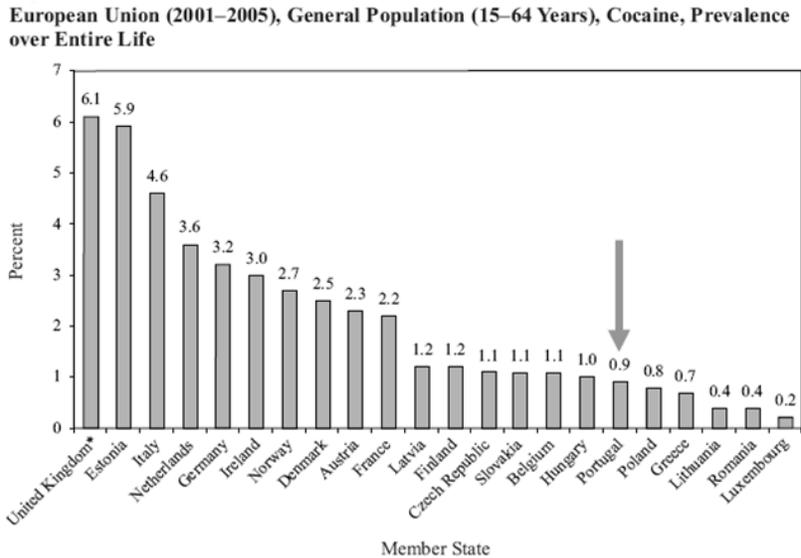
On the other hand, the 1995 drop in supply of methamphetamines generated by the DEA's shutting down of major suppliers allowed for empirical testing of direct supply-side prohibition measures. Dobkin and Nicosia (2009) estimate that the DEA caused an immediate 50% drop in supply, leading to a 50% drop in meth-related hospitalizations, a short-run tripling of prices, and a drop in purity from 90% to 20%.³¹ It is important to note, however, that purity recovered to 85% of its original level within 18 months, suggesting that enduring supply-side interventions are difficult to engineer. The authors also find that robberies increased about 9% in the year following the supply drop, but that no other crime category was affected, and that there was little substitution to other illegal drugs or alcohol. This suggests that the primary contribution of meth consumption to crime came not from consumption (which fell by 50%), but likely through the need to steal to maintain a habit as prices rose.

Lastly, there exists varying evidence on the impact of the decriminalization of illegal drugs, a popular policy in European and South American countries in the past decade. In particular, I would like to call attention to the case of Portugal, which decriminalized drugs in 2001, yet still continues to have one of the lowest rates of cannabis and cocaine use over an entire life, 8% and 0.9%, respectively. Moreover, the percentage of secondary school students reporting use of common drugs had declined since 2001, the number of new HIV/AIDS cases among drug users has fallen, and the country has not become a destination for drug tourism.

³⁰ JONATHAN P. CAULKINS ET AL., MANDATORY MINIMUM DRUG SENTENCES: THROWING AWAY THE KEY OR THE TAXPAYERS' MONEY? 22 (1997).

³¹ Dobkin and Nicosia (2009). "The War on Drugs: Methamphetamine, Public Health and Crime" *American Economic Review*, Vol. 99, Issue 1, pp. 324-49

Figure 8: EU Cocaine Prevalence by Country



Source: Instituto da Droga e da Toxicoddependência de Portugal (Institute on Drugs and Drug Addiction of Portugal), Draft 2007 Annual Report, slide 10.
 *Excludes Scotland and Northern Ireland.

Source: Institute on Drugs and Drug Addiction of Portugal 2007 Annual Report at Slide 10.

Michael Specter recently profiled the drug situation in Portugal in an issue of *The New Yorker*, summarizing:

In most respects, the law seems to have worked: serious drug use is down significantly, particularly among young people; the burden on the criminal justice system has eased: the number of people seeking treatment has grown; and the rates of drug-related deaths and cases of infectious diseases have fallen.³²

Specter quotes Miguel Vasconcelos, chief psychiatrist at one of Portugal’s major treatment centers, who says of the new decriminalization policy: “this is an alternative that does get people off the streets, reduces the rates of HIV infection, and lowers crime. It is humanistic but also pragmatic.”³³

Critics, on the other hand, have argued that the data does not necessarily support the conclusion that decriminalization was the reason for increases in drug users seeking treatment; increases in drug treatment center accessibility coincided with the decriminalization policy. These critics also offer moral arguments in opposition to Portugal's approach to drug use, claiming that decriminalization and easier access to treatment and methadone supplements has decreased

³² Specter, Michael (2011). “Getting a Fix,” *The New Yorker*, 10/17/11 at 36.

³³ Specter (2011) at 38.

incentive to get off drugs altogether and increased the portion of population living with managed addictions.³⁴

The Netherlands, where small transactions (5g or less) of cannabis are decriminalized, shows somewhat similar evidence to that of Portugal. Lifetime use of marijuana has continued to be lower than in the U.S. and several other EU member countries. Decriminalization also has had the desired effect of keeping users out of black markets; Abraham (1999) finds that among users over age 18, 48% of cannabis purchases occurred in coffee shops and 39% occurred between friends or family.³⁵

Some U.S. states made steps in this direction in the 1970's, choosing not to decriminalize cannabis, but to depenalize it, downgrading marijuana possession to a misdemeanor. Evidence of the effect of this depenalization has been inconsistent, but most studies find little to no effect. The effect of this type of depenalization is debated: some argue it may help reduce violent crime through a simple economic mechanism: Lesser penalties for drug sales would reduce the risk of engaging in the drug trade, thereby causing new sellers to enter the market, driving down profits, and lowering the stakes of drug-related disputes. Others argue that lower penalties will increase demand and stimulate more illegal activity as gangs vie for the new customers.

On one hand, because Portugal is a smaller, more family-oriented county and the United States is a stressed country as a whole, perhaps Portugal's experience with drug decriminalization cannot offer us much guidance on drug policy because the countries are simply too different. One might think that these cultural differences between the U.S. and Portugal, coupled with the U.S.'s considerably higher rates of drug use captured in the Figures above, indicate that the United States is simply more prone than Portugal to addiction and drug abuse. But a comparison of alcohol consumption in the two countries raises doubts about this explanation.

Since data on alcohol consumption tends to be more reliable (because people are more willing to honestly report legal rather than illegal activity), it is worth investigating the degree of alcohol abuse in the two countries as a possible proxy for how prone to substance use and abuse the two countries are.

In 2003 (the most recent data for which both U.S. and Portugal data are available), Portugal experienced about 30 liver cirrhosis deaths per 100,000 population, 50% more than in the United States. Similarly, per-capita alcohol consumption among drinkers was almost twice as high in Portugal as in the United States at 27.45 liters of pure alcohol per drinker compared with just 14 in the U.S.³⁶ Cortez-Pinton et al (2010) affirm that high liver cirrhosis mortality is indeed the result of over-drinking, concluding that alcohol is a “heavy economic burden for the health system” in Portugal.³⁷ The data presented here suggest that Portugal may engage in more heavy drinking than the United States, and that perhaps the U.S. is not a country inherently more prone to substance abuse than other countries. Of course, it is not known whether a society's

³⁴ Specter (2011).

³⁵ Manja D. Abraham, Places of Drug Purchase in the Netherlands, 3-4 (1999).

³⁶ WHO Global Status Report on Alcohol and Health (2011). See http://www.who.int/substance_abuse/publications/global_alcohol_report/en/

³⁷ Cortez-Pinto et al (2010). The Burden of Disease and the Cost of Illnesses Attributable to Alcohol Drinking – Results of a National Study. *Alcohol: Clinical and Experimental Research* 34(8): 1442-1449.

predisposition to substance abuse is universal, or whether some factors make Portugal more prone to alcohol abuse and less prone to illegal drug abuse, and vice versa for the United States.

10. Moving Forward

It should be clear that the issues presented by America's drug problem are complex. In particular, though evidence from other countries tends to focus on cannabis use, cocaine is the single largest contributor to the social costs of drugs in the United States. Caulkins and Kleiman (2007) estimate that two-thirds of the social costs of illegal drugs in the U.S. are accounted for by cocaine.³⁸ However, the most policy-relevant debate today is over legalization/decriminalization of marijuana. These social cost estimates suggest that legalization of marijuana may have less of an upside potential than a broader legalization/decriminalization, but it likely carries far smaller downside risks than, say, a Portugal-style legalization of cocaine.

Still, a relevant question is why is there little popular support for legalization of marijuana? Considering the means of drug distribution leads us to one potential answer. Currently, the costs of illegal drugs are borne by the government (via spending on enforcement) and by those involved in the drug trade – mostly the poor and minorities. Decriminalization or legalization would probably both reduce the cost borne by the government and increase marijuana usage, thus shifting a higher proportion of the consumption-oriented social costs of marijuana use to the middle/upper classes. Another potential answer, and a very simple one, is the prevalence of moral opposition to drug use in the United States – Specter writes on this point, “It is common in the U.S. to judge drug addiction morally rather than medically, and most policy flows from that approach.”³⁹

Further, as discussed earlier, the lack of serious or reliable evidence on the subject prevents accurate estimates of the impact of any radical change in policy. In particular, changes in the market for a particular drug may generate a major cross-substance substitution effect, but we cannot predict this with a significant degree of certainty. This problem is exacerbated by the fact that the implementation of a new policy would be crucial, and again, we have little to no information to point us in the direction of a sound implementation strategy. Hence, any stark change in drug policy would be to some degree a “shot in the dark,” despite the considerable research and predictions based on logic or theory.

So, what should we do? I do draw some tentative conclusions and offer some policy suggestions. The evidence suggests that a free-market approach to drugs and the U.S.-style war on drugs are both sub-optimal policies – we would be better off with fewer in prison if nothing else. As for cannabis, eliminating the federal ban would probably produce important gains in terms of lower enforcement costs and fewer unnecessary incarcerations. States should be allowed some policy variation (an added benefit of such variation would be new data with which to analyze the issues surrounding drug control), but the federal government should treat marijuana as it does alcohol in the National Minimum Drinking Age Act of 1984, so that states would at least prohibit young brains (those under 21) from legal access to marijuana. Further, taxes on marijuana potency would be set high (and on alcohol ought to be raised), and these tax revenues should be used to

³⁸ Jonathan P. Caulkins & Mark A.R. Kleiman, *Drug Policy*, in UNDERSTANDING AMERICA: THE ANATOMY OF AN EXCEPTIONAL NATION 564 (Peter H. Schuck & James Q. Wilson eds., 2007).

³⁹ Specter (2011) at 45.

enforce prohibition of under-age consumption, discourage use via counter-advertising, and fund addiction treatment.

But what should we do about harder drugs? This is obviously a more difficult question. Before making any serious change here, we should conduct more rigorous evaluations of the new decriminalization of harder drugs in Europe and Latin America. If these policies are in fact successful in constraining consumption to acceptable levels, then perhaps we ought to consider going in the decriminalization direction as well, or even consider legalization and heavy taxation, per the Becker recommendation.

Oddly, the war on drugs may be rational in the sense that though it is very costly, it imposes much of these costs on criminals and drug-traffickers, as well as on other countries, rather than forcing the average American to bear the social costs of drugs beyond paying tax dollars on enforcement and incarceration. Still, the best reading of the current evidence suggests that aggressive prohibition and the war on drugs policy are sub-optimal policies. Even if every element of the war on drugs remained unchanged but we dropped our current prison population of incarcerated drug offenders from 500,000 to 400,000, this would represent a step in the direction of reducing total social costs. How far we would benefit from such retrenchment is an interesting question. We need to pursue additional empirical and qualitative analyses with the ultimate goal of forging a new and more effective approach to drug policy.

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