The background of the cover is black. Two clear glass prisms are positioned in the lower half of the frame. One prism is on the left, tilted so that a beam of white light enters from the left and is refracted into a spectrum of rainbow colors. The second prism is positioned below and to the right of the first, also refracting light. Multiple overlapping beams of rainbow light (red, orange, yellow, green, blue, violet) radiate from the prisms across the black background. The text is overlaid on the upper portion of the image.

Rethinking the "War on Drugs" Through the US-Mexico Prism

Edited by
Ernesto Zedillo
Haynie Wheeler

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A Yale Center for the Study of Globalization eBook

Edited by
Ernesto Zedillo
Haynie Wheeler

Betts House
393 Prospect Street
New Haven, CT 06511
USA

Tel: (203) 432-1900
Fax: (203) 432-1200
Email: globalization@yale.edu
Web: www.ycsg.yale.edu

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Yale Center for the Study of Globalization

The Yale Center for the Study of Globalization (YCSG) was established in 2001 to enhance understanding of this fundamental process and to promote exchanges of information and ideas about globalization between Yale and the policy world.

The Center is devoted to examining the impact of our increasingly integrated world on individuals, communities, and nations.

Globalization presents challenges and opportunities. The Center's purpose is to support the creation and dissemination of ideas for seizing the opportunities and overcoming the challenges. It is particularly focused on practical policies to enable the world's poorest and weakest citizens to share in the benefits brought by globalization. It also explores solutions to problems that, even if they do not result directly from integration, are global in nature, and can therefore be effectively addressed only through international cooperation. In addition to drawing on the intellectual resources within the Yale community, the Center actively collaborates with institutions and individuals across the globe.

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Acknowledgements

The motivation for the conference reflected in this volume stems from our belief that the existing framework for dealing with drug policies does not work. As part of our ongoing effort to support the creation and dissemination of ideas toward preserving international peace and security, we organized a forum at the Yale Center for the Study of Globalization in which we could take stock and distill the relevant research and empirical evidence generated over the years with regard to the present drug policies and make an effort to determine whether there is some potential for alternative policies. We elected to confront the research and existing policies with the state of affairs on this issue as seen through the prism of Mexico and the US.

As we refined our thinking about the legal, economic and health issues surrounding drug policies, we began inquiring about Yale faculty active in one aspect or another in this field. It did not take us long to find out that Yale's resources in this area are truly rich and among them we are fortunate to have Professor Jody Sindelar as part of our faculty at the School of Public Health. Jody's research and teaching convinced us immediately that her advice and partnership would be essential to put together a good event on the subject. We are grateful to Jody for her time and the efforts she put into bringing this conference to fruition. We also want to thank Kaveh Khoshnood for enlightening us on the topic and for his many useful suggestions. Furthermore, we are grateful to two fine students who ably assisted in this endeavor – Nevada Griffin and Ray Serrano. These two energetic and knowledgeable students were key to the effort – before, during and after the conference.

The conference discussions were enhanced by three Yale scholars who served as moderators, each of whose own work on and interest in these topics has expanded our thinking and understanding of the legal and economic ramifica-

tions of drug policies as well as the issue of substance abuse overall. We want to thank Professor William Nordhaus, unquestionably one of our chief mentors on global contemporary issues, for having erupted into Zedillo's office one summer day – probably after reading one more piece of bad news on what has been happening in Mexico – and urged him to be more proactive in the study of the drug problem, while expressing his disappointment on the disconnect existing between serious analysis and policy around this topic.

We are similarly grateful to Richard Schottenfeld. Everyone at Yale with whom we spoke about the project mentioned his name and encouraged us to get him involved. Professor Schottenfeld graciously accepted to be part of the meeting and well represented the public health side of the issue. We were also pleased that this conference introduced us to Steven Duke, teaching just down the street at the Law School, as his work, spanning many, many years, clearly serves as a key reference point for contemporary analysts.

Finally, we would like to thank all the participants who not only joined us in New Haven for the event itself, but also kindly responded to our requests for revised papers, which we are proud to present to you in this volume.

Ernesto Zedillo

Haynie Wheeler

Overview

Ernesto Zedillo

Yale Center for the Study of Globalization

Since its inception the Yale Center for the Study of Globalization has had as part of its mission the analysis of problems that, even if not resulting directly from globalization, happen to be global in nature or at least are exacerbated by globalization and can therefore be effectively addressed only through international cooperation. In fulfillment of this goal, in addition to core globalization issues like international trade and investment, over the years the Center has been engaged in topics such as climate change and nuclear disarmament. Within the same category of issues – those not caused by but related to globalization—the problem of illicit drugs and international crime is one in which we engaged only lately. In 2008 we collaborated with the Latin American Commission on Drugs and Democracy [<http://www.drogasedemocracia.org/English/>] and more recently with the Global Commission on Drug Policy that released its final report in June 2011 [<http://www.globalcommissionondrugs.org/>]. Yet, unlike other international collaborations undertaken by the Center in the past, on the drugs topic we had not organized any academic activity at Yale. That omission was fixed with the celebration on May 12-13, 2011 of a conference titled *Rethinking the 'War on Drugs' through the US-Mexico Prism*.

Of course, the problem is truly global. The United Nations Office on Drugs and Crime (UNODC) estimates that there were as many as 250 million drug users worldwide in 2009, some 38 million of which were drug dependent. Global drug use has increased significantly over the past half century. In 2004, cannabis was the most widely used illicit substance, accounting for more than 80% of drug

use that year, followed by the use of opiates (8%) and cocaine (7%). While recent trends suggest drug use prevalence may be tapering off globally, the sheer number of people affected (approximately 4% of the world’s population use drugs) and the widespread social, economic and political impact of drug use continue to rank it at the top of global policy agendas.

But few places in the world better characterize the full extent of policy challenges resulting from drug trafficking and consumption than the United States and Mexico. The US is the world’s largest consumer of drugs. It comprises just five percent of the global population, yet most estimates suggest that the US accounts for over 25 percent of global demand for illicit drugs. At the same time, Mexico is the US’s largest supplier of illicit drugs, and an increasingly significant supplier of drugs to many European nations. Furthermore, in recent years Mexico has been affected by an epidemic of violence stemming from organized crime of unprecedented proportions. Our Center’s conference had a modest but critical objective: to take stock and distill the relevant research and empirical evidence generated over the years on the drug problem and confront it with the state of affairs on this issue as seen through the prism of the United States and Mexican experiences.

That review is warranted if only because the essence of drug policies – a law enforcement approach – has remained invariant for a long time despite evidence questioning its pertinence. Since the beginning of the 20th century, the government of the United States has pursued a repressive approach toward the control of the supply and demand of psychoactive substances – cocaine and opiate drugs first became criminalized in 1914, followed by marijuana in 1937. But it was on July 14th, 1969 that US President Richard Nixon announced a “national war on drugs” in a message that marked the start of a legislative process that produced the policy framework that has, for the most part, prevailed ever since in the United States.¹

The persistence of that framework is remarkable, considering that even well before it was fully enacted there were questions by expert voices about its validity.

For example, the American Bar Association (ABA) and the American Medical Association (AMA) produced a joint report in 1961 expressing “dissatisfaction

within the legal and medical professions concerning current policies which tend to emphasize repression and prohibition to the exclusion of other possible methods of dealing with addicts and the drug traffic.”² In fact, just as the legal and institutional framework of President Nixon’s “war on drugs” was being put together, a National Commission on Marijuana and Drug Abuse established by the President himself and the US Congress was, in March of 1972, issuing its report which, at least in reference to that substance, contradicted the essence of the policy then adopted.³ The Commission recommended that marijuana use should be decriminalized. Historians tell us that this recommendation “so angered President Nixon that he refused to receive the report publicly, in spite of the fact that the chair of the commission was a Republican governor, Raymond P. Shafer.”⁴

It is also suggestive that right after the “war on drugs” was launched, the professionals at the United States Department of Health, Education and Welfare railed against “treating drug abuse solely as a subject of criminal law rather than principally as an object of public health.”⁵

Of course, these facts should not be taken to suggest that drug policy in the US and other countries has totally lacked a rational foundation all along. The question is really about the weight that medical and public health – not to mention basic human rights or even economic – concerns have received in the formulation of policy.

It seems that politics – attentive on this topic above all else to the goal of reducing crime and condemning disruptive behaviors by certain sectors of the population – has dominated the rationale behind drug policies, leaving little space for health strategies and paying little attention to the secondary effects of the adopted policies.⁶

Of course, we must believe that the architects and subsequent followers of the “war on drugs” strategy thought that they were acting on behalf of the public interest, but that is hardly a reason not to examine the basis for and the results of their policies. In this process, we should not ignore the possibility that their idea of public interest might have been distorted by a sense of short-term political urgency.

Be that as it may, the “war on drugs” as practiced today basically was put in place in the US by the early 1970’s not only as a domestic policy but also as a key component of American foreign policy. It is telling to recall that just a few days after Nixon’s “war on drugs” speech, on September 21, 1969 the US government launched Operation Intercept, a massive action involving inspection of vehicles and people crossing the Mexican border, in order to reduce drug traffic. Not surprisingly, Operation Intercept immediately caused an economic disruption and damage so vast on both sides of the border that it had to be scaled back significantly and renamed Operation Cooperation barely two weeks after it started.

The reaction to that initial disruption in the relationship between the two countries resulting from the “war on drugs” was just the beginning of a complex story of cooperation and sometimes confrontation on this problem between Mexico and the United States that has proven to be very costly for the two sides. Hence the importance of considering, side by side and with academic rigor at the May 12-13, 2011 conference, the evidence on how the two countries have fared in the endeavor to deal with the drugs problem, as presented by 20 leading experts from academia and the policy world.

This e-book contains the manuscripts that the authors kindly submitted to reflect their respective presentations at the conference. Although the texts included here cannot possibly inform about the entirety of the vast research that these authors have produced on the topic over many years, I am confident that the interested reader will find in the different chapters enough arguments and evidence to be convinced of the importance and urgency to look at the drugs problem from a lens somewhat different than the one that has dominated policy, domestic and international, for more than forty years.

It is impossible in this introduction to do full justice to the richness of the contributions presented at the conference and in the texts included in this digital volume. The concerned reader is advised not only to look at all the papers in this publication but also at least glance at the transcription of the debates that took place during the conference, which can be found at [web address of transcriptions]. This introduction can at best only sketch some of the very useful insights left by this conference.

Although the focus of the proceedings was about the US and Mexico, we thought that the analysis of this topic could be enriched by looking at the Colombian experience with the “war on drugs” as well as the situation in Central America, a region that is fast and very painfully becoming the latest battleground of such undertakings.

Well before the recent Mexican drama, Colombia had become the country enduring the greatest pain from the war on drugs. As expressed by former Colombian President and Secretary General of the Organization of American States, César Gaviria, as a result of the US war on drugs: “No other country in the world has paid a higher cost than Colombia in terms of lives lost of its political leaders, judges, law enforcement agents, soldiers, journalists and tens of thousands of innocent civilians as well as in damage inflicted to its democratic institutions.”⁷ In part as a consequence of an unprecedented cooperation effort between Colombia and the US first launched in 1999 and known as Plan Colombia, crime and violence stemming from organized crime driven by drug trafficking have been reduced in that South American country during recent years. However, in his contribution to this conference, Daniel Mejía advances a rather skeptical view on the outcome of Plan Colombia, which despite its huge cost, has yielded rather modest results in reducing Colombian cocaine production – decreases in the amount of land cultivated with coca crops have been compensated by large increases in productivity as well as larger production in neighboring Peru and Bolivia – and practically nil effects in the price of coca base prices. Mejía’s results presented at our conference, along with other authors’ contributions in a seminal volume co-edited in 2011 by Mejía himself,⁸ deeply question, at least from the perspective of Colombia, the strategy based on supply control and law enforcement applied over so many years.

Mexico’s suffering from the violence caused by organized crime has approached Colombian proportions in just a few years. In his contribution, Eduardo Guerrero, based on current trends, estimates that between end-2006 and end-2012, the number of deaths related to the activities of organized crime will reach 64,000 in Mexico. Guerrero as well as Aguilar Camín certainly acknowledge the association between the explosion of violence in Mexico and the extraordinary flow of money,

corruption and criminal opportunities stemming from drug trafficking. But they insist on the importance of other factors that have played a role, not least the way in which the Mexican government has combated organized crime since 2006, along with the country’s institutional weaknesses. Jorge Hernández Tinajero’s criticism of the Mexican government’s current strategy extends beyond its use of military force to control the problem. He believes that drug consumption in Mexico has reached a level truly warranting a more enlightened and ambitious public health approach. He is equally troubled by the social impact – biased in his view towards the incarceration of small-scale dealers – of the present strategy.

If, sadly, Central America is bound to become the next important battleground for the “war on drugs,” then the picture portrayed by Joaquín Villalobos on violence in Central America should be a very worrisome one. For the developmental, historical and cultural reasons discussed by this participant, it is not hard to infer that a greater presence of drug-related organized crime would cause enormous economic, institutional and human devastation in the Central American Republics, similar to how they suffered when they became a battleground for the cold war during the 1970’s and 1980’s. It would be a great injustice if Central America were to suffer deeply again from somebody else’s policies failures.

Although all the authors agreed that the US demand for prohibited substances is a chief cause of the violence and corruption associated with drug trafficking, in Mexico, Colombia and Central America, there are differences of opinion on how to address that root cause and its consequences. Reuter, for example, informs that there is very little evidence that enforcement can raise prices or reduce availability. Over the 25-year period from 1980 to 2005, the number of people incarcerated for drug offences in local jails and state and federal prisons increased by a factor of 10, and this figure does not include those incarcerated for so-called drug-related crimes, such as robbery to get the money to buy the drugs. During this period of massively increased intensity in enforcement, the price of heroin and cocaine fell around 70%. The price declines, he submits, have been parallel, even though those drugs are not good substitutes for one another.

Notwithstanding that evidence, some of our authors warned that the status quo in drug policy is still favored by not a few in the United States. Quoting a former head of the White House National Drug Policy Office, Donohue includes in his contribution a typical example of the still-recalcitrant supporters of the “war on drugs.” Another of our authors, Humphreys, who served in the same office but in the Obama administration, places at zero the probability of seeing any time soon a radical change in the policy towards cocaine, the drug whose US market provides at least half of the Mexican drug gangs’ total revenue.

Caulkins is not only skeptical of the political feasibility of legalization, in general, of illegal drugs, but also provides what he believes are the arguments to sustain that position. He is convinced that prohibition drives prices up far above legal levels; that the taxes necessary to prevent a price collapse, if drugs were legalized, are uncollectable; that the demand for drugs may be more price elastic than what has been estimated with historical data – a concern also shared by Pacula and Reuter in this volume; that legalization is an “irreversible game” in the sense that some drug use induced by legalization would remain even if that policy change were later undone; and finally that after all, present policies have permitted the overall levels of use in the United States to stabilize for a number of years. This author, in short, from the US perspective would not advise policymakers “to roll the dice” on legalization. Furthermore, Caulkins goes so far as to question whether the considerably less impossible endeavor of legalizing marijuana in the US would, in fact, reduce violence in Mexico on the basis that revenues for Mexican crime organizations derived from marijuana exports are much less than conventionally estimated – around 20 percent rather than 60 percent of total revenues. He also believes that legalizing marijuana would only modestly impact drug harms in the US, considering that it represents only about 8% of drug-related imprisonment, one-sixth of user spending, about 16% of treatment admissions, and is even less implicated in other drivers of drug-related social costs, like HIV/AIDS transmission and overdose deaths.

Kleiman and Reuter also doubt that legalization constitutes a viable policy option. Donohue, who shares such skepticism, suggests that popular support for

legalization or decriminalization is so low because that policy shift would redistribute the social costs of drug use from the government and those involved in the drug trade – mostly poor and minorities – to the middle and higher income sectors of US society.

Miron does not buy the arguments of those opposing legalization and his text reiterates the classical economic case for a *laissez faire* approach on this issue. It stems from the uncontested fact that prohibition does not eliminate drug markets, but simply drives them underground thus causing a range of highly negative side effects: huge black market rents appropriated by organized crime; illegal and violent conflict resolution mechanisms; massive corruption; fostering of other forms of criminality; severe health, safety, civil liberty and economic risks and costs for drug users; and disrespect for the law, among others. Miron is convinced that there are alternatives to prohibition that can achieve a better balance between positive and negative consequences. In particular, he endorses legalization with a sin tax on drugs sufficiently high to yield a price as high as under prohibition and believes, unlike Caulkins, that evasion of the sin tax can be prevented successfully through sufficient enforcement.

Without endorsing outright legalization, other authors nevertheless do provide sensible arguments for moving away from the status quo in a direction that would address the consequences of black markets, as outlined by Miron. After reporting that 56.6 per cent of the estimated cost of illegal drug use in the US (estimated for 2002 as 217 billion of 2008 US dollars) was due to crime-related costs and only 8.7 per cent was caused by health costs, Donohue admits serious concerns about the balance of overall US drug policy. This author insists on the fundamental question of how can it be possible to have falling prices of illegal drugs in the face of intense enforcement efforts – carrying an annual budgetary cost of more than \$40 billion. He also gives at least the benefit of the doubt to Miron’s submission that, according to cross-country comparisons, there is a strong connection between criminalization of drugs and violent crime. Interestingly, Donohue evokes an earlier study by Caulkins and others that found that an additional \$1 million spent on treatment and demand reduction reduced net

cocaine consumption by 103.6 kg while the same amount of money spent on longer sentences reduced consumption by just 12.6 kg.

Reuter invites us to recognize that current policies actually cause great harm in the United States and are quite ineffective considering that this country has the worst drug problem in the developed world and has not been able rapidly to reduce it.

Babor's succinct and well documented review of the international experience, decanted into eight key findings, not only highlights the significant pitfalls of the present strategy but also points plainly in the direction that policy should move to be more effective. This author makes clear that notwithstanding the fact that large-scale supply-control interventions absorb most of the resources spent on drug control in most nations, there are serious questions about the effectiveness of such policies. In particular, he reports that once drugs are made illegal, increasing enforcement and incarceration yield diminishing returns. On demand-focused policies, Babor offers good evidence that, contrary to claims in other studies, some approaches to prevent, or at least delay, consumption do work and, furthermore, that treatment for drug dependence is effective.

Relying on evidence about the ineffectiveness of supply-control strategies, Kleiman is quite critical of the United States government's long-standing demand that Mexico act to reduce the flow of drugs across the border so that US drug consumption will be reduced. He submits that even if Mexico were successful in crippling that traffic, the effects on drug abuse in the US would be modest at best because shipments of drugs would simply be shifted to other routes.

Interestingly, some of the very same authors who are skeptical of the possibility – or even the convenience – of any significant drug policy changes in the United States at the same time opine that Mexico should change its strategies and policies to align them more with its own interests and less with those of its northern neighbor. Both Kleiman and Caulkins suggest that the objective of minimizing violence should have a higher priority in the Mexican strategy. To this end, Kleiman proposes a sequential go-for-the-most-violent-organization strategy while Caulkins hints that a policy de-emphasizing interdiction along the routes to the

border would create less mayhem for Mexico, a suggestion that no doubt would make more than one law enforcer raise an eyebrow.

Hopefully, the reader will find that notwithstanding the reservations expressed by some authors about the inconvenience of “rolling the dice,” the arguments and evidence presented at the conference on balance point very strongly in the direction of a serious reconsideration of the policy approach for dealing with the drug problem over so many years. The economic and human costs paid both in the United States as well as in the countries where the drugs come from, question in a profound way, the validity of such policies. The American colleagues who tell us that any significant change in the strategy is unlikely to happen in the United States essentially for political reasons may be right. But it doesn’t mean that those concerned, for good reason, about this problem should give up. On the contrary, the resistance to change should encourage more and better research and a bigger effort to foster a rational discussion of the drug problem. This e-volume aims to contribute towards these ends.

¹ In the “Special Message to the Congress on Control of Narcotics and Dangerous Drugs,” (July 14, 1969), President Nixon did not use the term “war on drugs” but he clearly and in great detail outlined the policy that would be in effect for the duration of his administration. (<http://www.presidency.ucsb.edu/ws/index.php?pid=2126>) It was in a press conference in June of 1971 that he first used the term “war on drugs,” declaring drug abuse public enemy number one.

² Musto, David, ed., *Drugs in America: A Documentary History*, New York University Press, 2002. While the *Final Report of the Joint Committee of the American Bar Association and the American Medical Association on Narcotic Drugs* was originally issued in early 1959 (Musto and Korsmeyer, *The Quest for Drug Control*, 2002), it was published by Indiana University Press in 1961.

³ Musto, David F. and Pamela Korsmeyer, *The Quest for Drug Control: Politics and Federal Policy in a Period of Increasing Substance Abuse, 1963-1981*, Yale University Press, 2002, pp. 113-114.

⁴ Musto, David F., M.D., *Drugs in America: A Documentary History*, New York University Press, 2002, p. 460.

⁵ Musto, David F. and Pamela Korsmeyer, *The Quest for Drug Control: Politics and Federal Policy in a Period of Increasing Substance Abuse, 1963-1981*, Yale University Press, 2002, p. 61.

⁶ In this respect, it is interesting to make reference to a conversation that – according to H.R. Haldeman – took place between President Nixon and his Chief Domestic Advisor, John Ehrlichman, in June of 1971 when the major drug initiatives were being undertaken. In that conversation, Nixon asks his advisor to pick the three main issues that really matter, questions to which the President proceeded to respond himself. He (I will quote Haldeman) “commented that revenue sharing only matters if it is tied to tax reduction, and welfare reform only if it related to getting people off of welfare. He emphasized that we shouldn’t be concerned if it is something we will actually accomplish and pointed out that JFK was doing all of his progress building on phony issues. Rather, we should look in terms of how we create issues. We need an enemy. We need controversy. We need to do something that will build those things. Drugs and law enforcement may be one, especially since we are so weak in our standing in the polls on those.” Quoted from Musto and Korsmeyer, *The Quest for Drug Control: Politics and Federal Policy in a Period of Increasing Substance Abuse, 1963-1981*, Yale University Press, 2002, Footnote 16, page 264 quoting *The Haldeman Diaries*.

⁷ Gaviria-Urbe, Alejandro and Daniel Mejía-Londoño (editors), *Políticas antidroga en Colombia: éxitos, fracasos y extravíos*, Bogotá: Universidad de los Andes, ediciones Uniandes, 2011, p ix.

⁸ Ibid

The War on Drugs under Plan Colombia

Daniel Mejía¹

Universidad de los Andes

The main objective of this paper is to evaluate the outcomes of Plan Colombia using economic tools. In section I, I present a brief introduction to Plan Colombia. Then, in section II, I document the main stylized facts about Plan Colombia. Section III presents the results of an economic evaluation of the anti-drug policies implemented under Plan Colombia. In Section IV I present two extensions of this agenda that deal with the role of consumer countries in the war on drugs in producer countries and with Alternative Development Programs (ADPs) as an alternative to eradication campaigns to reduce illicit crops cultivation. Finally, Section V concludes.

Introduction

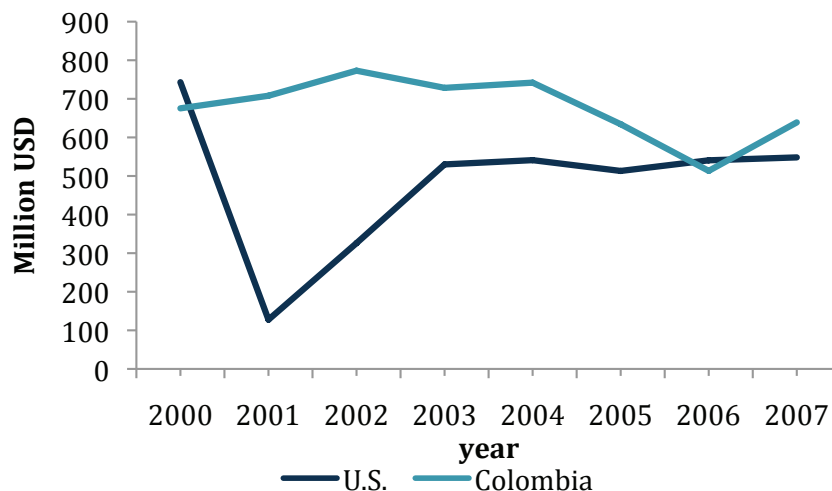
Colombia has been a key player in illegal drug markets, mainly in cocaine markets. Between 60% and 70% of the cocaine consumed in the world is produced in Colombia, and about 60% of this cocaine goes to markets in North America. The remainder 40% goes to European markets. Before 1994, Colombia was a marginal player in cocaine production and a relatively important player in cocaine trafficking. However, with the closure of the air-bridge connecting coca cultivation centers in Peru and Bolivia and cocaine processing facilities in Colombia in 1994, the country became the main cocaine producer during the second half of the 1990s.

As a result of this large increase in cocaine production in Colombia, in September of 1999, the Colombian government announced a strategy known as Plan Colom-

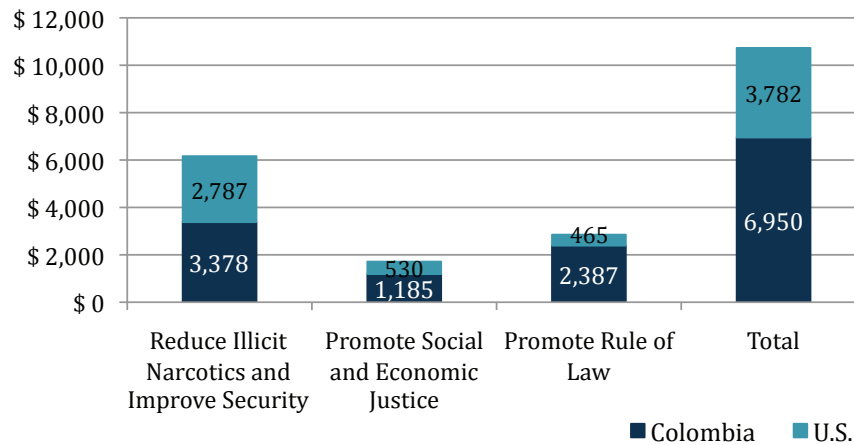
bia, which had two main objectives. The first one was to reduce the production and trafficking of illegal drugs, mainly cocaine, by 50% in six years. The second objective was to improve security conditions by reclaiming the control of large areas that were under the control of illegal armed groups. According to Colombia's National Planning Department (DNP), the US disbursed about \$500 million per year between 2000 and 2008 in subsidies to the Colombian armed forces for its war against illegal drug production and trafficking. The Colombian government, for its part, spent about US\$712 million per year during the same period. Together, these expenses in the military component of *Plan Colombia* account for about 1.1% of Colombia's yearly GDP during this period, making this Plan one of the largest interventions ever implemented in drug markets in producer countries.

Figure 1 shows the evolution of the amount of resources invested in the military component of Plan Colombia (the US expenses and the Colombian expenses), while Figure 2 shows the three main components of Plan Colombia. The first component is the military component, which aims at reducing illicit narcotics and improving security conditions. The second component has to do with the promotion of social and economic justice, and the third component has to do with the promotion of the rule of law. The social justice and the rule of law components have been growing over time, while the military component has been shrinking.

Figure 1. Military component of Plan Colombia 2000-2007



Source: Author's calculations based on data from DNP (2009).

Figure 2. Resources by component of Plan Colombia 2000-2007

Source: Mejía (2009b) and DNP (2006).

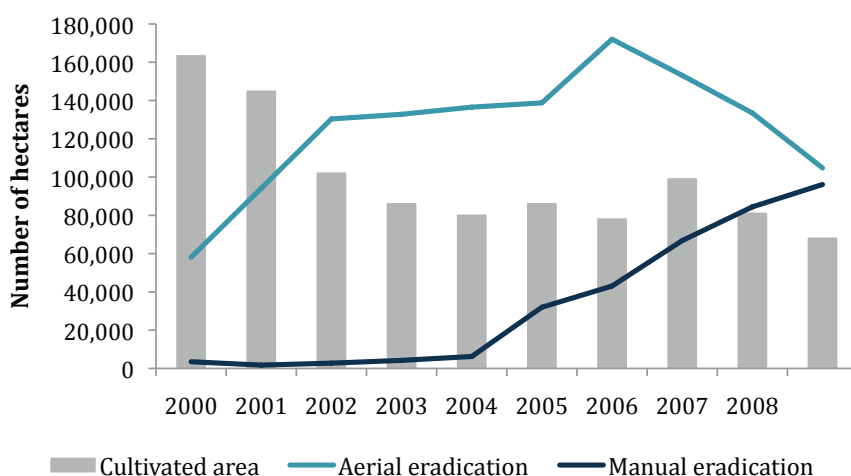
The results of anti-drug policies implemented under Plan Colombia are mixed. The number of hectares of land cultivated with coca crops decreased rapidly between 2000 and 2003, from about 160,000 hectares to 80,000 hectares. Nevertheless, since 2003 the number of hectares cultivated with coca crops has remained relatively stable at around 82,000 hectares per year. Potential cocaine production, on the other hand, remained stable from 2000 to 2006, and only in 2007 and 2008 have we seen an important reduction in the production estimates in Colombia.

This apparent contradiction has to do with large increases in the productivity of land used for producing cocaine. In the other two producer countries, which are Peru and Bolivia, there has been a small increase in coca cultivation and cocaine production. The instruments that have been used in the war against drug production and trafficking under Plan Colombia are diverse: manual and aerial eradication campaigns of illicit crops; interdiction of drug shipments; the identification and destruction of labs and facilities that are used to process coca leaf into cocaine; and, to a lesser extent, the control of chemical precursors needed to process coca leaf into cocaine.

Stylus Facts

Figure 3 shows the cultivated area (gray bars) and the number of hectares of land sprayed by aerial eradication and the number of hectares manually eradicated between 2000 and 2009. It is evident from the graph that spraying doesn't mean destruction and doesn't mean eradication of illicit crops, as drug producers are able to counteract the effectiveness of spraying campaigns by protecting coca crops from the effects of the spraying campaigns. Between 2004 and 2009 there has been a large increase in the amount of hectares of land manually eradicated.

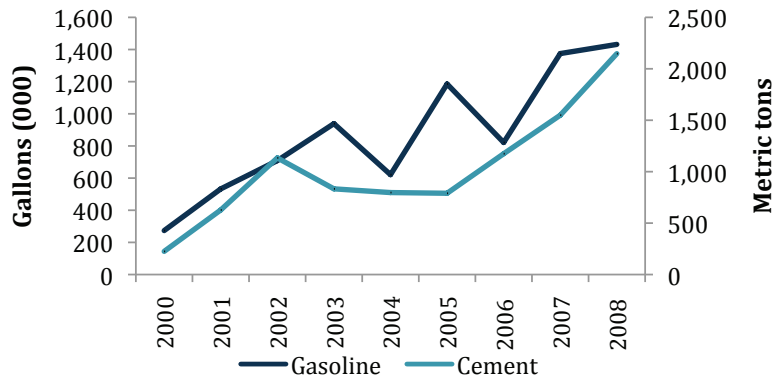
Figure 3. Coca cultivation and eradication campaigns (manual and aerial) 2000-2008



Source: UNODC (2010).

There are several chemical precursors used in the processing of coca leaf into cocaine. For instance, we estimate that around 2% of the cement consumed in Colombia is used for cocaine processing, and around 1.5% of the total gasoline consumed in Colombia is used for cocaine processing. Figure 4 presents the evolution of seizures for these two inputs used in the cocaine production process. This Figure shows that there has been a dramatic increase in the seizures of chemical precursors.

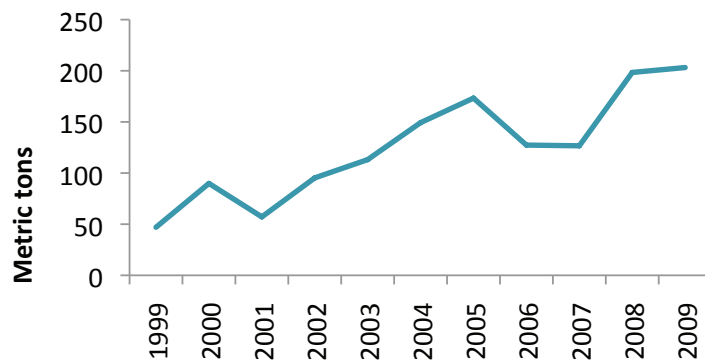
Figure 4. Seizures of gasoline and cement, 2000-2008



Source: National Police and DNE.

Cocaine seizures in Colombia have been increasing over the past few years. Figure 5 shows evidence of this fact, where we may analyze the trend but not the exact figures, since there could easily be a problem of double accounting.

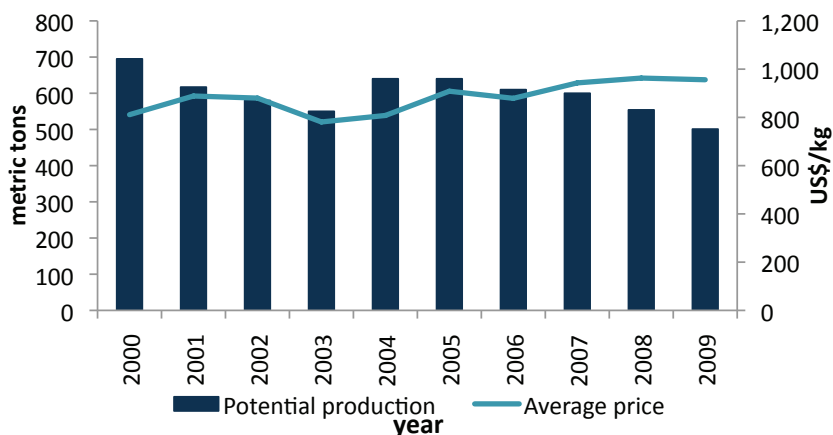
Figure 5. Cocaine seizures, 2000-2008



Source: UNODC (2010).

Despite the large increase in eradication campaigns and interdiction efforts, coca base production has decreased very little in Colombia. Figure 5 presents the evolution of coca base production estimates and coca base prices. While the production of coca base has decreased by about 12%, coca base prices have remained relatively stable. prices have remained relatively stable.

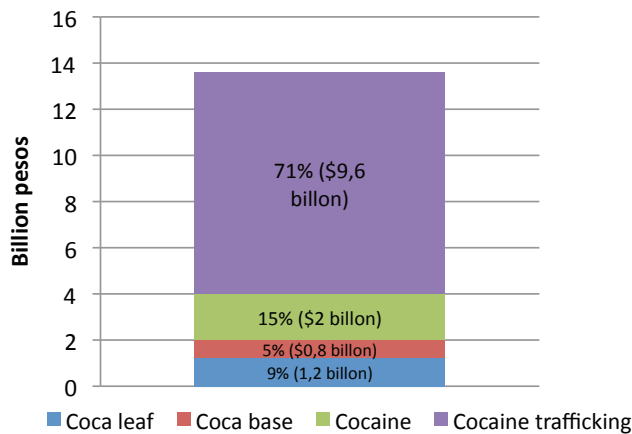
Figure 6. Coca Base Production and Prices in Colombia 2000–2009



Source: UNODC (2008, 2009 and 2010).

We estimate that approximately between \$7 billion and \$8 billion (US dollars) entered the Colombian economy due to cocaine production and trafficking in 2008 (see Mejia and Rico, 2011). This corresponds, on average, to about 2.3% of Colombian GDP in that year. Figure 7 shows the composition of the resources (in pesos, where about \$2000 COP correspond to \$1 USD). That is, 9% of the resources go toward paying for the coca leaf, 6% to the stage where the coca leaf is transformed into coca base, 15% goes to remunerating the stage where coca base is transformed into cocaine, and 71% (that is almost \$5 billion) goes to the trafficking stage, where the cocaine leaves the facilities in the jungle and goes to the Pacific Coast, the Venezuelan border, Jamaica and through other trafficking routes on its way to consumer countries.

Figure 7. Distribution of the value added between the stages of production and trafficking of cocaine in Colombia, 2008.



Source: Author's calculation based on data from SIMCI, CNC, DEA and GME.

An Economic Evaluation of Plan Colombia

In Mejía and Restrepo (2011a), we develop an economic model, using game theory tools, of the war against illegal drug production and trafficking. The model not only accounts for strategic interactions between the agents involved in this war (drug producers and traffickers, the Colombian government and the US government) but also for potentially important feedback effects between anti-drug policies and drug market outcomes. This is especially important given that we are evaluating a large-scale supply-side intervention that can potentially have (non-negligible) general equilibrium effects.

In order to simplify the analysis of the effectiveness and costs of anti-drug policies, we divide the latter into two broad categories: i) Policies aimed at reducing drug production: A conflict between the government and drug producers over the control of the land necessary to cultivate illegal crops (coca), that is, spraying campaigns and eradication campaigns in general; and ii) Policies aimed at reducing drug trafficking: A conflict between the government and drug traffickers over the control of the routes necessary to transport illegal drugs to consumer countries.

We estimate that between 2000 and 2008, the US funded about 57% of the Colombian expenses in the conflict with the drug producers over the control of

arable land (eradication front) and about 64% of the conflict with the drug traffickers over the control of the drug routes (interdiction front).

We estimate that the Colombian government faces a net cost of about \$0.32 for every dollar that the drug producers (FARC and paramilitaries) are able to obtain from illegal drug production activities, and a net cost of about \$0.13 for each dollar that the drug traffickers are able to obtain from their illegal activities. This means that between 2000 and 2008, Colombia faced a much larger cost from production activities than it did from drug trafficking activities.

We estimate that the relative importance of land in the production of cocaine is about 40% (the remaining 60% corresponds to the relative importance of chemical precursors, labs and labor); the relative importance of the drug routes in the trafficking technology is about 68% (the remaining 32% corresponds to the relative importance of cocaine in the trafficking technology). We also estimate that the marginal cost to the US of reducing by 1 kg the amount of cocaine transacted in the international wholesale markets by financing the Colombian government's eradication efforts is about \$19,000. The marginal cost by financing the Colombian government's interdiction efforts is about \$7,800 per kg.

Another way of looking at this result is with elasticities: A 1% increase in the US assistance to Plan Colombia (about \$6 million per year) would decrease the amount of cocaine transacted in international markets by about 0.07% (312 kg) if the 1% in the budget increase is allocated to eradication efforts; and by about 0.17% (756 kg) if the 1% increase is allocated to subsidizing the interdiction front of the war against drugs in Colombia. Consequently for the US, it is less costly and more efficient to reduce the amount of cocaine reaching consumer markets by financing Colombia in its interdiction efforts rather than financing its eradication efforts.

In order to compare the marginal cost of supply-side interventions in reducing the amount of cocaine transacted in international wholesale markets with the marginal cost of reducing the amount of cocaine transacted in retail markets in consumer countries, we need to multiply the above mentioned marginal costs by a factor of about 12.5². Thus, if we apply this conversion factor, the marginal

cost to the US of reducing the amount of cocaine transacted in retail markets in the US by 1 kg of financing the Colombian government’s eradication efforts is about \$237,000 ($\$19,000 \times 12.5$), whereas the marginal cost by financing the Colombian government’s interdiction efforts is about \$97,000 ($\$7,800 \times 12.5$). Compare these estimates of the costs of anti-drug policies in Colombia to the estimated social costs of cocaine consumption in the US: \$215,000 per kg of cocaine; or to the cost of reducing cocaine consumption with treatment and prevention policies: \$8,850 per kg (RAND).

There are three main reasons that help explain the relatively large difference between the two marginal costs (eradication and interdiction). The first one is that we estimate the Colombian armed forces are much more effective in the conflict with the drug traffickers over the control of the drug routes than in the conflict with the drug producers over the control of arable land. Second, the factor currently being targeted by the war against drug production (land) is much less important than the factor being targeted in the war against drug trafficking (drug routes). And third, we estimate that the drug producers’ capacity to counteract anti-drug policies is much larger than the capacity of drug traffickers to do so. In other words, the strategic responses implemented by drug producers in order to counteract aerial and manual eradication campaigns (higher density of coca crops per hectare, better and stronger varieties of coca plants, genetic modifications of coca varieties that make it resistant to glyphosate, etc.) are relatively extensive and in some cases end up rendering these policies completely ineffective in reducing cocaine production.

In order to identify the optimal allocation of resources from the Colombian point of view, we conduct a hypothetical exercise where we assume that the US allows Colombia to choose freely how to use the resources for the military component of Plan Colombia between eradication and interdiction efforts. We find that Colombia would prefer a completely different allocation of resources between the two fronts of the war on drugs. More precisely, we estimate that Colombia would prefer to allocate the entire US assistance for Plan Colombia in the war against production, and nothing in the war against trafficking. This is because Colombia faces a much larger cost per dollar received by drug producers than it does from

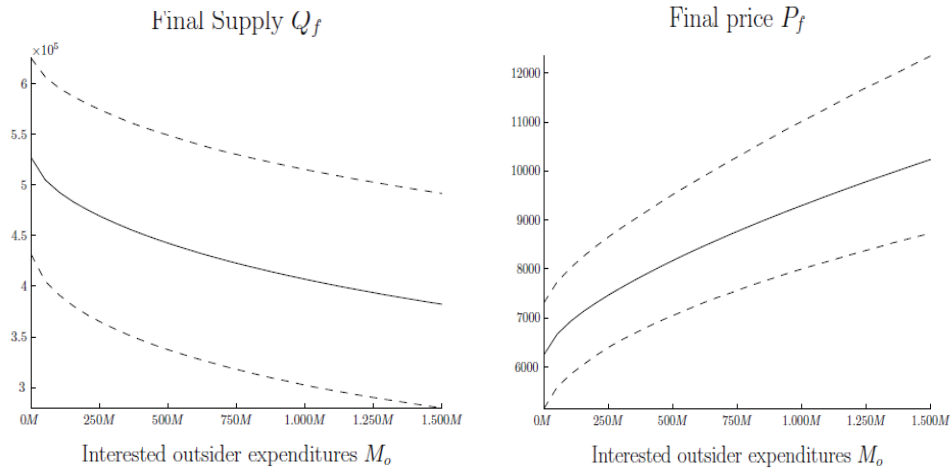
each dollar received by drug traffickers. In particular, we estimate that one extra dollar of US assistance for eradication decreases the total cost to Colombia by about \$1.14, whereas one extra dollar of US assistance for interdiction decreases the total cost to Colombia by only \$0.12.

Despite the fact that Colombia is more efficient at fighting drug trafficking than fighting drug production, despite the fact that the factor being targeted by the war against drug trafficking is more important than the factor being targeted by the war against drug production, and despite the fact that the capacity of drug producers to counteract drug policies is much larger, Colombia would still prefer to fight against production, because it faces a much larger cost from these activities (\$0.32/dollar) than it does from trafficking activities (\$0.13/dollar). This result, in some sense, provides a rationale as to why the Colombian government has been so insistent in attacking drug production activities, despite its ineffectiveness in reducing cocaine production.

With this, our results indicate that although both governments have a clear incentive to fight against illegal drugs, they do not necessarily coincide as to the most effective way of doing it because the two governments may have different objective functions. While the US objective is to reduce the amount of drugs reaching its borders, the Colombian government objective is to reduce the total net cost generated by drug production and trafficking activities.

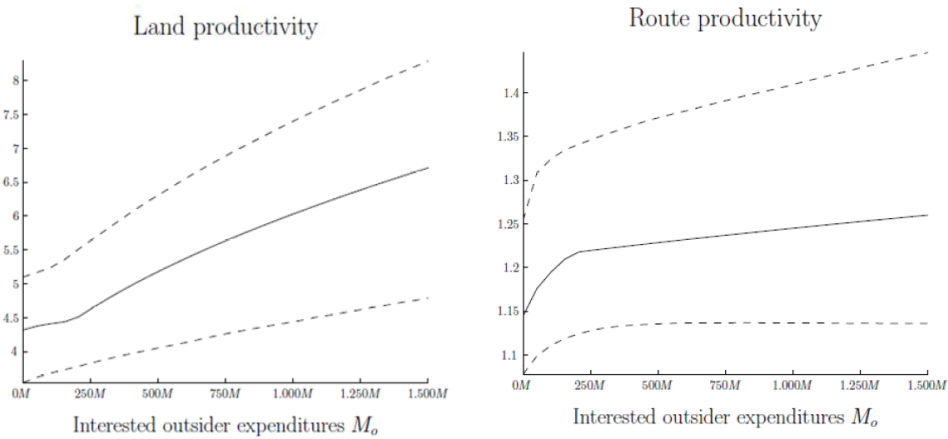
Our last result has to do with the costs of making “significant advances” in the war on drugs. Using simulation exercises that take into account the strategic responses of the actors involved in this war and feedback effects via drug markets, we estimate the effects of increasing (or decreasing) the US budget for Plan Colombia (from about \$465 million per year to about \$1.5 billion per year). A threefold increase in US assistance for Plan Colombia would reduce the amount of cocaine reaching consumer countries by about 12.8% (52,000 kg) – see Figure 8.

Figure 8. Cocaine supply given an increase in US assistance



The price of cocaine at the wholesale level would go up as a response to an increase in the US budget for Plan Colombia. Our estimates also indicate that land productivity would increase endogenously from 4.4 kg of cocaine/hectare/year to about 6.7 kg of cocaine/hectare/year. Note that the increase in the productivity of drug routes is rather small (see Figure 9).

Figure 9. Land and routes productivity given an increase in US assistance



Extensions to the Core Model

The first extension made was in Mejía and Restrepo (2011b) (“The War on Illegal Drugs in Producer and Consumer Countries: A simple analytical framework”) where we move one step farther and incorporate the trade-off faced by consumer countries between prevention policies, aimed at reducing the demand for drugs, and subsidizing producer countries in the war on drugs to reduce supply. This extension provides a simple framework to understand the relationship (interdependence) between anti-drug policies implemented in consumer and producer countries. For example if the US does more treatment and prevention, it reduces the demand for drugs, it decreases the market size, it decreases prices, and it makes it less costly to intervene in producer countries. Whereas if the US focuses on supply reduction efforts inside the country, it increases prices and it increases the price of doing supply-side intervention in producer countries.

In the second extension, Mejía, Restrepo and Uribe (2011c) (“The ‘Sticks’ vs the ‘Carrots’ of anti-drug policies in producing countries: The case of Colombia”) we move one step behind the production stage and incorporate the farmers’ trade-off between licit and illicit crop cultivation. Naturally, we introduce alternative development programs (ADPs) as an alternate way of reducing illegal drug supply in producer countries. This extension of the model (and its calibration) shows that, although very attractive in theory, ADPs are very costly as an anti-drug strategy. Nevertheless, important caveats apply.

Lastly, in Mejía and Restrepo (2011d) we propose a novel identification strategy in order to disentangle the causal impact of illicit drug markets on violence using data for Colombian municipalities. In particular, we take advantage of two sources of exogenous variation that allow us to identify the causal impact of an increase in the value of illegal drug markets on violence. First, due to technical reasons related to soil quality, temperature and climate conditions, coca cultivation is more productive at low altitudes. Second, if it is indeed true that illegal drug markets breed violence, external demand shocks for Colombian cocaine should be reflected in higher levels of violence. Importantly, this effect should be stronger in municipalities located at low altitudes.

Our estimations indicate that, on average, a 10% increase in the value of cocaine markets increases the homicide rate between 1.2% and 2%, and forced displacement rates between 6% and 10%.

In order to get a sense of the economic significance of our estimates, we introduce the following back-of-the-envelope calculation. The value of (local) cocaine markets in Colombia increased by about 230% between 1990 and 2008 (from \$138 million dollars at the beginning of the 90s to about \$1.3 billion during the late 2000s). These estimates suggest that homicide rates are between 30% and 50% higher today than what they would be if illegal drug production and trafficking activities hadn’t increased to the extent they did during the late 1990s.

Concluding remarks

Quantifying the size of illegal drug markets and understanding the economics behind it is an important step towards understanding the motivations of the actors involved in the war on drugs. Furthermore, modeling the choices of the actors involved in this war with economic tools (more precisely, with game theory tools) is also an important step towards understanding the observed outcomes and future prospects of this apparently ineffective and costly war. In this research agenda we develop different game-theoretic models of the war against drug production and trafficking and use available evidence from the cocaine markets as well as stylized facts of the war on drugs in Colombia in order to calibrate these models. Importantly, this allows us to estimate crucial variables that are key to implementing a more balanced, less costly and more effective approach to drug policy in producer countries.

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¹ Associate Professor, Economics Department, Universidad de los Andes. E-mail: dmejia@uniandes.edu.co

² This conversion factor has to do with the fact that the price of cocaine transacted in wholesale markets in producer countries (Colombia in this case) – about \$12,000 USD per kilogram, is about 8% of the price of cocaine in retail markets in consumer countries – about \$150,000 USD per kilogram, where $12.5 = 1/0.08$ (see Mejia and Restrepo, 2011 for details).

An Assessment of Illegal Protection Markets in Mexico

Eduardo Guerrero Gutiérrez¹

Lantia Consultores

Since December 2006 —when Felipe Calderón took the oath as President of Mexico and launched a full-fledged surge against organized crime — there has been a steady increase in the number of organized crime-related deaths. If the current trend continues, by the end of President Calderón's six-year term in 2012 the figure will reach 64,000 organized crime-related deaths. This paper starts with a brief description of the Government of Mexico's current strategy against organized crime, as well as organized crime-related violence current trends. The following section of the paper presents a methodology to assess the development of illegal protection markets. The paper ends with an overview of the mechanisms that may explain the fast development of mafias in relation to the broader phenomenon of widespread organized crime-related violence.

Strategy against Organized Crime and Organized Crime-Related Violence

The Mexican Federal Government has stressed that its security policy is not merely a war against drugs. This claim has some merit regarding inputs to the extent that an intensive institution building process has been a distinctive feature during the previous years. Foremost, the Federal Police budget and manpower have increased on an annual basis and the Federal Police may provide in the years to come a platform to engage in different law enforcement activities, not only actions against drug-traffickers. Some other institution building actions include the approval of a set of bills that provide enhancement of the legal framework to act against criminals.

On the other hand, regarding outputs the Government focused narrowly—at least initially—on tackling organizations engaged primarily in drug trafficking. Among the different interventions that Mexican authorities traditionally carry out in order to fight drug trafficking, i.e., crop eradication, different types of seizures and arrests, the latter is the only case where the Government has effectively delivered a higher than usual performance record. With regard to arrests, the detention (or sometimes the death during a capture operation) of cartel leaders has played a central role in the Government’s effort against organized crime.

One of the effects of the Government’s surge against drug trafficking, and of the cartel leader capture policy, has been to foster other criminal activities as criminal organizations fragment and diversify away from drug-trafficking. Cartel fragmentation and violent turf wars between new rival organizations have developed in a systematic way. Between 2007 and 2011 the number of cartels doubled due to the fragmentation of the six large regional cartels that previously controlled transnational drug trafficking in Mexico (see table 1).

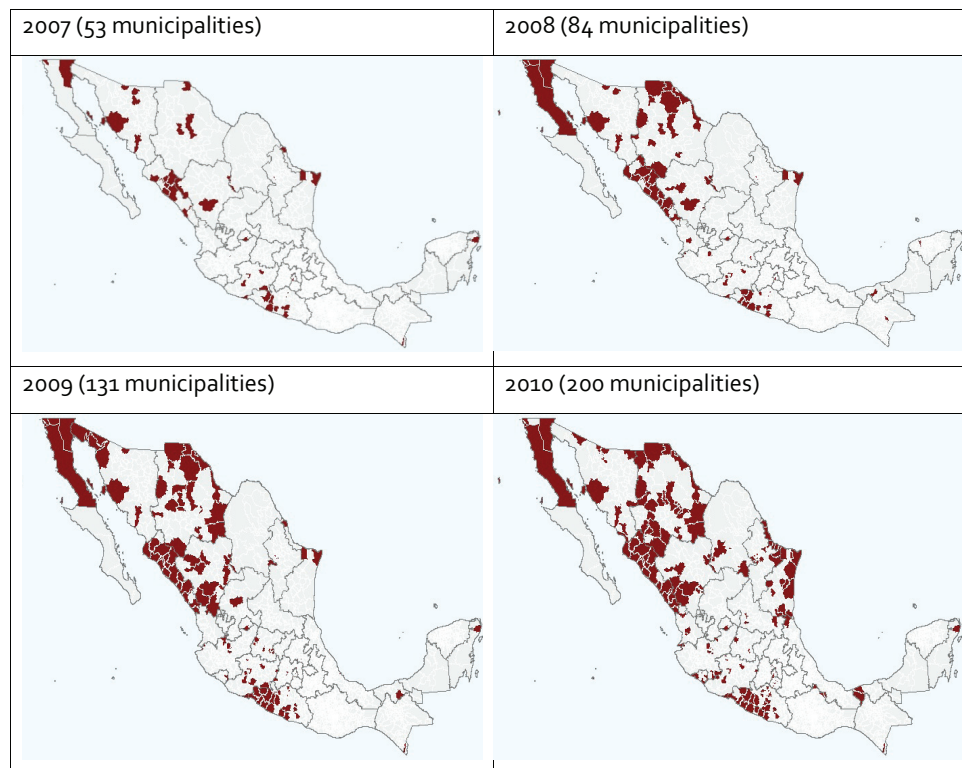
Table 1. Cartel fragmentation

2006	2007-2009	2010
Pacífico Cartel	Pacífico Cartel	Pacífico Cartel
	Beltrán Leyva Cartel	Pacífico Sur Cartel
		Acapulco Independent Cartel
		“La Barbie” Cartel
Juárez Cartel	Juárez Cartel	Juárez Cartel
Tijuana Cartel	Tijuana Cartel	Tijuana Cartel
	“El Teo” Faction	“El Teo” Faction
Golfo Cartel	Golfo-Zetas Cartel	Golfo Cartel
		Zetas Cartel
La Familia Michoacana	La Familia Michoacana	La Familia Michoacana

2006	2007-2009	2010
Milenio Cartel	Milenio Cartel	La Resistencia
		Jalisco Cartel-Nueva Generación
6 Organizations	8 Organizations	12 Organizations

In addition to cartel fragmentation and the increase in the absolute number of organized crime-related deaths, another major trend during the last few years has been the geographic dispersion of violence. This means that killings, shootings and authority harassment by criminal organizations have progressively spread throughout Mexican territory. The number of municipalities with 12 or more organized crime-related deaths has increased every year since 2007. That year a total of 53 municipalities had 12 or more organized crime-related deaths. The figure for 2010 was 200 municipalities, which means a 277% increase compared to 2007.

Figure 1. Municipalities with 12 or more organized crime-related deaths



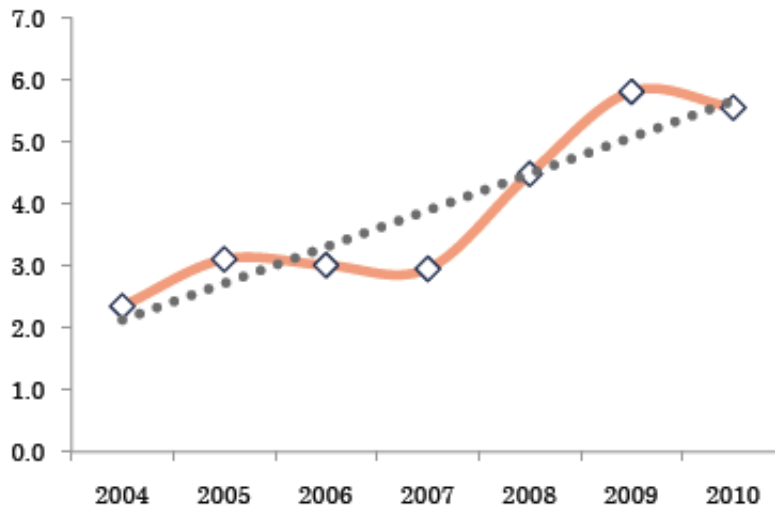
An Assessment of Illegal Protection Markets

Illegal protection encompasses a set of activities that involve coercion by any agent different from the State, usually sophisticated and violent criminal organizations (mafias). Illegal protection may be provided against deception by others, against competition, against the government or against a threat from the mafia itself (Gambetta, 1993). While mafias may extort money from a broad set of actors, individuals who lack access to the judiciary may typically have a larger demand for illegal protection (or may be more vulnerable to extortion). Hence, other criminals —particularly smaller networks of thieves and smugglers or those who engage in illicit trades— are among the primary targets of mafias. Communities with an overall weak rule of law are more prone to develop large illegal protection markets.

Anecdotal evidence from the media suggests that illegal protection has become endemic throughout Mexico in the last few years. Accounts of mafia style organizations extorting other criminals, businesses (both legal and “informal”) as well as individuals are common in several regions that have been hit by organized crime-related violence. However, so far there are no systematic assessments of this phenomenon.

Making an assessment of illegal protection markets poses a major challenge. The Mexican government collects data on “extortion.” As Figure 2 shows, this crime almost tripled from 2004 to 2009. However, while the underlying data suggests a large increase in extortion, the figures are not completely reliable. Since most crimes in Mexico are never reported, government figures may greatly underestimate criminal prevalence. Moreover, since illegal protection is based on violence threats, a low rate of extortion reports in a community may be the outcome of low incidence, but may also suggest that an organization has successfully intimidated its victims or has even attained control of the local police department (making reports senseless or dangerous). As stressed by Gambetta, in some cases individuals who pay for illegal protection may actually obtain some real benefits (for instance, the mafia protection may effectively keep tax collectors away) and may render those people closer to satisfied clients than victims. Such individuals would not have an incentive to report extortion.

Figure 2. Extortion reports in Mexico per 100,000 inhabitants (2004-2010)



Source: National criminal incidence. Secretariado Ejecutivo del Sistema Nacional de Seguridad Pública. <http://bit.ly/qlyD3a>

In order to assess the evolution of illegal protection organizations (mafias) in Mexico I use two datasets. The first is the official count of organized crime-related deaths.² The second is a dataset containing messages from criminal organizations placed next to corpses. Using these two datasets it is possible to distinguish mafia driven violence from drug-trafficking driven violence (which currently is the other broad category of organized crime-related violence in Mexico) and to identify two relevant features of the Mexican illegal protection markets: its swift expansion during 2010 and the presence of mafias in areas of little relevance to transnational drug-trafficking.

On January 2011 the federal government disclosed a database on organized crime-related deaths. This database provides a reliable proxy of overall organized crime-related violence. The data is collected in systematic fashion, reported at the municipal level, and underestimation and bias seem to be much smaller than in other sources —although some corpses may never be found. Organized crime-related deaths are one indicator of the existence of illegal protection markets. In order to extort rents from society, mafias rely on a reputation for the capability to use force against those who refuse to pay for their services as well as against

other criminals or mafias that may try to harm or extort their “clients.” However, not all organized crime-related deaths are linked to illegal protection markets. The turf wars between cartels that primarily engage in drug trafficking are also an important source of organized crime-related violence in contemporary Mexico.

There is another observable feature of illegal protection that allows us to distinguish between drug-trafficking driven violence and mafia driven violence: mafia violence is propaganda intensive. Mafias need to build a reputation (Gambetta, 1993). Hence, in order to effectively establish a monopoly of coercion, mafias also intensively advertise their violence to make sure that broad sectors of society (at least all potential rivals and all those who may be asked to pay for protection) identify their violence potential.

A common practice among Mexican criminal organizations in recent times has been to place messages next to the corpses of their slain victims. These messages work as a means of propaganda and reputation building. They are usually reported by local media, they include the signature of the organization that performed the killing, and they even explain the reason for the murder (being a member of a rival group, being a thief, rapist or kidnapper, and not paying, are among the most frequent alleged reasons). Thus, the second source of information used in this assessment is a dataset of messages linked to criminal organizations found next to corpses. The dataset contains 1029 messages collected through systematic searches in national and regional newspapers from December 2006 to March 2011.

*Table 2. Municipalities with more than 100 organized crime-related deaths
2007-2010*

Municipality	State	Murders	Messages	Ratio	Category
Cuernavaca	Morelos	180	34	18.9%	Mafia ridden violence
Chilpancingo	Guerrero	168	22	13.1%	
Acapulco	Guerrero	669	81	12.1%	
Ecatepec	México	218	24	11.0%	
Lázaro Cárdenas	Michoacán	128	12	9.4%	
Benito Juárez	Quintana Roo	109	10	9.2%	
Morelia	Michoacán	260	22	8.5%	
Petatlán	Guerrero	136	11	8.1%	
Iztapalapa	Distrito Federal	131	9	6.9%	
Nezahualcóyotl	México	165	10	6.1%	
Nuevo Laredo	Tamaulipas	158	9	5.7%	
Apatzingán	Michoacán	146	8	5.5%	
Aguascalientes	Aguascalientes	113	6	5.3%	
Pungarabato	Guerrero	133	7	5.3%	
Guadalajara	Jalisco	145	7	4.8%	
Uruapan	Michoacán	207	9	4.3%	
Culiacán	Sinaloa	1887	73	3.9%	
Gustavo A. Madero	Distrito Federal	100	3	3.0%	

Municipality	State	Murders	Messages	Ratio	Category
Mocorito	Sinaloa	111	3	2.7%	Undefined
Técpán de Galeana	Guerrero	111	3	2.7%	
Ahome	Sinaloa	266	7	2.6%	
Coyuca de Catalán	Guerrero	117	3	2.6%	
Zapopan	Jalisco	166	4	2.4%	
Monterrey	Nuevo León	296	7	2.4%	
Tijuana	Baja California	1669	39	2.3%	
Mazatlán	Sinaloa	521	12	2.3%	
Matamoros	Tamaulipas	131	3	2.3%	
Reynosa	Tamaulipas	230	5	2.2%	
Navolato	Sinaloa	384	8	2.1%	
Cuauhtémoc	Chihuahua	101	2	2.0%	
Guasave	Sinaloa	219	4	1.8%	
Hermosillo	Sonora	111	2	1.8%	
Lerdo	Durango	189	3	1.6%	
Nogales	Sonora	442	6	1.4%	
Chihuahua	Chihuahua	1409	18	1.3%	
Tepic	Nayarit	256	3	1.2%	
San Fernando	Tamaulipas	173	2	1.2%	
Taxco de Alarcón	Guerrero	105	1	1.0%	

Municipality	State	Murders	Messages	Ratio	Category
Miguel Alemán	Tamaulipas	113	1	0.9%	Drug- trafficking ridden violence
Delicias	Chihuahua	124	1	0.8%	
Mexicali	Baja California	127	1	0.8%	
Nuevo Casas Grandes	Chihuahua	128	1	0.8%	
Santiago Papas-quiaro	Durango	133	1	0.8%	
Juárez	Chihuahua	6436	44	0.7%	
Salvador Alvarado	Sinaloa	173	1	0.6%	
Durango	Durango	382	2	0.5%	
Torreón	Coahuila	524	1	0.2%	
Ascensión	Chihuahua	111	0	0.0%	
Badiraguato	Sinaloa	104	0	0.0%	
Cajeme	Sonora	129	0	0.0%	
Camargo	Chihuahua	119	0	0.0%	
Gómez Palacio	Durango	556	0	0.0%	
Guadalupe	Chihuahua	142	0	0.0%	
Guadalupe y Calvo	Chihuahua	119	0	0.0%	
Hidalgo del Parral	Chihuahua	213	0	0.0%	
Juárez	Nuevo León	103	0	0.0%	
Playas de Rosarito	Baja California	100	0	0.0%	
Pueblo Nuevo	Durango	136	0	0.0%	
Sinaloa	Sinaloa	176	0	0.0%	

Table 2 displays all 59 municipalities with more than 100 organized crime-related deaths during the period covered by the data sets. The 59 municipalities were classified into three groups. Those with the lower message-to-murder ratio (below 1 percent) were identified as drug trafficking ridden violence municipalities. Those with the highest message-to-murder ratio were identified as mafia driven violence (above 3 percent). The municipalities in between the two previous groups are those where it is not possible to determine a distinctive source of violence.

Figure 3. Drug-trafficking driven violence municipalities



Figure 4. Mafia driven violence municipalities



The municipal data on organized crime-related deaths and messages from criminal organizations shows two general trends. First, there is a geographical distribution of mafia-ridden violence. While drug trafficking driven violence typically develops along or near the US border, mafia-ridden violence is more common in central Mexico. This geographical distribution may reflect the location of key drug-trafficking routes and operation centers, which include several border towns. On the other hand, mafia driven violence seems to be prevalent in areas with no strategic value for transnational drug trafficking.

The second trend that stems from the data is that mafia driven violence is a more recent phenomenon than drug trafficking violence. While violence typically escalated during 2008 and 2009 in the drug-trafficking municipalities, in most mafia-ridden municipalities organized crime-related deaths did not become endemic until 2010. Drug-trafficking violence in the *Frontera Chica* in Tamaulipas—where the Golfo Cartel had a monopoly before its gunmen organization (Zetas) split in early 2010—is an important exception to this trend.

The Development of Illegal Protection Markets

Drug-trafficking driven violence and mafia driven violence have distinctive features and are the outcome of different phenomena. However, there may be a link between them. The increase in both types of violence has been very sharp and happened in a relatively short period. The following three mechanisms are complementary accounts of the process that led from wars between drug cartels to the establishment of mafias (this causal direction is logical and fits the evidence that drug-trafficking driven violence precedes mafia driven violence).

- *Reconversion*. As a result of the government policy of intensive leader arrests since 2007, several cartels have fragmented. Some factions have been crushed and displaced from drug trafficking. However, they have a set of assets (including weapons, gunmen and personal relations with some local authorities) that allow them to successfully engage in illegal protection provision.
- *Forced relocation*. Even though criminal organizations may not actively seek expansion, they may develop networks in new territories when circumstances lead to the relocation of some of their members (Varese, 2006). As a result of

conflicts between drug-trafficking organizations, this has been the case for several factions, which have been pushed out of regions currently under their rival's control.

- *Impunity.* Widespread violence raises impunity, since police departments in conflict areas may be overwhelmed or may be captured by one of the organizations in conflict. Since the probability of punishment decreases under this scenario, illegal protection becomes a more attractive activity. On the other hand, widespread violence also raises the demand for illegal protection.

While mafias are bringing violence to regions that were relatively safe until 2009, it is noteworthy that the expansion of this type of violence—as well as the underlying illegal protection problem it reflects—has been patchy, and that much of Mexican territory remains overall beyond the reach of large mafias. However, the trend is troubling. While drug trafficking may be the largest source of revenue for Mexican criminal organizations, it is not inherently violence intensive. Illegal activities may be consensual or “predatory” (Albanese, 2007), but the latter are more intensively violent. In most cases drug trafficking involves the provision of illicit goods, hence it is overall a consensual activity. While in some cases illegal protection is also consensual, it is closer to a predatory activity, it always relies on intimidation, and hence it is usually more violence intensive than drug trafficking.

An additional concern is that mafia driven violence may continue spreading at a fast rate and without a foreseeable limit. As the fragmentation process of criminal organizations carries on, clashes between rival cartel remnants will continue spreading violence and leading to a higher demand for illegal protection through reconversion, relocation and impunity. While not all regions in Mexico may be possible scenarios for endemic drug-trafficking ridden violence—since much of the country is not strategically important for transnational drug trafficking—all of them have the potential to brew mafia ridden violence. This is especially true since rule of law is weak throughout Mexico.

This assessment is still only a partial one. While violence is overall a straightforward consequence of illegal protection markets, in some cases the threat of violence may successfully prevent conflicts (Desroches, 2005). Illegal protection markets

are currently producing high levels of violence because mafias are establishing in new locations (and have an urge to develop their reputation), or because there is an ongoing conflict among different mafias that compete to attain control over the local illegal protection market. Nevertheless, some organizations may have established an uncontested control of extortion and illegal protection networks without producing large violence outbreaks. For instance, extortions have been reported in Veracruz, a state where the Zetas —a large and hitherto cohesive organization— are not challenged currently by any other large criminal organization. However, this analysis has the advantage of stressing what arguably is the most disruptive consequence of illegal protection markets. In the current scenario of fragmentation of criminal organizations, a high prevalence of organized crime-related violence may be an inevitable consequence of (as well as a cause of) the development of illegal protection markets.

Over the long term, the spread of mafias throughout the country may bring a stronger social demand for anti-violence government interventions. Predominantly drug-trafficking driven violence during 2008 and 2009 —which concentrated in only a few regions of Mexico— did not bring a national public debate on the need to evaluate major changes regarding security policy. This is changing as a larger share of the population is affected by violence due to its geographic dispersion. In recent months, Federal Government top officers, including President Calderón, have engaged twice in face-to-face public dialogues with victims of violence and other critics of their security strategy. Such events have no precedent in Mexico. However, these dialogues have not produced any significant policy changes so far.

Future research should provide evidence on the factors that increase the probability that mafia driven violence will become endemic in a municipality. The existing theoretical framework on illegal protection provides some hints for such research. A weak rule of law and overall low trust between individuals foster the sprouting of mafias. These features show that individuals require protection and that legitimate authorities are not able to deliver it (*i.e.*, there is an unsatisfied protection demand). Hence, mafias may develop in municipalities with weaker law enforcement institutions (*e.g.*, an insufficient police to population ratio) or in those that already have large criminal networks (*e.g.*, higher theft rates).

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¹ Consultant on matters of public policy (www.lantiaconsultores.com). Editor of the e-journal *Transparencia y Privacidad. Revista Mexicana de Acceso a la Información y Protección de Datos* (<http://bit.ly/qmymyU>), and President of the Mexican Association of former Fulbright-García Robles fellows. I am grateful for the valuable support I received from Roberto Valladares in writing this article.

² The dataset was released by Mexico's federal government in January 2011. The dataset can be downloaded from the Mexican Presidency's website <http://bit.ly/nhmMKN> (in Spanish).

On Mexican Violence

Héctor Aguilar Camín

Editor of *Nexos*

Lets begin by saying that drugs are not an issue of public health in Mexico, unless we think of homicides as a public health problem. The drug problem in Mexico is mainly one of insecurity, violence, and institutional weakness.

At the root of the problem is a historically weak system of rule of law. The weakest link of this particular chain is local governments, which are responsible for the prosecution of common crimes such as homicide, robbery, extortion and kidnapping. There are different figures available, but the most reliable one shows that local governments only punish 5% of those common crimes. So, the probability that one person can kill another in Mexico and get away with it is 95%.

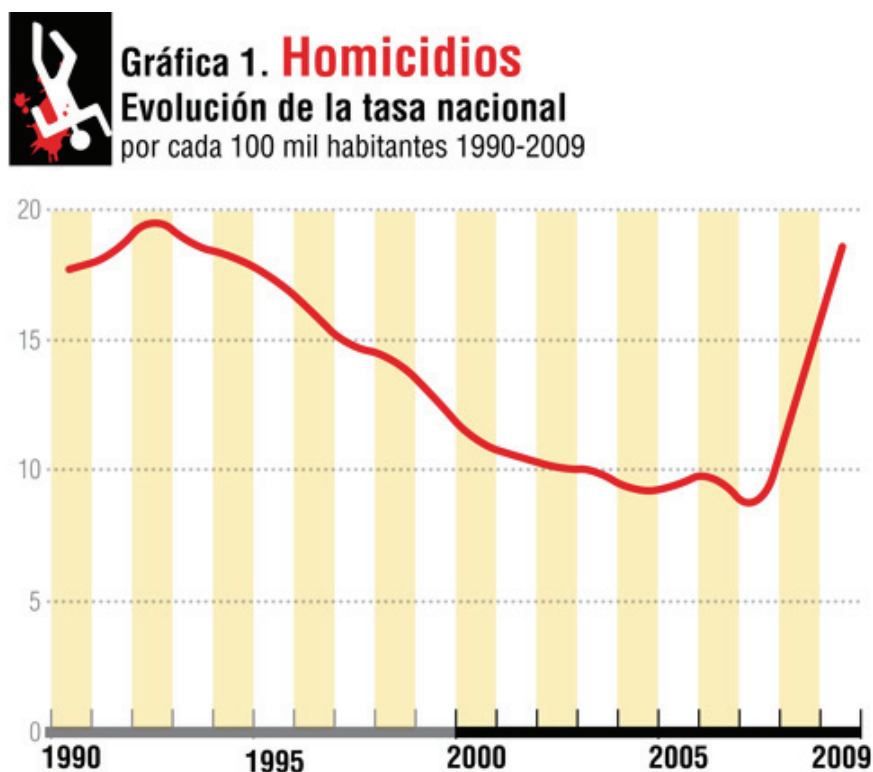
With such a high rate of impunity, it is remarkable that Mexico is not a more violent and criminal place than it is. Drug trafficking adds an extraordinary flow of cash, corruption and criminal opportunities to the weak rule of law and the crime patterns already existent.

The dilemma we have in Mexico today is this: can we resolve the historical institutional weaknesses, at the federal as well the local levels, and at the same time diminish the present crisis of violence and insecurity resulting from the so called “war on drugs” undertaken by President Calderón. This is the challenge. I will explore a few options while adding some figures to illustrate the depth of the problem.

I would like to say, following Daniel Mejía, that the history of drug trafficking is mainly a story of violence and insecurity borne by some countries in the Western

Hemisphere, mainly Colombia and Mexico, and possibly soon Central America. Tolstoy wrote that all happy families look alike, while unhappy families are unhappy in their own way. We can say that all countries where drugs are consumed look alike, while the countries that have trafficking and production live their crisis in their own unique way. The way it is happening in Mexico is expressed very clearly in Chart 1.

Chart 1. Homicide rate per 100 000 in Mexico (1990-2009)



Fuente: Instituto Nacional de Geografía y Estadística, INEGI

As the chart clearly shows, by 1990 Mexico had a rate of 19 homicides per 100,000 inhabitants. It shows a descending steady curve from that year through the next decade when the figure came to an all time low of only 8 homicides per 100,000 inhabitants in 2007. The terrible fact that has yet to be explained is why in 2007 and 2008 this tendency stopped and went suddenly and dramatically the other way -- an ascending and increasing spiral that took us to a rate of 18 homicides per every 100,000 in 2009. We don't have the final numbers yet for 2010 and for

2011, but we know through indirect assessments that the trend continued and the figure is now over 20 homicides per 100,000 inhabitants¹.

So what happened? We don’t have a full picture of the process, but we can say that during these years the only new and specific factor on the landscape of violence in Mexico has been the operations of the war on drugs, the first of which was launched in Michoacan at the end of 2007. The statistical fact is that there is a coincidence between homicide growth and military operations and federal interventions in territories that were clearly in the hands of organized crime. The pattern is clear: first, a visible drop in violence immediately following military incursions and then unstoppable growth.

The killings following the occupation by the army in Chihuahua increased tenfold from 14.4 to 185.5 per 100,000 inhabitants. What happened there? One theory is that the pressure from the army might have exacerbated the war among the gangs, leading to despair and mutual destruction, but it is mere speculation.

Why? Fernando Escalante Gonzalbo suggests that the Mexican war on drugs activated different “killing machines” in the country. We assume that fundamental illegal agreements were broken between different factions, not only cartels and gangs associated with drug trafficking, but also other armed groups that had attained a status of operative stability that was destroyed or unbalanced, ending up in homicidal decisions in an effort to restore the previous under-the-table stability.

The point is we are not talking about drug traffickers only. There are other armed groups: clandestine loggers, bootleggers of different goods, workers and workers unions, peasants and rural communities, urban juvenile gangs, and different types of municipal, state and private police. And, of course, we should include in this list the military and its deserters who are professionally trained in the use of arms. All of them, Escalante says, belong to a rarely recognized, socially blurred category of people that we could label “workers of violence” -- all those who depend on the use of force to make a living.

We don’t know exactly what is happening with those armed groups, but we do know, because it has been very well documented by Eduardo Guerrero, what’s happening with drug cartels and the war against drugs.² The main goal of the

federal government's strategy in this matter is being achieved. The goal was to transform the national security problem posed by drug trafficking cartels in some parts of the country into a public security issue that would be manageable by local governments.

The strategic decision was to pressure and fight the big drug cartels in order to fragment them, to behead them, turning them into organizations less capable of controlling territories and corrupting local authorities or federal police forces.

The consequence of this successful strategy is that cartels have been fragmented and beheaded -- they are weaker now -- but they have extended to new territories and they have become more violent in businesses different from drug trafficking. That's why we have horrible stories about extortion involving illegal immigrants and the brutal homicides associated with the process of gangs collecting illegal rents or fighting for control of streets, corners, cities and roads.

We are right now in the middle of this strategy. Cartels are fragmented, they are less powerful and not as efficient as they were, but they are more violent than ever and more dangerous for the general population.

The question is, when is this going to revert? When will this homicidal wave stop and decline so that we can say the strategy has worked, not only from the standpoint of fragmenting the cartels, but also from the point of view of giving back to society the security that it lost?

This is the moment the country is living through. The federal strategy is working, but what society accurately perceives is greater insecurity, more violence and a higher homicide rate. The natural consequence is, of course, unprecedented public turmoil and fierce disagreement regarding the results and the methods of this war.

One fundamental disagreement is between the federal and local governments who simply do not want to be part of the war. The local governments prefer to knuckle under without facing the consequences of the hostilities, leaving the political responsibility to the federal government. The federal government is beginning to say that the brunt of the work is getting done and it is now the turn

of the local governments to finish the job by controlling the fragmented cartels. Neither of these two premises is true. The local governments cannot do anything yet against those groups, nor has the federal government really fragmented and weakened them completely.

Meanwhile the cost of this strategy rises every day. Politically, the disagreement is wider than ever and the next presidential elections will be mainly about that disagreement. Socially, there is a growing perception of insecurity and lack of certainty. The cost of this strategy has reached such a level that we can say it is not viable in terms of politics, and not tolerable in terms of social perception. It is a burden no one can bear. A profound change is needed and fresh promises and alternative solutions will be the central issues of the country’s future agenda.

I will now address the key question of how big has been the impact of military and federal operations against drug trafficking. This has been reasonably measured by José Merino, in a statistical exercise the results of which are shown in the following charts.

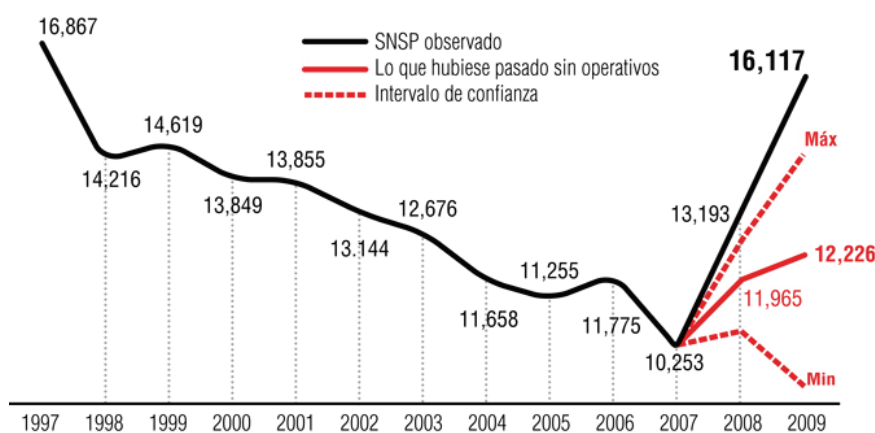


Gráfica 2. ¿Qué hubiera pasado?

Homicidios INEGI observados vs. sin operativos



? **Gráfica 3. ¿Qué hubiera pasado?**
Homicidios dolosos SNSP observados vs. sin operativos

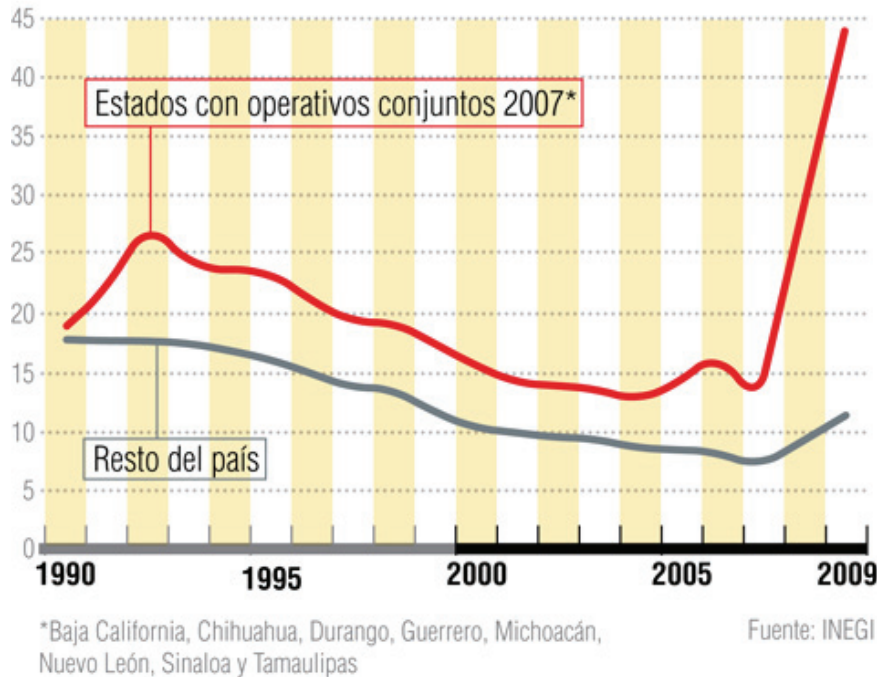


? **Gráfica 4. ¿Qué hubiera pasado?**
Homicidios ACO observados vs. sin operativos





Gráfica 5. Evolución de homicidios
Operativos conjuntos y el resto del país
1990-2009



The impact has been big by any standard. If we look at the figures of general homicides provided by INEGI during 2008 and 2009 (Chart 2), the numbers show that due to military and federal interventions, there probably were 7,000 more deaths than there would have been without such interventions. If we then focus on the figures of general homicides provided by the Secretary of National Security (Chart 3), the figure is 5,000 more deaths due to military and federal operations. Then, if you take just the official figures for “crimes related to organized crime,” (Chart 4) there were 11,500 homicides over the figure that we could have expected without the impact of military and federal operations.³

So a point that is going to be a great political and institutional issue during the next few years in Mexico is this: How many has the army killed in these years? How many and how, because the jump in numbers arguably due to military operatives is amazing. We do have a few leads about some troubling standard procedures worthy of attention.

First, there is the trail of official press bulletins from the military -- hundreds of them since the beginning of the war. All of them are written according to the following pattern: one, the military force patrols a street or neighborhood; two, eight or fifteen or thirty people attack the convoy; three, the military chases the aggressors; and four, there is a shoot-out in which all the aggressors die, yet there are no casualties from among the military force. According to their own report, military forces have eliminated over 1,000 combatants in this way. It is a very military-like lie, but not necessarily law abiding or mindful of human rights or law enforcement. In fact, it has the sound of a military variation of a “take no prisoners” policy.

Second among the troubling procedures is what military personnel do, not as an institution, but through generals and officers in charge of public security in civil local governments. There is a case that I will mention because it was publicly discussed in Mexico. It is an extreme and outspoken version of a usually silent and discreet style -- although also worrying.

This is the case of general Bibiano Villa, former chief of police of the city of Torreón, in the northern state of Coahuila. General Villa said to a journalist, in a very expressive way: “Whenever I find a drug trafficker [in the streets of Torreón] I pack him up.” He was chief of police of Torreon for one year. How many drug traffickers did he pack up during that year? Two hundred and six, he declared proudly. How many policemen did he lose? Only six. How did he know that the people they killed were drug traffickers? Because he can tell when he sees them, he claims. Was there any intelligence, any investigation to really know if those people were criminals? None whatsoever. The army knows better. General Villa knows who they are.

If General Villa epitomizes the attitudes and behavior of his peers then we have a serious problem, because there are at least 17 retired generals in charge of the security and police forces of at least 17 states and a lot more who are chiefs of police of cities and counties.

Concern regarding military procedures keeps growing as demonstrated in public opinion grievances against extra-judicial actions and the increasing number of

complaints, amounting to 5,000, submitted to the national human rights commission. We can anticipate a huge institutional and political problem on the human rights front for years to come.

So it begs the question, how big is the homicidal wave? It's big, but not as big as the media suggests. Altogether Mexico had an average of 19 homicides per 100,000 inhabitants in 2010. This is more than twice what it was three years ago, but still less than the 22 per 100,000 in Brazil, 39 in Colombia, 49 in Venezuela, and 52 in Guatemala.⁴ Ours are very far from being the figures of a peaceful country, but they are also far from making it the most violent country on the planet. Nevertheless, Mexico bears that label in the eyes of much of the world.

Now I turn back to my basic point. The real reason drug trafficking has been able to reach these previously unseen levels of violence, corruption of authority and reduction of the presence of the State is the old Mexican impunity, the old corruption of justice and the twisted ways of enforcing the law. Drug trafficking is the catalyst, but the historical and structural problem is impunity. In the rising tide of drug trafficking, crime is embedded in the State's apparatus and the question put to the Calderón administration was whether or not he had to clean house. The Calderón government answered yes.

The question still up in the air is whether the war needs to be as violent as it has been. Increasingly more people think not, and numerical analyses indicate that the strategy used so far is multiplying the violence. The key question now is whether the violence can be reduced, with the understanding that any serious strategy against crime comes with legal federal violence, given the poor quality of the country's local institutions.

The fundamental principle for how to reduce violence, says Eduardo Guerrero, is to increase its costs for criminals. How? By concentrating the scarce resources to prevent and punish violent crimes that aggravate people the most. This would avoid dividing the security efforts across a broad front pursuing all crimes associated with drug trafficking in all corners of the country.

The fight against drug trafficking as such involves a shotgun approach. At the same time you have to prosecute traffickers, dealers and derivative crimes af-

fecting the community: murder, kidnapping, extortion, and human trafficking. It is only violence and crime associated with prohibition that has grown. Of course this is easier said than done. The real problem is that there are no shortcuts or easy solutions. The truth is that the amount of violence affecting Mexico reveals a potential for violence that had accumulated for years, but has now boiled over in the midst of tolerated illegality. Most of all, the violence has put the spotlight on the weaknesses of the law enforcement system.

Legalizing drugs is not an immediate solution, but it would be a substantial one with regard to the problem of drug trafficking which, due to the exorbitant earnings inherent in the illegal market, has the capacity for corruption, recruitment and violence, all of which are self-evident in every one of the places where the narco is present. It is also worth mentioning that banning substances and prosecuting drug related crimes do very little to reduce the market or the use of said illicit substances.

Let me finish with a joyous, or rather melancholic, comment on México and the United States that relates to their two biggest bilateral issues. This has to do with commercial principles. The US is allegedly the world's champion of free markets and free trade. Two basic goods that the US imports massively from Mexico are a labor force and drugs. Both are illegal.

¹ Escalante Gonzalbo, Fernando, "La muerte tiene permiso", *Nexos*, Febrero 2011. The figures came from the Instituto Nacional de Geografía y Estadística and its records of homicides as registered in forensic instances from the whole country. At the time of the Yale conference, final figures from 2010 and 2011 were still being tabulated.

² Guerrero, Eduardo, "Los hoyos negros de la estrategia contra el narco" y "Cómo reducir la violencia en México," *Nexos*, num. 392, y noviembre 2010, núm. 395.

³ INEGI figures are based on forensic registers of corpses. National Security figures are based on homicides registered in penal records. "Crimes associated with organized crime" is a category created to include assassinations visibly related to criminal executions — use of assault weapons, homicides preceded by kidnappings and tortures, etc. Merino used the statistical technique of "propensity scores." José Merino, "La raíz de la violencia" en *Nexos*, junio 2011.

⁴ Data compiled from sources in www.Mexicomaxico.org/Voto/HomicidiosMundo.htm

Views from the Frontline: Drug Policy in Mexico

Jorge Hernández Tinajero

Colectivo por una Política Integral hacia las Drogas

In this paper, I will try to present a general overview of drug politics and policies in México. It may be less scientific, but comes from our experience on the ground. I will refer especially to the impact of Mexican rates of consumption and violence created by the current government's policies. This approach is from the point of view of an NGO specializing in drug policy in México. Sometimes the presentation of scientific facts is not as useful a way to ascertain a panorama of the whole scene.

The Debate

In Mexican politics, the debate on drug policy seems to be sterile and ill-posed because actors tend to confuse, or to mix, drug consumption problems with issues related to security and violence. Mexico does not have the highest rates of drug consumption in the world; but the government's efforts to deal with organized crime are based on moral arguments about drugs that seem to leave no options or room for maneuver in other drug policies.

This moralism has strange effects: drug consumption problems are the moral basis for a militarized strategy against organized crime, a strategy that does not care very much about people's health, human rights, or other collateral damage like corruption, money laundering or even the judicial process. The public health system remains a complementary and minor component of the security strategy implemented against drugs.

Health in the Strategy

The public health approach receives little attention in terms of budgets, institutional development, or accountability, results and transparency. The drug market inside Mexico is not as big as the market in the United States. Its dwarfed market makes it seem irrelevant, but there are certain tendencies that are worrisome. The last survey from 2003 to 2008 shows that even though the consumption of marijuana was stable during that period, the consumption of cocaine in Mexico doubled and the consumption of methamphetamines sextupled.

So what we have is an inadequate and insufficient response from the State in terms of health services, even for a moderate – but increasing – problem in México, and especially with drugs that are much more dangerous for users and their social environment, such as cocaine and methamphetamine.

One of the few pieces of evidence that we have about the size of the public health problem comes from Encuesta Nacional de Adicciones 2002-2008 (ENA 2002-2008). It shows that 6% of the Mexican population has experimented with some illegal drug, that 18% of students in Mexico City use illegal drugs at least once in their lives, and 25% of that population have drinking problems.

According to María Elena Medina Mora, head of the Instituto Nacional de Psiquiatría, in terms of drug consumption Mexico confronts the following main challenges:

1. Initial age of first consumption, recently falling sharply.
2. New consumers increasingly found to be women, moving towards parity with men.
3. In the period 2003 – 2008 cocaine use has doubled, while its derivatives and methamphetamine use has increased six-fold (ENA 2008)
4. The use of heroin as part of a new trend.

In terms of health, Mexico embraces a non-efficient drug prevention strategy; a lack of coordination between social, educational, and security institutions; and a rhetoric that calls for decriminalization of users, but in fact imposes stigmas and marginalization on them, a situation that makes it less likely for users to reach out to the health system. Official data does not exist yet on those people

diverted from the justice system to treatment centers because this new model of dealing with drugs in México only began in 2008. Ultimately the data will come from New Life Centers. If the public health services are insufficient or inadequate to address the growing health problem in the country, the new policy looks for a subrogation model with local treatment centers. But currently there is a lack of regulation and coordination over New Life Centers by the appropriate federal, local and civil organizations.

Meanwhile, what we have now are uncertified compulsory treatment centers, called “Anexos” that have become a flourishing economic and social phenomenon. With numbers calculated to be in the thousands, these centers do not have staff with professional training, most of them are directed by recovering addicts and human rights violations are common. Many of them can be considered a “garbage dump” for society. Some people enter against their will. With a high degree of frequency, people are admitted into these centers where there is no registry; they then become anonymous persons with no rights. Despite the fact that many Anexos work with genuine good intentions, trying to offer the best services they can, still enforced slavery and massive killings have happened in these places, due to the illegal market to which they respond. It is calculated that there are thousands of these centers in Mexico City’s urban areas alone, but as long as they remain unregistered, we do not know how many people they hold or under what conditions they live.

Social Impact and Incarceration

The current strategy against drugs in Mexico has a significant social impact. The military presence, restrictions on fundamental rights, violence and impunity are issues that hurt citizenship on a daily basis, all over the country. The government presents success through numbers of people incarcerated or captures of high-level targets of organized crime, but says nothing about the social base that feeds the business. For many Mexicans, especially the young ones, illegal activities are the only way to survive. Organized crime offers them not only quick money, but also social prestige.

In order to control such phenomena, the official strategy relies on the armed forces. But the National Human Rights Commission declared that since the strategy of President Calderón began, there has been a 300% increase in the number of human rights complaints in the territories where the military are on the ground. The legal essential rights system has weakened dramatically by, for example, eliminating restrictions over detention while the prosecution gathers evidence, or avoiding civil trials for crimes committed by the military.

The social impact of the official strategy against drugs can also be clearly seen under the recently implemented law against “small-scale” trafficking. This law creates a new legal system to prosecute more harshly this activity of the market, and it is based on a threshold system that allows non-criminal possession of certain amounts of drugs. The idea is to create a formal or legal difference between users and traffickers in such a way that the former could be diverted into the health system while illegal activities could be punished more harshly.

Nevertheless, we can see several distortions to the so-called drug problem. The first relates to amounts: the threshold is so low that almost any user can be considered a criminal instead of a consumer. For example, to possess above ½ gram of cocaine is a criminal offense, but anybody who knows the market knows that cocaine is sold in grams. We found that in the city of Mexico, the prison population from that sector of retail drug trafficking increased 465%.

There are some other figures to consider as well: thirty-five percent of the jailed population in Mexico is there for crimes related to drugs, and 75% of that number is in jail for quantities worth less than \$100 USD, with 20% more that are held for amounts that are worth less than \$15. Very often, the prosecution system is not able to prove that these people were trafficking, so they get lesser sentences (2-3 years) that can be shortened with a good legal defense.

So what we see is that the poor people who fall into this predicament normally stay in jail for the full term, while heavy traffickers can easily take advantage of Mexico’s justice system and its structural failures to get lesser sentences. This helps us to understand how the small dealing market has adjusted to the new law. The dealers do not carry with them more than the law allows, and that way

they can declare themselves to be users. What we are finding is that under the new law there are a large number of arrests of small drug traffickers who are really not dangerous in terms of organized crimes – but they go to jail. The more powerful organized traffickers who are well within the allowable range of drug possession declare themselves as users in order to be sent to the health system.

Economy of Drugs in Mexico

It is impossible to get accurate economic figures on the subject. There are a lot of disparities between the numbers offered by different governmental agencies and other non-governmental institutions or organizations. Prices depend on the type of the drug, the region, the amount of the deal, the quality of the substance and many other factors. Our experience has demonstrated that it's impossible to have true numbers about the use of drugs in Mexico, and that includes quantities, prices and prevalence. We know more or less about the market, its dynamics on the ground and the type of drugs in use; but since it is an illegal market, we don't really have a true number that we can trust.

But what we can say is that the Mexican market has a demand for every type of drugs, and that every one of them are available for almost anyone who wants them, regardless of age, gender or social condition. This means too, that organized crime has to diversify in different drug businesses and dynamics.

It is important to understand that there are specific differences between markets. For example, it's very different to produce, store, transport, smuggle and sell marijuana, because it takes special techniques and expertise and sophistication to be able to introduce it or transport it. It is very different to buy cocaine in one market, transport it, then sell it to another.

Nevertheless, what we can see is a tendency from the '80s on in which consolidation of the businesses of cocaine, precursors and meth allowed for the expansion of other criminal activities, and transformed the business of the drug cartels to other areas – kidnapping, blackmailing, piracy, prostitution, immigrants smuggling, etc. – progressively weakening the democratic institutional framework.

In the end, drugs are a big business in capitalist Mexico, and what we can see now is more drugs available than ever before, despite the Mexican government's recent efforts for the country.

Mexican Drug War

In terms of the war's rhetoric, it is hard to affirm the government current strategy is winning on some of its fronts. From a drug policy perspective, the strategy of President Calderón has no real targets, no means to win decisive battles, no good coordination or cooperation between security forces, lacks an exit strategy, has no evaluation mechanisms, and lacks real political or social support.

Eradication is no longer the measure of success. Instead death, seizures and guns are the new parameters, while availability of drugs, or the rise of consumption has silently been growing for years, not only affecting public health but weakening democratic institutions, fostering violence and collapsing the justice system, at the local and federal levels.

Alternatives

Maybe this situation has no alternatives within the current administration, because the government itself has acknowledged that it cannot see any other options to the strategy. For them, any change will be seen as a weakness or a defeat, something simply unacceptable.

This is the paradox of Calderon's current strategy: you cannot win with it, but if you change it, you will be considered a loser too.

In addition, the Mexican government has been unwilling or unable to understand that the global consensus on drug control is disappearing. Instead of welcoming new approaches to the problem, President Calderón has been active criticizing all other regulatory policies for drugs, including the medical marijuana movement and achievements in United States.

Political administrations have to change with elections, so we predict a fierce political campaign in which it will be impossible for the candidates to avoid drug policy issues in the next federal government. As this happens, our organization tries to offer them, and to the public, a debate which includes some goals, ideas

and mechanisms to address the drug problem in México from a different perspective using some basic principles:

Reduce the negative consequences of the market, but not the market itself. It's more important to reduce violence than the actual use of drugs. Any drug policy reform that can recover state control over the market will be seen as a victory over organized crime.

Leave behind the idea of “zero tolerance” to regulate access to substances like marijuana in order to make more difficult the access to more dangerous substances like cocaine and its derivatives or meth-type drugs.

Introduce the idea of different regulations for different types of drugs instead of the notion that drugs are all the same. Build economic, security and civil strategies to separate markets. Legal or illegal, the markets have to be controlled or regulated in a particular way, according to differences in their impact on health and other social assets.

Tobacco regulations in Mexico, especially in Mexico City, provide a success story that, even though it's not perfect, has demonstrated that we can have very good results controlling substances as a society.

Use law enforcement towards the most dangerous criminal networks and markets. Do not waste efforts and resources on non-dangerous users, or on providing non-violent offences with the possibility to have alternatives to prison sentences.

Human rights enforcement is the only way to restore legitimacy to state institutions.

Balance budgets within the strategy: it is equally important to have crime-free public spaces and communities as it is to have basic and quality public services such as medical attention, schools, social and economic development, especially for the youth.

Violence in Central America

Joaquín Villalobos

Consultant on International Conflict Resolution

The most recent statistics place Central America as the world's most violent region. In the last decade there have been 145,000 homicides in 7 countries in the region, the vast majority of them in Guatemala, Honduras and El Salvador. These countries appear each year among the top ten places for homicides in the world. According to the United Nations Office on Drugs and Crime (UNODC) report, in 2010 the rate of homicides for every 100,000 inhabitants in the countries in the region were:

- Honduras: 82.1
- El Salvador: 66
- Belize: 41.7
- Guatemala: 41.4
- Panama: 21.6
- Nicaragua: 13.2
- Costa Rica: 11.3

The Honduras murder rate is the highest in the world, El Salvador occupies second place, Belize the sixth and Guatemala the seventh. Central America went from a rate of 27 homicides in 2000 to 43 in 2010.

The above data show the magnitude of the threat. The region is in a state of emergency, like that of the 1980s war. Two problems generate violence: gangs and organized crime, primarily related to drug trafficking. Gangs affect Guatemala, Honduras and El Salvador. Organized crime affects all countries, but much more so Guatemala and Honduras. It is common to view these two types of criminal activities as the same, when in reality we’re dealing with two different things.

We can identify organized crime when we see seven essential features: financial power, social force, territorial domain, infiltration of the State, intimidation, global interconnection and cultural empowerment.

Financial power: This power is generated from “illicit trade” that could encompass a wide variety of products such as drugs, weapons, gasoline, diamonds, gold, stolen vehicles, piracy and activities such as prostitution and human trafficking.

Social force: The existence of illicit businesses means “illegal employment” which, depending on the size of the illegal economy, can become quite numerous. These “jobs” are transformed in the long run into a major social force that survives on criminal activity.

Mastery of strategic territories and locations: Combining financial power and social force, leads to the domain of a particular territorial space and strategic locations. These spaces and places are tied to various kinds of illicit trade.

State co-optation or infiltration: This is the most decisive factor in establishing that we are dealing with organized crime. If the illicit activity is capable, be it through corruption or intimidation, to recruit local or national representatives for the purpose of facilitating and protecting their criminal activities, we are then dealing with State co-optation.

Intimidating armed power: Organized crime creates its own armed power to ensure dominance over other criminal groups and for self-defense in the event that the State attempts to regain authority in their area of domain.

Global interconnection: When we speak of organized crime, it pertains to criminal “companies” that are interconnected globally with other criminal groups in order

to move drugs, people and illicit commodities between countries and continents. Profitability comes precisely from its global nature.

Cultural empowerment: As time goes on and social complicity increases, the relationship between criminals and residents multiplies and normalizes. With this comes a “crime ethic” or a criminal culture that reproduces the phenomenon in society. Criminals are the subject of social recognition and become role models for young people.

Some scholars such as Fabio Armao of the University of Turin in Italy, consider that a criminal enterprise has political power when it is able to challenge the state monopoly on violence in a section of the territory. Based on this, Armao speaks of the existence of pockets of sovereignty (“sovereignty clusters”) under criminal group control.

Differences Between Organized Crime and Gangs

Family: With regard to organized crime, family is part of the criminal structure and it is common for criminal groups to be organized by family, such as: “the Arel-lano Félixes,” the “Beltrán Leivas” or “the Michoacán family” in Mexico, or “the Lorenzanas” and “Mendozas” in Guatemala. Generally, gangs are young people from dysfunctional families that, from the criminal structure create a family, such as the “Salvatruchas” and the “18” in Central America or “the Aztecs” of Ciudad Juarez in Mexico.

Violence: Beyond the brutality with which both organized crime and gangs use violence, for the former, it is an instrument related to their “illegal business,” and for the latter, it is part of their identity and has value in and of itself. Gang initiation is therefore very violent.

Organization: Organized crime is essentially underground and only surfaces where there is efficient social and territorial control. By contrast, gangs are open organizations that include bodily tattoos and very notable identification systems.

Territory: For organized crime, the territory holds a value for the “business,” and is a part of the business, serving as a route, a square or a rear guard. In other

words, one finds criminal structures where profitability exists for criminal activities, such as in Nuevo Laredo, which is on the border with the US. With regard to gangs, territory is their residence location and is a part of their identity, i.e. the “18” is named after a street in Los Angeles.

Drugs: Organized crime is a “commodity” and offenders may or may not be drug users. Gang members are drug users. Drugs are a part of their way of life.

Money: For organized crime, money has a purpose; for gangs, it is more of a tool. Organized crime has the essential group goal of financial gain. The gang needs money to survive and therefore its criminal activity is minor, but with a very high social impact because it affects poor communities. To take one example, extortion can be used by both, but it is the crime *par excellence* of gangs in their territorial environment and impacts very poor people. Organized crime extortion seeks greater profitability objectives.

Gangs are the result of a great social decomposition and point to a criminal phenomenon with strong anthropological traits that have elements of an urban tribe, such as body language, music, graffiti, tattoos, spoken language and a system of rituals and symbols. Organized crime originates in greed and generates conflict with a financial agenda. Organized crime and gangs have relationships ranging from conflict to cooperation. Gangs often relate to groups of organized crime in activities such as drug dealing or killings, but these relationships are rarely stable.

Gangs can evolve into types of organized crime as a result of generational changes and territorial control that can be achieved over time. However, it is difficult for them to develop structures that are very sophisticated. Organized crime, upon breaking apart and being taken over by younger generations due to State actions, can be degraded into local criminal and violent forms that are similar to gangs.

Central America has been hit by both phenomena to a very serious degree, and all this occurred in the transition from authoritarian regimes to democracies. Under authoritarianism, the Judiciary was irrelevant; police forces were weak, corrupt and inefficient; torture was used as the main examination tool; safety was

dominated by military notions and the military's main task was the political repression of opponents. Dominant classes in Guatemala, Honduras and El Salvador used paramilitary mechanisms to ensure social and territorial dominance, and this led to a culture of violence among the citizens who used their membership in paramilitary groups to resolve all types of conflict.

To achieve democracy and as a result of fears created under authoritarianism, the idea that the State was the fundamental threat took prominence. The Judiciary was then focused on providing guarantees to protect the citizens of the State. Offenders were considered to be the victims of social injustice, and law and order ceased to be a priority. This was like jumping from one extreme to another. Torture had been removed, but scientific research was not carried out. As part of the structural adjustment that came with financial liberalization, the police and armies were weakened. Private security grew exponentially at the expense of undermining public safety. Gangs, organized crime and the growth of illicit businesses had not been foreseen as the new threats, and the outcome was the growth of criminal power in opposition to weak States.

The region can be broken down into two extremes. The first, in the North, includes Guatemala, Honduras and El Salvador and has the worst-case scenario of violence and instability. The other, in the South, includes Panama, a country with consistent positive economic growth in recent years; Costa Rica, the most politically and socially stable country on the continent; and Nicaragua, which even with its mix of political instability and poverty has very good safety indicators.

A decade ago, Guatemala did not have a serious organized crime problem; now it has the worst scenario in the region due to the weakness of the State and the increased strength of organized crime, although it does not have the highest homicide rate in Central America. The reduction of the Army, in part for pacification, but much more as a measure of structural adjustment, resulted in the abandonment of military positions in Petén and other parts of the country. The resulting power vacuum in those territories was filled by criminal groups who now control vast rural areas, while the capital and other cities are affected by gang violence.

At the same time, the Police and the Military were never reformed, they were merely reduced, and the level of penetration of organized crime in these institutions is, therefore, quite high.

Honduras and Guatemala have an organized crime and gang problem that are responsible for most of the violence. There are territories under the control of the criminal groups. During the war in the 1980s, Honduras had several armies within its territory: the Nicaraguan contras, the US military, various paramilitary groups and its own military. There is a culture of violence among its citizens and the judicial system is backward and inefficient. Neither the army nor the police have been reformed. Therefore there are high levels of penetration by groups of criminals in these institutions.

With regard to El Salvador, both the police and the army underwent deep reforms, and to date there has been no serious penetration of organized crime into either institution. El Salvador’s main problems are gangs who now control large neighborhoods in the most important cities. The judicial system is inefficient, and coercive power is less than in the past. This reduction in coercive power, the culture of violence in the public, a system of prisons that has already collapsed, and emigration and mass deportations of convicted criminals from the United States are directly related to the explosion of violence affecting the country. El Salvador is the Central American country that has suffered the greatest destruction to its social fabric as a result of emigration. Approximately one third of its population emigrated, primarily to the United States, and remittances became the mainstay of the Salvadoran economy. There is therefore a connection between the financial model and the violence experienced by the country.

Migration to the United States

El Salvador: emigrated inhabitants – 2.9 million

Guatemala: emigrated inhabitants – 1.5 million

Honduras: emigrated inhabitants – 1.1 million

Deportations from the United States

Country	2007	2008	2009
Honduras	30,227, 17% c/d	29,758, 18%	25,566, 25%
Guatemala	26,429, 15%	28,866, 18%	30,229, 21%
El Salvador	21,029, 24%	20,949, 27%	21,049, 30%

Percentage of criminals deported (c/d) from each year's total.

Source: "Gangs in Central America" Congressional Research Service, December 2009. Taken from "Organized Crime in Central America." Woodrow Wilson International Center.

Nicaragua is a special case. Poverty conditions are like those in Honduras and the judicial system is inefficient and highly politicized. On the Atlantic coast there are areas of great weakness with regard to the presence of the State. The country is important as part of the cocaine route and police often capture drug shipments and dismantle attempts to create organized crime groups. Emigration from Nicaragua was primarily to Costa Rica where more than half a million Nicaraguans reside. The US does not deport criminals to Nicaragua and gangs have not contaminated the culture. Despite the war in the 1980s, Nicaragua is not a culturally violent country; paramilitary groups did not exist even during the era of the Somoza dictatorship. The police and the army were deeply reformed. Initially both had strong ideological elements because they were the product of the revolution. When they became national institutions they retained all the experience with regard to the community as a pillar of security. There is no penetration of organized crime in either institution and both have great social recognition due to their efficiency in controlling territory, maintaining security, and preventing the formation of organized crime groups.

Upon comparing the four countries of Guatemala, Honduras, El Salvador and Nicaragua, some common features are evident: poverty, institutional weakness, political instability, migration, destruction of the social fabric and easy access to weapons.

Against such a scenario, Guatemala concentrated efforts to strengthen its judicial system, creating an International Commission to combat impunity of the elites; but this did not stop the violence or the penetration of organized crime in the State in spite of former Presidents and former Ministers of State having been placed in prison. The difference seems to be, firstly the culture of violence there, and secondly, the quality of the coercive power over the institutions. There is penetration of organized crime where institutions were not reformed – in the police, in the army, in the social services -- and there is more violence where inhabitants opt for this in a preferential manner over conflict resolution. Private security in Guatemala is four times bigger than the army and the police. And the country is now fragmented, like a failed regime.

Carrying over these comparisons to other countries, we can conclude that the quality and capacity of coercive power is vital in security. If the police force doesn't function, there is no security. Many countries maintain the culture of authoritarian regimes based on the belief that the more violent the police are, the better. The criminals and the police look much the same. The monopoly of violence is left in the hands of violent people, and security institutions then function using codes of violence, such as mistreatment, abuse and torture.

There is a clear interconnection between coercive power capacity and the quality of a country's citizens, and for the interaction between these to function positively requires a fundamental respect for human rights. Respect for human rights is an advantage, not an obstacle, to security institutions, as it helps to maintain social cohesion, allows the building of intelligence networks, supports the State's moral advantage, and prevents the creation or multiplication of a culture of violence. Respect for human rights does not involve forgetting the need to suppress, but rather keeps the use of force to the correct proportion. Neither is it about mistaking victims for perpetrators.

Social recognition is vital for a healthy police force since no salary exists that can compensate for the risks to police in confronting criminals. But there is no social recognition without respect for human rights. When security institutions do not have the confidence of citizens, they end up recruiting the worst people, and this leads to corruption and penetration by criminal groups. How does one explain the differences in wages among the police forces in the region, or the success of Nicaragua with the worst paid police on the continent? Similarly it is impossible to separate the best levels of safety in Costa Rica from the culture of legality of its citizens.

Police Officer Monthly Salaries

- Costa Rica: \$584
- El Salvador: \$540
- Guatemala: \$450
- Honduras: \$380
- Nicaragua: \$240

The current security crisis in Central America and Mexico is directly related to the weakness of the security institutions and the proclivity of many of its citizens to break the law. The new threat to security is not only a matter of drugs or gang repression. We are facing a complex situation that is part of the democratic transition. Felipe González, former President of Spain, during a Conference on the new National Civil Police which was founded in El Salvador in 1993, said: “Democracy needs a police force stronger than a dictatorship.” The challenge to improved safety can be summarized, then, as the urgency to build the state, community and citizenship. There is no easy way out.

The Public Health Impact of Drug Policies

Thomas F. Babor

University of Connecticut School of Medicine

Introduction: Framing the Issues

Drug Policy and the Public Good (Babor et al., 2010) is a recently published book written by an international group of scientists from the fields of addiction, public health, criminology and policy studies. The core of the book is a critical review of the cumulative scientific evidence in five general areas of drug policy: primary prevention programs in schools and other settings; health and social services for drug users; attempts to control the supply of drugs; law enforcement and decriminalisation; and control of the psychotropic substance market through prescription drug regimes. In this presentation I will summarize the main conclusions of the book, and describe its implications for both drug policy and the research needed to inform it.

Contemporary drug policy can be divided into two broad areas: interventions to control the supply of illegal drugs and programs designed to reduce the demand for drugs. Societal responses to emerging and endemic drug problems at the national level typically include a mix of these two approaches. Although each has its merits, each one also has drawbacks. The authors of *Drug Policy and the Public Good* argue that public health concepts provide a valuable way to organize societal responses to drug misuse through the coordination of supply control and demand reduction measures, and by using scientific research to guide the selection and implementation of specific measures within each approach.

The scientific evidence for the effectiveness of the many strategies and interventions developed to control drug supply and reduce demand is based on a variety of methodological approaches, research designs and measurement techniques, ranging from randomized clinical trials of prevention programs to “natural experiments” that evaluate the impact of new policies to control substance use. The application of a diverse set of research methods has made it possible to assemble an extensive evidence base on over 40 different strategies and interventions.

The Evidence Base for Supply Control and Criminal Sanctions

Supply control approaches to drug problems focus on the production, distribution, and sale of illicit psychoactive substances, whereas criminal sanctions deal with the punishment of drug sellers and users. Table 1 lists the major approaches according to their specific aims and broader goals. Policies include alternative development programs in producer nations, control of precursor chemicals used to manufacture certain drugs (e.g., methamphetamines), interdiction of drugs being smuggled into a country, and the arrest and incarceration of drug dealers at all levels, increasing penalties to punish drug use and dealing, and in some cases decreasing penalties to reverse policies that have been considered ineffective or counterproductive. Another broad approach that has been applied to control the diversion of psychopharmaceuticals (i.e., drugs designed for therapeutic purposes such as pain medications that are used or sold illegally because of their psychoactive properties) is the regulation of pharmaceutical companies, pharmacists and physicians.

Each of these approaches is based on a different set of assumptions about drug misuse. Except for decriminalization, these assumptions refer primarily to the importance of limiting access to drugs by controlling supply, price or the normative acceptance of drug use as normal or attractive. A major assumption implicit in many supply control strategies is that illegal drugs are commodities that are mainly bought and sold in markets.

Table 1. Supply control and sanctioning strategies and their broader policy goals

	Targeted Policy	Broad Policy Goals
Interdiction	Arrest traffickers/dealers, force suppliers to operate in inefficient ways	Keeping prices high and reduce availability
Prescription regimes	Regulate pharmaceutical companies, pharmacists and physicians	Allow psychoactive substances to be consumed for approved purposes, prevent use for non-approved purposes
Criminal sanctions	Increase penalties for drug possession and use	Deter drug use; prevent normalization and contagious spread of drug use
	Decrease penalties for some types of drug use (e.g., cannabis)	Prevent negative effects of criminalizing less harmful forms of drug use

Although these large-scale supply-control interventions absorb the bulk of drug control spending in most nations, the evidence supporting the effectiveness of these interventions is weak. In general, the existing evaluations fail to demonstrate effects on either the supply or the price of drugs in the marketplace (MacCoun and Reuter, 2001a). The occasional success of interventions far up the distribution chain (crop eradication, interdiction, precursor controls) have not been replicated consistently and the literature offers only educated guesses for when such interventions might achieve noticeable market disruptions. Regarding the punishment of high-level

dealers, what little evidence exists suggests that there may be diminishing returns from extended periods of incarceration. Finally, local or street-level enforcement is probably not a strong strategy for reducing drug use because the number of retail sellers is so large as to overwhelm the capacity of the criminal justice system to deliver punishment. Nevertheless, its primary effects may help to control the harms associated with drug markets, encouraging dependent users to make contact with service providers, and communicating moral norms against drug use in those communities most affected.

Following a period when incarceration and increasing legal penalties were tried, some countries and sub-national jurisdictions begin to explore the possible benefits of reducing or eliminating criminal penalties for possession of small amounts of drugs for personal use, particularly for cannabis. Most decriminalization or depenalization programs involve the substitution of civil penalties for criminal penalties for possession offenses, while retaining full formal prohibition of what are considered more harmful substances.

Evaluation of such changes in countries like The Netherlands, the Czech Republic and Portugal (MacCoun and Reuter, 2001b; Zabransky et al., 2001; Hughes and Stevens, 2007) suggests that decriminalization makes little difference to prevalence of cannabis use. The evidence indicates that removing or reducing criminal penalties on possession does not lead to substantial increases in use. However the research is limited because it almost all comes from developed countries; most of the studies only focus on cannabis and the studies are not methodologically strong.

Regarding prescription regimes, a variety of measures aim to prevent abuses such as “doctor shopping” and diversion of psychopharmaceuticals from the medical and pharmacy systems. The evidence suggests that prescription regimes affect the behaviour of doctors, although medication substitution (i.e., change from one drug brand to another) can negate the effect.

Price can be used to channel demand from a drug with more adverse consequences to a less risky alternative. Advice to physicians, in the absence of regulatory enforcement,

seems to have limited effect on prescribing unless the advice concerns a new and serious side-effect and alternative medicines can be prescribed. Shifting a prescribed drug onto a special prescription register, in conjunction with guidelines that limit prescriptions, can reduce prescriptions of that drug. In summary, research on prescription regimes indicates that the development of a strong pharmacy system can limit illicit diversion of prescription medications. Nevertheless, such systems have not been able to prevent periodic epidemics of prescription drug misuse in countries with a very high demand for psychopharmaceuticals, such as the United States, Canada, the European Union, Japan and Australia, where non-prescribed medications come onto the market via theft, unauthorized sales, prescription fraud, counterfeit drugs, and illicit internet sales. (Rose, 2007). These societies seem to be particularly vulnerable to leakage from the legal to the illegal market.

The Evidence Base for Demand Reduction Strategies

Table 2 describes three types of demand reduction strategies that have been investigated systematically: primary prevention strategies, treatment services for drug users, and harm reduction programs. Primary prevention programs operating in school settings are among the most popular demand reduction strategies. They are often based on the assumption that the provision of information about the negative effects of drugs can deter young people from initiating drug use or from using a particular type of substance (e.g., heroin). Despite generally negative findings from a plethora of studies of school, education and community based prevention programs, there is evidence that some approaches can delay the initiation of drug and alcohol use (Faggiano et al., 2005). A small number of studies have found that specific family based or classroom management programs prevent drug or alcohol use. Generally, the aim is to improve behavior and social skills within the family or classroom environment rather than focus on drugs or drug use per se. In contrast, some of the most widely used didactic approaches, such as the Drug Abuse Resistance Education (DARE), have no evidence of effectiveness, whether delivered through the mass media or in the classroom (West and O’Neal, 2004).

Table 2. Demand control strategies and their broader policy goals

	Targeted Policy	Broad Policy Goals
Prevention	School drug prevention programs, mass media campaigns, reduce access for youth through policing	Change attitudes, improve health literacy and prevent drug use
Services for drug users	Opiate Substitution Therapy (Methadone and buprenorphine), counseling, therapeutic communities, coerced abstinence through probation/parole supervision, needle exchange programs, peer-support groups	Reduce crime and overdose deaths, prevent spread of HIV infection, treat psychiatric disorders
Harm reduction strategies	Safe injection sites and needle exchange programs	Prevent spread of HIV infection and reduce risk of overdose death

The second approach to demand reduction is the provision of treatment services, which attempt to reduce drug-related harm by promoting abstinence and by changing behaviours that are harmful to drug users and society at large, such as criminal activity. The most carefully evaluated programs are interventions focused primarily on users of heroin and other opioids. Opioid substitution therapy (OST) has an extensive evidence base indicating reduced overdose mortality, less HIV infection, and lower crime rates (Uchtenhagen et al, 2004; Mattick et al., 2009). Outcome research has also found good evidence for the effectiveness of Therapeutic Communities, contingency management, counselling for marijuana

dependence, and brief interventions for moderate level drug use problems (Babor et al., 2008; Butzin et al., 2005; Marijuana Treatment Project Research Group, 2004; Prendergast et al., 2006). Psychosocial interventions for users of cocaine, cannabis, methamphetamine, hallucinogens, benzodiazepines, and club drugs have evidence of effectiveness as well.

Programs designed to modify drug users’ injecting behaviour to lower the risk for HIV infection and transmission have generally been called harm reduction approaches. Research shows that rates of HIV infection are lower among attenders versus non-attenders of needle and syringe exchange programs (Hurley et al., 1997), and those participating in these programs also have better engagement with health and social services (Wood et al., 2006).

Another demand reduction strategy with good evidence of effectiveness is peer-led mutual help organizations. Participation in these voluntary associations of former heavy drug users (e.g., Narcotics Anonymous) is positively associated with higher self-esteem, lower anxiety, and longer duration of abstinence from drugs (Christo and Franey, 1995, Humphreys et al., 1994).

In summary, there is good evidence that treatment for drug dependence is effective, especially for people without other serious problems such as psychiatric comorbidities and grossly disordered lives. Policies affecting the type, availability and organization of health and social services play an important role in the overall effectiveness of a service system (Babor et al., 2008). Promoting services for drug users is a major challenge for policymakers because of their expense and the perceptions that drug users are responsible for their condition.

Summary and Conclusions

Drug policies differ among nations in both appearance and substance. Some nations treat drugs primarily as a problem for law enforcement or the military and give great prominence to efforts to suppress trafficking; others focus their efforts primarily on prevention and education, on helping dependent drug users, and on reducing the adverse consequences of drug use. For example, Mexico has experienced a huge rise in the number of killings related to drug trafficking, and its drug problem is often defined in terms of this epidemic of violent deaths.

This variation across nations reflects differences in attitudes toward drug use itself, individual rights, and the role of government and the different ways in which drugs affect a nation. Policy advice needs to be attentive to these differences because it is unlikely that a single ‘best policy’ exists for all nations. Scientific research on drug policy has matured to the point where it could provide an effective vehicle to select the most appropriate mix of drug policies on a national level. The authors of *Drug Policy and the Public Good* (Babor et al., 2010) have offered the following conclusions regarding the translation of research findings into effective drug policy.

- 1. There is no single drug problem within or across societies; neither is there a magic bullet that will solve ‘the’ drug problem.** There are marked differences between and within societies in the types of drugs that cause problems at a particular time, how the drugs are used, the problems caused by the drugs, and how a society responds to drug problems. There is therefore no simple solution to what is generally a complex problem.
- 2. Many policies that affect drug problems are not considered drug policy, and many specific drug policies have large effects outside the drug domain.** There are similarities in the factors that predict drug use and other societal problems. Policies in other domains of society, such as those permitting easy access to guns, have direct impact on drug use and drug problems, just as efforts to combat drugs can influence outcomes in other areas like crime.
- 3. Efforts by wealthy countries to curtail cultivation of drug-producing plants in poor countries have not reduced aggregate drug supply or drug use.** Even where there has been a significant investment in drug crop eradication and alternative development programs, the desired results have not materialized or have only been temporary. One reason is that these activities shift production to another area within the country or to another nation.
- 4. Once drugs are made illegal, there is a point beyond which increases in enforcement and incarceration yield little added benefit.** Increasing enforcement and penalties against drug dealers produces diminishing returns.

These measures do not result in large price increases beyond what would occur with routine enforcement of existing laws.

5. **Substantial investments in evidence-based services for drug users usually reduce drug-related problems.** Treatment interventions for opiate dependent individuals have the strongest supporting evidence, and there are a variety of services that can be used for other types of drug user as well. The expansion of effective treatment programs and harm reduction programs will benefit not just drug users but the society at large.
6. **Primary prevention programs have a collectively modest impact.** Information-based prevention programs are ineffective ways to delay or prevent the initiation of illicit drug use. Broad based and theory-driven prevention programmes that target all aspects of a teenager’s life are more promising than purely didactic programmes delivered through the classroom, the mass media or the community.
7. **The drug policy debate is dominated by false dichotomies that can mislead policymakers about the range of legitimate options and their expected impacts.** Law enforcement and health services approaches are not mutually exclusive alternatives. Each contributes to the other’s mission, and their combined effects are likely to be synergistic. Law enforcement can promote public health (as when drug users are sent to treatment instead of prison) and health services can increase compliance with the law (e.g. when treatment leads to lower criminal activity). In addition, targeting drug use per se and targeting the harm caused by drugs are not inconsistent strategies because harm reduction approaches can channel drug users into abstinence-oriented treatment and abstinence services can result in reduced harm.
8. **Perverse impacts of drug policy are prevalent.** Drug policies should be judged not only on their intended effects but also on the unintended consequences, using cost-benefit analysis. Incarcerating non-violent drug users affects rates of HIV infection in prison and is often more expensive than treatment.

9. The legal pharmaceutical system can affect the shape of a country's prescription drug problem and its range of available drug policy options.

Strengthening the legal pharmacy system for more efficient distribution and dispensing of medicinal products can help to address the misuse of psychoactive prescription medications.

10. There is virtually no scientific research to guide the improvement of supply control and law enforcement efforts. The lack of careful study of enforcement, interdiction, incarceration, and related measures poses a major barrier to applying these measures effectively.

In conclusion, scientific research can play an important role in the development and implementation of effective drug policy. Unfortunately, drug policy in most societies takes little or limited account of this research. As a consequence, policies that have shown little or no evidence of effectiveness continue to be the preferred options of many countries and international organizations.

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Is Prevalence an Appropriate Target for Drug Policy?

Peter Reuter¹

University of Maryland

Getting Beyond the Legalization Debate

When Mark Kleiman was a young faculty member at the Kennedy School, a senior colleague asked “What is it you work on?” When Mark answered “Drug policy,” the response was: “Why would you do that?” The underlying assumption was that if you didn’t legalize drugs, there were no worthwhile policy options to discuss. That view is probably held by most economists and many intellectuals; I believe that it is narrow-minded and has some unfortunate consequences.

In the 1990s Robert MacCoun and I intensively studied the consequences of changing the basic laws with respect to drugs². We concluded that legalization advocates, who for better or for worse bear the burden of proof, face three fundamental problems. First, the projections about how drug use and behavior would change with legalization are extremely uncertain; these projections are unlikely to get better in the foreseeable future. We concluded that legalization would increase use. We saw, however, no method for projecting whether prevalence would rise by 50% or 500%. The average harms associated with an episode of use or with a single user would be massively reduced. Hence the consequences for the total harms caused by drugs, to users and to society generally, are impossible to predict.

The second fundamental difficulty is that, even if one could make projections confidently, there is no persuasive way of comparing the harms under the two regimes. How do you compare reducing the intrusiveness and divisiveness of our existing policies with an increase in addiction? There is an emerging literature on

Quality Adjusted Life Years that suggests that addiction is seen as a very costly health condition³. Estimating the social cost of the increased divisiveness of a policy that African-Americans see as disparately and adversely impacting them is, to put it mildly, difficult. Modest increases in addiction might by some standard calculation look like it worsens aggregate wellbeing. But, except to economists, the whole notion of adding up such disparate consequences into a single figure is unpersuasive.

Third, there is a massive redistribution of harms under legalization. Under any plausible scenario there will be a sharp diminution, if not elimination, of the sources of disorder and crime associated with drug marketplaces in minority urban communities. These same groups may have higher rates of addiction and other adverse consequences of drug use, but I believe those are overwhelmed by the gains from the reduction in the market related activities. On the other hand, as a middle class parent I would become much more concerned that my son might actually try cocaine and become addicted to it. Legalization would probably make me worse off. I am a (shallow) Rawlsian; the principal obligation of a government is to protect the most vulnerable groups. It is cheap for me to say I am perfectly comfortable with this redistribution but others may disagree with that value judgment. Even the assumption of the redistribution can be challenged, though I find my friends' arguments unpersuasive.

For all these reasons, I do not think that legalization, other than for marijuana, is a useful topic for policy research. Since I spent 10 years working on the topic, I say that with some pain. *Drug War Heresies* is probably the most seriously analytical book about legalization. We predicted that neither side in the debate would like it, and we were quite right about that. It is not highly regarded by either drug warriors or legalizers. On the other hand we take comfort from the fact that it has been favorably reviewed by those interested in policy analysis⁴.

Can Drug Policy Choice under Prohibition Influence Prevalence?

If legalization is not an option then our task is to discover how to make prohibition work better. In doing so, we have to acknowledge that a lot of our current policies cause enormous harm. Those policies are intrusive, bringing the state into our lives in uncomfortable ways, such as drug tests of civil service applicants;

divisive, certainly by race and probably even by age; and they are very expensive—an estimate of \$40 billion is not an unreasonable estimate of what we spend on trying to control drug problems in this country. It is fair to say the policies are ineffective, inasmuch as the United States has the Western world’s worst drug problem and has not been able to reduce it rapidly. Lots of other countries have a heroin addict population of about the same size, but no one has both our heroin problem and our cocaine problem.

The mainstream policy debate is very narrow. In the last few years a great deal of attention has been taken up with the struggle to end the absolutely indefensible 100 to 1 disparity in federal sentences for powder and crack cocaine offenses involving comparable amounts of the drug. Though it did end the mandatory minimum for simple possession (a rare offense in the federal courts), the trumpeted success is that Congress agreed to reduce the disparity to 18 to 1 for dealers. That is a very modest achievement indeed, comparable to the very slight reforms achieved in New York State following a decade long campaign to roll back the excesses of the Rockefeller drug laws. Reversing punitive criminal justice policies is a slow business.

One factor that has inhibited the mainstream debate is that there is only a weak empirical base for dealing with what I take to be the most important source of policy induced harms in the US, namely our very aggressive enforcement. Arguing for less punitive policies is conventional enough, but I want to put this in the context of a deviation from the conventional wisdom that drug policy matters to the prevalence of drug use.

Most governments target drug prevalence explicitly. Indeed ONDCP, until recently, specifically measured success solely in terms of reducing drug use in broad population surveys such as Monitoring the Future (high school students) and the National Survey on Drug Use and Health. The assumption is that policy can indeed influence drug use. That is, good prevention programs would lower initiation, particularly among youth. A better treatment system, with more addicts entering it, would reduce the extent of use in that population; treatment clients, at least while in treatment, would stop use of illicit drugs. Finally, it is assumed that effective enforcement can raise price, reduce availability, and thus lower the extent of use.

I would suggest that experience, both in the United States and other Western countries, contradicts all those assumptions. Instead, drug use is driven mostly by broader social, economic and cultural factors, as well as by the internal dynamics of epidemics. Everything we do by way of policy within the context of prohibition has fairly minor effects on prevalence. The major issue for drug epidemiology is the occurrence of epidemics, short periods of explosive growth in initiation, followed by comparably sharp declines in initiation and, for addictive drugs, slow declines in prevalence. No policy measures can in fact affect whether an epidemic of drug use starts, how severe that epidemic will be, or how rapidly it ends.

I am stating these *ex cathedra*. If you don't agree with them then what follows will not be persuasive, but if you do, the following lays out what I hope you will agree are the logical implications.⁵

On the other hand, we do know that bad policy choices can make drug use, drug distribution and production more harmful. All that policy can do, in fact, is to reduce the harmfulness of drug use, distribution and production. Though that proposition may sound very negative, I believe it has enormously liberating effects for policy. At present, many laws and interventions are justified because they might reduce drug use, even though we know with greater confidence that they do cause harms; if prevalence is no longer seen as a plausible policy goal, then the harms can be avoided.

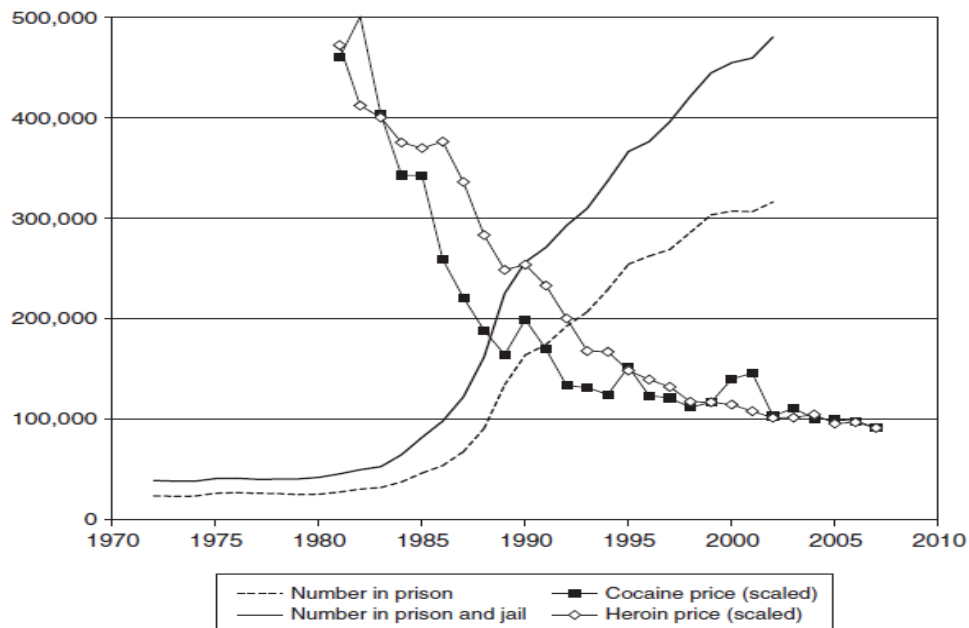
So let me defend the proposition, at least in broad terms, that drug policy has little effect on drug prevalence.

As summarized in the 2010 volume *Drug Policy and the Public Good*⁶, prevention is focused largely on marijuana, the illegal drug of first use. By and large the program evaluations have been quite negative. Certainly there are no robust positive findings of substantial effects on drug use; Jonathan Caulkins has pointed out that they are more justified by their effects on alcohol and cigarette use. To make matters worse, school systems systematically choose bad programs. Given the choice between an effective program and a bad program with a nice label they'll choose the nice label. Prevention science is improving but at present drug prevention in schools is more a slogan than an effective program.

Research on treatment has shown evidence of effectiveness and indeed even of cost effectiveness; see again *Drug Policy and the Public Good*. What is striking, though, is that most individuals under treatment continue to use drugs, they use less of them, they cause less harm, etcetera. However treatment tends to generate modest reductions in the actual measured prevalence of drug use. Most of those in treatment are still in fact users of illicit drugs.

There is very little evidence that enforcement can raise prices or reduce availability. Figure 1 is my standard graphic on this point. Over a 25-year period (1980-2005) the number of persons incarcerated for drug offences (i.e. for drug distribution, drug manufacturing or drug use) in local jails and State and federal prisons increased about 10-fold; that does not include individuals incarcerated for “drug-related” crimes, such as robbery to provide money for drug purchases. During that period of massively increased enforcement intensity, the price of heroin and cocaine both fell about 70%; it is interesting that price declines have been very parallel, even though the drugs are not good substitutes for each other.

Figure 1.



Drug prices and total drug-related incarceration, 1980 to 2005

It would be nice to have more sophisticated studies and not just rely on this very descriptive analysis. There is a dearth of good studies at a more localized level⁷. The limited available evidence is that enforcement can do little to raise price. That is not to say prohibition does not have an effect on price, but tougher enforcement may not further increase the price.

To give you another sense of the possible irrelevance of drug policy within the context of prohibition, Figure 2 is a graph from a paper by Mireille Jacobson⁸. It shows past month marijuana use amongst high school seniors, a well-tracked figure, and the size of the age 15 to 19 cohort each year from 1975-2000. There is a remarkable positive correlation between cohort size and drug use in that age group. This is consistent with the work of Richard Easterlin⁹ that shows the influence of cohort size on many aspects of individual behavior. Jacobson conducted other sub-analyses that further supported the notion that cohort size was really a very important driver.

Figure 2.

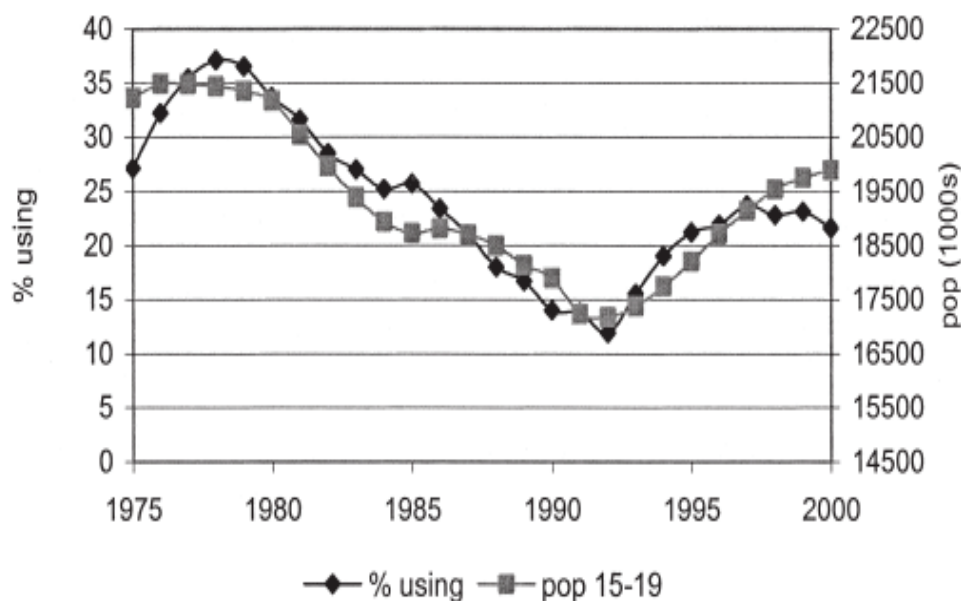


FIGURE I
Past Month Marijuana Use among High School Seniors and Cohort Size,
Monitoring the Future Data 1975-2000

Moreover, when you think about drug problems and policy it may well be that it is not drug policy that matters most. Other domains of social policy may be just as important. Keith Humphreys, probably the only senior government participant in the Affordable Care Act decision making process who cared about helping drug users specifically, talked about how the ACA provides a massive expansion in access to drug treatment. The ACA is certainly much more important than any of the efforts to adjust the Substance Abuse and Mental Health Block Grant formula or any of the other targeted drug treatment funding schemes.

The fact that in Europe you don’t have to be a deserving poor to get access to income support may also be very important. Drug users in Western Europe may be less criminally active because they have access to other sources of state payment. Other domains of social policy really deserve our attention when we’re trying to deal with drug problems in this country, and we should be less concerned about drug policy itself.

The Centrality of Harms for Policy

Let me now return to the claim that this nihilism about drug policy is useful. I am arguing that we can reduce programs whose adverse effects are certain and whose capacities to achieve the desired goals of lower prevalence are very uncertain. About 500,000 persons are locked up now for drug offences¹⁰. Jonathan Caulkins and I argue that if the nation cut that number in half, which would still make it much tougher than in the Ronald Reagan era, there’s no reason to believe that availability would increase or prices decline; the prevalence of drug use would be essentially unchanged. However, 250,000 fewer persons would be locked up; that not only saves a substantial amount in public funds, but also decreases the inhumanity of what is a very harsh policy both by historical and international standards.

In making this argument, I am assuming that the principal goal of drug policy (i.e. that set of laws and programs that have the explicit goal of dealing with drug problems) is to avert harm caused by drug use and distribution, including policy itself. Robert MacCoun and I argued that this is just a version of conventional cost benefit analysis. In CBA you lay out all the consequences of a policy intervention,

not just the advertised and desired ones but all the consequences positive and negative. Some will be intended and many will be unintended. Harm reduction,¹¹ in our formulation, is little more than that.

It will not end up as a full CBA with numbers because, as already argued, lots of the consequences cannot be quantitatively estimated and/or valued. Nonetheless, it's a very useful exercise to go through. It is to be done not just with programs that are labeled harm reduction, i.e. that explicitly target the harmfulness of drug use rather than the prevalence of drug use. It applies to any intervention. This isn't the conventional statement of harm reduction, which has historically been associated with a very narrow range of programs that specifically target the harmfulness of drug use – typically needle exchange, safe supervised injection, et cetera¹².

The criterion can be applied to a whole array of supply side interventions, driving open air markets underground, targeting the particularly harmful dealers, et cetera. But it also has use in decisions about international programs, namely to US efforts to intervene in Mexico and other source and transit countries. These programs have had essentially zero consequences for drug availability and use in this country. Captured under the label “balloon effect,” the interventions cannot affect how much is produced globally but only where production or trafficking occurs, as well as some effect on the consequences in the source countries¹³.

The evidence for the balloon effect is abundant, though the reasoning highly inferential. When Peru and Bolivia cracked down in the 1990s, Colombia then became the major coca producer, a shift that was bolstered by the huge internal displacement of rural populations in Colombia as a consequence of the drug-related guerilla violence.

You can also see the same effect for trafficking. Around 2003, the Dutch government became tired of all the cocaine trafficked from the Netherlands Antilles to Schiphol Airport. As a consequence, it did a very un-Dutch thing; all passengers were searched and anyone caught with cocaine was required to hand it over and was not allowed on the plane. The result was many fewer people flew from the Netherlands Antilles to Schiphol, and a lot less cocaine came in through Amsterdam.

However at the same time, a new route from Colombia to Europe via West Africa opened up. It is highly plausible, though not proven, that this was a response to the shutting down of the Netherland Antilles route. Suddenly countries such as Ghana and Guinea-Bissau had to deal with drug traffickers; they were singularly ill-equipped to do so.

Incidents like this pose an important question: Should the international community be thinking about strategic locations of production and trafficking, given how destructive production and trafficking are? Is it possible to identify countries in which these activities will be less destructive to global well-being. I believe that it is desirable to have drug production and trafficking to be highly concentrated in small countries close to the consuming countries so there aren't too many transit countries. Belize is my preliminary choice for cocaine; small, highly corrupt already and close to the United States. I haven't worked out a candidate country for heroin production but I know the answer is not Afghanistan, a relatively large country with many other internationally important problems that are worsened by the drug trade and very distant from most of the relevant markets.

Another argument against US aggression abroad is that the act of moving the traffic around has harmful consequences. The adverse consequences of having been a producer country do not go away when production or trafficking is reduced. They may be reduced less than proportionately as the nation's share of the market goes down. However now a new country gets involved. It acquires a whole set of harms that were not there before and that plausibly will outweigh the gains to the original country. So I think that the act of shifting is itself problematic.

Let me conclude now at a very high level. My suggestion is that prevalence is never a good target for drug policy. In fact, we are forced by the realities of what we know about effects of interventions to use harm reduction as the principal criterion. What we can do as a practical matter is aim to reduce the adverse consequences of drug use, distribution, production and policy. That applies to international as well as domestic efforts. It's not just a choice; that's all that we have available.

¹ Jonathan Caulkins and Keith Humphreys provided valuable comments.

² MacCoun, R.J. and P. Reuter (2001) *Drug War Heresies: Learning from Other Vices, Times and Places* New York, Cambridge University Press. We have recently extended this analysis in MacCoun, R. and Reuter (in press) "Assessing Drug Prohibition and its Alternatives: A Guide for Agnostics" *Annual Review of Law and Social Sciences*.

³ See, for example, Pyne, J. M., M. French, K. McCollister, S. Tripathi, R. Rapp, and B. Booth, "Preference-Weighted Health-Related Quality of Life Measures and Substance Use Disorder Severity," *Addiction*, Vol. 103, No. 8, August 2008, pp. 1320–1329.

⁴ See for example Cook, P.J *Journal of Policy Analysis and Management* 2002 pp.303-306.

⁵ Jonathan Caulkins has done much of the work on modeling these epidemics. See for example Caulkins, Jonathan P., Doris A. Behrens, Claudia Knoll, Gernot Tragler, and Doris Zuba. 2004. "Markov Chain Modeling of Initiation and Demand: The Case of the US Cocaine Epidemic." *Health Care Management Science*. Vol. 7, No. 4, 319-329.

⁶ Thomas Babor, Jonathan Caulkins, Griffith Edwards, David Foxcroft, Keith Humphreys, Maria Medina Mora, Isidore Obot, Jurgen Rehm, Peter Reuter, Robin Room, Ingeborg Rossow, and John Strang. 2010. *Drug Policy and the Public Good*. Oxford University Press.

⁷ The only high quality published study is Kuziemko, Ilyana and Steven D. Levitt (2004) An Empirical Analysis of Imprisoning Drug Offenders. *Journal of Public Economics*, 88, 2043-2066.

⁸ Jacobson, M. (2004) "Baby Booms and Drug Busts: Trends in Youth Drug use in the United States, 1975–2000" *Quarterly J. Economics* pp.1481-1512.

⁹ See for example, Easterlin, R. *Birth and Fortune*(1987) Chicago, University of Chicago Press.

¹⁰ Caulkins, J. and Reuter (2006) "Re-orienting Drug Policy" *Issues in Science and Technology* 23(1).

¹¹ The argument is given in detail in Reuter (2009) "Do no harm: sensible goals for international drug policy" *The American Interest* IV(4) 46-52.

¹² For example, the Harm Reduction Coalition provides the following definition: "Harm reduction is a set of practical strategies that reduce negative consequences of drug use, incorporating a spectrum of strategies from safer use, to managed use, to abstinence. Harm reduction strategies meet drug users "where they're at," addressing conditions of use along with the use itself." <http://www.harmreduction.org/section.php?id=62> [accessed August 3, 2011].

¹³ The latter point is expanded in Chapter 10 of Paoli, L., Greenfield, V. and Reuter *The World Heroin Market: Can Supply be Cut?* (2009), Oxford University Press.

Will the Obama Administration Implement a More Health-Oriented Approach to Drug Policy?

Keith Humphreys

Center for Health Care Evaluation; Veterans Affairs and Stanford University Medical Centers

***Author's Note:** Address correspondence to Keith Humphreys, VA Palo Alto HCS (152-MPD), 795 Willow Road, Menlo Park, California 94025 USA. Telephone 650 617 2746. This paper is informed by Dr. Humphreys' sabbatical year as Senior Policy Advisor at the White House Office of National Drug Control Policy during the Obama Administration, but is entirely a statement of personal opinion that does not necessarily reflect official policy positions of the Obama Administration, the White House Office of National Drug Control Policy or the Department of Veterans Affairs. An earlier version of this paper was presented at the "Rethinking the 'War on Drugs' Through the US-Mexico Prism" conference at the Yale Center for the Study of Globalization. I am grateful to Jonathan Caulkins, Mark Kleiman and Michael Lee for comments on an initial draft. Dr. Humphreys' work on this paper was supported by a VA HSR&D Senior Research Career Scientist award.*

When President Zedillo very kindly invited me to give this presentation, he said I could talk about anything regarding drug policy but hoped I would in the course of speaking answer a question: "Will there be a more health-oriented response to drugs in the Obama administration?" I have therefore taken that important question as my title and my subject.¹

That question immediately raises another question: What exactly is a "more health-oriented" response to drugs? In my observation, people typically mean

one of three things by “health-oriented”, which are: (1) Legalization of the production, sale and marketing of currently illegal drugs; (2) Reductions in penalties for drug use while keeping production and sale of drugs illegal; and (3) Expansion of health and social services for people who use drugs.² I will address each of these definitions in turn.

Legalization of Production, Sale and Marketing of Currently Illegal Drugs

By “legalization,” I refer not just to eliminating penalties on drug users (discussed in the next section) but also to allowing cocaine, methamphetamine and other currently illegal drugs to be corporately produced and marketed, as are alcohol and tobacco. Is there any prospect of a drug legalization policy in the United States that would ease the current suffering in Mexico and Central America? Voters in my home state of California (or some other US state) may very well pass a ballot initiative in 2012 legalizing marijuana at the state level, albeit in the context of a continuing federal prohibition. But for present purposes, that’s unimportant. California’s marijuana business is about 2-4% of the Mexican gangs’ drug revenue (Kilmer, Caulkins, Bond & Reuter, 2010) and represents an even smaller share of their overall revenue because the gangs also make money from kidnapping, extortion, video piracy and other crimes. Further, because the marijuana trade runs straight from Mexico to the United States, the drug’s legal status in the US has little impact on Central American countries.

Let me analyze instead a legalization policy that would be highly consequential for Mexico and Central America: *Federal* (not just state) legalization of cocaine. The national market for cocaine in the US generates at least half of the Mexican drug gangs’ total revenue (Caulkins & Sevigney, 2010). And unlike marijuana, cocaine affects virtually every country between Colombia and the United States. Legalization of cocaine in the US would thus clearly have an impact over a broad swath of countries.

President Obama and his Attorney General, Eric Holder, oppose drug legalization (e.g., the Proposition 19 ballot initiative in California), but for the sake of argument imagine that President Obama changed his mind and decided that cocaine should be legalized – what could he do? In the US, drugs are made illegal not through Presidential edict but through a federal law, the Controlled Substances

Act. To change a federal law requires passage through the Congress, meaning that 51 of 100 Senators and 218 of 435 Members of the House of Representative would have to vote for cocaine legalization. Even if that many Members of Congress supported legalization in their own minds (which they do not), such a controversial policy would require a massive upsurge of popular support, because currently not even 10% of US citizens want cocaine legalized.

What are the chances of a President deciding cocaine legalization was a good policy and desiring to stake his/her prestige on it, members of Congress from all over the country changing their minds about legalization and deciding to support it, and the US public increasing their support of cocaine legalization by the factor of 5 or 10 that would required for passage? Zero. Even assuming counterfactually strong Presidential support, the chances would still be zero and they will be zero as far into the future as we can see. An enormous amount of time is spent debating what would happen if the US federal government legalized cocaine, which is an engaging intellectual exercise. But that’s all it is. If US federal government drug policy is going to strongly affect Mexico and Central America, it will be through other means.

Reduction in Penalties for Drug Use While Keeping Production, Sale and Marketing of Drugs Illegal

In order to describe the Obama Administration’s approach to penalties for drug users, I must first adumbrate how federalism in the United States plays out in the context of criminal justice. The President of the United States has direct control over the law enforcement personnel of federal agencies such as the Federal Bureau of Investigation, Drug Enforcement Administration and Bureau of Alcohol, Tobacco, and Firearms. However, these federal law enforcement officers constitute only about one sixth of the US total. Likewise, the federal prison system is small, being only slightly bigger than the state system in California. By design, law enforcement and incarceration in the US are concentrated at the state, county and city levels.

What this means is that if you lie awake at night wondering when the US federal government will stop sending federal agents out en masse to arrest drug users and throw them in prison for possessing small quantities of drugs, you can safely

go back to sleep. Federal law enforcement agents focus on large scale drug trafficking, money laundering, murders for hire etc. and only “big fish” in the drugs trade are sentenced to federal prison. Even if federal agents took the time to arrest a drug user on a possession charge, they would have a hard time finding a federal prosecutor to try the case in federal court. A typical federal marijuana case involves hundred of pounds rather than some number of ounces, federal cocaine cases typically involve kilograms of cocaine rather than eight balls, and so on.

Because arresting and incarcerating drug users (as well as low-level dealer/users) is almost entirely a state and local function in the United States, any US President has limited ability to change criminal penalties for drug users. The opinions of mayors and police chiefs in cities such as New York and Los Angeles are much more important drivers of, for example, marijuana possession arrest rates, than are the opinions of a US President.

Until quite recently, there was an exception to this general rule. In the 1980s, the federal government imposed a five-year mandatory minimum prison sentence for possession of 5 grams (about the weight two US pennies) of crack cocaine. Thousands of people, mostly African-American men, were sent to federal prison under this law. This law was criticized for decades but it was not until the Obama administration that an Attorney General went on record against it and a President made it a priority to reform it. In a deal with Congress, the possession mandatory minimum was eliminated (the first mandatory minimum prison sentence eliminated in the US in 40 years) and the sentencing rules for selling crack cocaine were made less severe (Humphreys, 2010).

The change in cocaine sentencing at the federal level seems to have inspired some states to make parallel changes. South Carolina and Texas, which had comparable cocaine-related laws that they had copied from the federal government in the 1980s, repealed those laws. As mentioned, because incarceration is primarily a state rather than federal activity, such state-level policy ripples may result collectively in a greater reduction of imprisonment of drug users than does the federal law reform itself.

The cocaine sentencing reform is an example of how the Obama Administration helped reduce state-level penalties for drug users without the benefit of direct control over state policy. Another way for the federal government to facilitate state and local policy change is through rhetoric. President Obama’s drug policy director, Gil Kerlikowske, has renounced “war on drugs” concepts and language and spoken much more extensively about public health, which has legitimated a different set of drug policy players around the country. To the extent that rhetoric influences how policymakers and the public think and what they consider more versus less reasonable policies, the Obama Administration’s public statements on drugs have generally been more conducive to therapeutic rather than punishment-oriented approaches to drug users (see for example White House Office of National Drug Control Policy, 2010). This has included significant support for removal of various “residual penalties” that punish former drug users on top of their original drug felony sentence, for example by denying them student loans, driver’s licenses, welfare payments and other benefits. It is worthy of note as well that the Obama Administration created an office in the White House that focuses specifically on promoting and celebrating “recovering people” (i.e., former drug users) and has engaged in extensive symbolic and substantive actions to de-stigmatize this population.

The Obama Administration and US Congress came agonizingly close to restoring access to student loans for recovering drug users who had prior felony convictions, but the reform was not ultimately adopted for technical reasons.³ Restoration of access to student loans and the elimination of other residual penalties on recovering drug users thus remains important unfinished business for the Administration, as well as for those states that have similar penalties in place.

Both through rhetoric and through grants to states (i.e., funding), the Obama Administration has supported a number of initiatives to reduce the number of drug users who are in prison (Humphreys, in press). These include drug courts and the HOPE probation program which Kleiman (2011) has described. The Administration has also invested in “Re-Entry” programs which try to help individuals leaving prison to stay out of prison permanently (Humphreys & McLellan, 2010).

Finally, although the Administration opposed marijuana legalization in California, it made no effort to stop decriminalization of marijuana possession in California (or in Massachusetts and Connecticut) nor did it criticize the state's decision afterwards. This was a break from the George W. Bush Administration, in which senior officials campaigned strongly against decriminalization initiatives by states (see, e.g., White House Office of National Drug Control Policy, 2008).

The Obama Administration has thus rolled back some federal criminal penalties on drug users, inspired some states to do the same, has not opposed state-level marijuana decriminalization initiatives, has tried to decrease penalties on recovering drug users, and has promoted alternatives to prison. A strong advocate of decriminalization might argue that such changes are welcome but insufficient, and that, particularly in light of the Mexico situation, the President should be pressuring all states to implement across-the-board decriminalization of all drugs. I see no prospect of the Obama Administration doing this, but let me speak to it briefly nonetheless.

In 2001, Portugal decriminalized possession of small quantities of all drugs, to which many advocates point as a model policy. For example, former Mexican President Vicente Fox has been travelling around the world discussing this policy, and has been quoted many times in the media saying that decriminalization reduced drug use in Portugal. Sometimes President Fox says that drug use went down by 25% (e.g., Forsyth, 2011) and sometimes he says drug use went down by 50% (Degollado, 2010). President Fox argues that therefore the US should copy the Portuguese policy because it would help Mexico by depriving the cartels of 25-50% of their revenue.

I sincerely wish matters were so simple. Table 1 shows European Monitoring Centre for Drugs and Drug Addiction (2009) data on Portuguese drug use. There is neither a 50% drop nor a 25% drop in evidence. To the contrary, all categories of drug use are stable or increasing. An intelligent, sincere person could look at these data and say that Portuguese-style decriminalization is a policy trade worth making, i.e., fewer people in prison but more drug use, some costs, some benefits. But to claim that a society can remove penalties for drug use and have drug use fall by 25% to 50% is not reasonable.

Table 1. Drug Use in Portugal Has Risen, Not Fallen, Since Decriminalization

Lifetime Use			Past 30 Days Use		
	2001	2007		2001	2007
Cannabis	7.6%	11.7%	Cannabis	2.4%	2.4%
Heroin	0.7%	1.1%	Heroin	0.1%	0.2%
Cocaine	0.9%	1.9%	Cocaine	0.1%	0.3%
Amphetamines	0.5%	0.9%	Amphetamines	0.1%	0.1%

Source: EMCDDA 2009 report on Portugal; ages 15–64 data

Note also how damaging Portuguese-style decriminalization policy in the US would be for Mexico. As shown in Table 1, lifetime levels of cocaine use in Portugal have doubled and past 30 day use have tripled since decriminalization. Recall that decriminalization keeps the price of drugs high and cocaine is the Mexican drug trafficking organizations’ most important revenue source. So if this exact policy were implemented in the US and had the same effect on cocaine use, it would enrich the Mexican gangs by delivering them more customers at the same high prices.

Expanding Health and Social Services for Drug Users

Irrespective of what happens in any country regarding the legal paradigm and policies surrounding drugs, large numbers of people will become addicted to available drugs because of the inherent pharmacology of the substances. The idea that legalization would surely reduce the number of deaths connected to drugs is easily disconfirmed: More people die of (legal) tobacco smoking in Mexico every single year than have died in all the drug-related violence of recent years put together (Waters, Sáenz de Miera, Ross & Shigematsu, 2010). A “more health-oriented drug policy” therefore requires an increase in health and social

services for people with drug problems, whether drugs are legalized, decriminalized or continue to be prohibited.

The Obama Administration has expanded addiction treatment in a number of ways. The principal vehicle has been the Affordable Care Act of 2010 (also known as “health care reform”), which expands health insurance to over 30 million Americans who do not have it, and which includes in the benefit package screening, brief intervention and treatment for substance use disorders (Humphreys & McLellan, 2010). The law also prevents a health insurer from denying the issuance of a policy based on a prior condition, including having been treated for drug addiction. The Affordable Care Act also allows parents to keep their children on their health insurance policy until the age of 26, which is critical because adolescence and young adulthood is the time of life by which most addictions commence. My back of the envelope calculation is that the net effect of the Affordable Care Act is to give health care coverage to about 5 million people who have a substance use disorder but are currently uninsured. This is a policy intervention not just for the population but for the service system: Greater insurance coverage of the population translates into more fiscal resources to develop and improve treatment services.

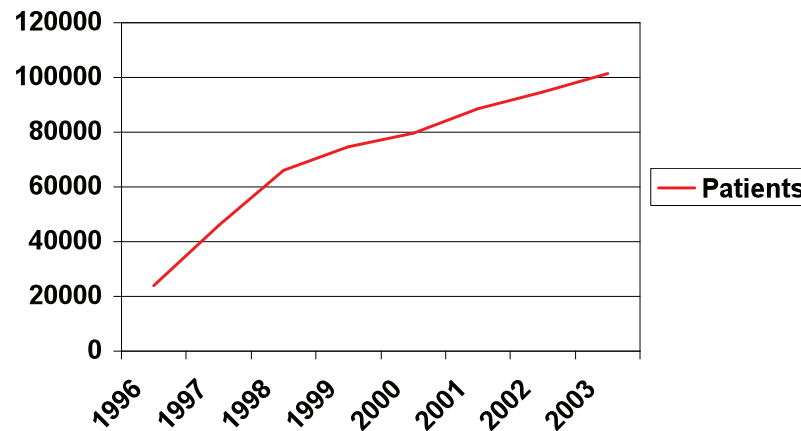
In the US, there is also a private insurance market through which many people access coverage for addiction treatment. The Obama Administration completed the excellent work begun in the Bush Administration to require private insurance plans that offer substance use disorder treatment benefits to make those insurance benefits comparable to insurance benefits for other disorders. Private insurance companies used to be able to set higher co-pays and shorter lengths of care for addiction treatment relative to other covered services.⁴ The “parity” law, passed in the waning days of the President G.W. Bush Administration with the implementation regulations written under President Obama, makes such inferior benefits for addiction treatment illegal. The parity law will further expand access to treatment for individuals who have private insurance.

In the President’s budget proposal, there are also new funds for expansions of substance use disorder treatment in community health centers, in the Indian health service and through the federal Substance Abuse and Mental Health Services Administration, which gives grants to states to fund treatment. Finally, federal funding for needle exchange programs, which was banned for more than 20 years, was restored under the Obama Administration.

Because of the difficult budget climate in the US, and because there is an election in 2012 which may have consequences for the implementation of the Affordable Care Act (the act is phased in over a 4 year period), I do not know exactly how much health services for people with substance use disorders will expand in the United States. But it could very well be the largest such expansion in at least 40 years.

This expansion in health services is potentially transformative for the United States, but what about Mexico and Central America? If the US dramatically increases substance use disorder treatment and other programs (e.g., HOPE Probation, Kleiman, 2011) that focus on reducing the substance use of the heaviest drug consumers, there is some evidence that Mexico may benefit as well. A few historical examples are, if not proof of this conjecture’s validity, suggestive that such an effect is possible.

From 1996 to 2003, France made a massive investment in opiate agonist treatment (buprenorphine and methadone maintenance). This five-fold increase in services apparently had some impressive population-level effects (Emmanuelli & Desenclos, 2005). Annual heroin arrests dropped from 17,328 to 4,025 (77% decrease). Annual overdose deaths fell from 465 to 89 (81%). Presumably, the growth of treatment had some positive cascading effects within drug markets, given that many of the users who entered treatment also sold drugs at least some of the time. It is also conceivable that a wave of drug users entering treatment inspires at least some users to follow their friends into recovery, just as they may have earlier followed them into drug use.

Figure 1. The Dramatic Expansion of Opiate Agonist Treatment in France

Emmanuelli, J., & Desenclos, J-C. (2005). Harm reduction interventions, behaviours and associated health outcomes in France, 1996-2003. *Addiction*, 100, 1690-1700.

Although the data systems of the era were too crude to present as strong a case as does the French example, the 350% expansion of drug treatment in the United States completed in 18 months during the Nixon Administration appears to have reduced street crime in a number of US cities (Massing, 1998). A causal role for the treatment expansion is plausible because at the time most of the treatment was for heroin addiction, and heroin addicted people account for a phenomenal amount of street crime (e.g., muggings, petty thefts).

If the United States was fortunate enough to gain comparable benefits from the policies of the Obama Administration, the implications for Mexico and Central American are quite positive. A small proportion of all drug users account for the bulk of US drug consumption and, therefore, Mexican drug trafficking organization profits. Reducing the size of this small, highly destructive population is far more painful to the bottom line of the Mexican gangs than are large decreases in drug use among casual users. The Obama Administration's massive expansion of addiction treatment, particularly if coupled with an expansion of drug testing and sanction forms of community supervision in the criminal justice system (Hawken & Kleiman, 2009; Kleiman, 2011), could therefore produce significant health and safety rewards in both the US and Mexico.

Conclusion

To return to where this paper began, what is the answer to the question “Will the Obama Administration implement a more health-oriented drug policy?”. The answer depends on how one defines “more health-oriented.” If this term is taken to mean legalization of drug production, sales and marketing such as we have with alcohol or tobacco, or it’s taken to mean across the board decriminalization of all drugs like in Portugal, the answer is no. Those are not the policies President Obama has chosen to pursue, and I do not expect any change in that regard.

In contrast, if “more health-oriented” is taken to mean rolling back particular harsh penalties, like for example, the crack cocaine possession mandatory minimum, expanding community supervision and support programs that reduce drug use and keep drug users out of prison, promulgating rhetoric that facilitates therapeutic responses to drug addicted people, supporting people in recovery from addiction, and dramatically expanding health and social services for the drug addicted population, then the answer is yes. And, although public policy is not an exact science, there is some reason to believe from historical experiences that those policies may benefit not only the US, but could also have positive cascading effects in Mexico and Central America.

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¹ From a pharmacologic viewpoint, nicotine and alcohol are drugs, but I will restrict this paper to discussion of illegal drugs as this is the focus of the conference.

² One could debate whether all or any of these three sorts of policies should be called “health-oriented” based on objective criteria but here I am only acknowledging the reality that they are widely employed definitions among people who debate drug policy around the world.

³ The bill passed the House of Representatives but during the health care reform debate was folded into a larger “reconciliation bill”, which are not allowed to have financial implications. As the change in the law would have required a change in the student loan forms to remove the question about drug convictions (i.e., a slight cost the government) it had to be dropped. On such little things are important reforms sometimes, sadly, lost...at least for a time.

⁴ For example, an insurance company could charge a policy holder \$10 for all doctor visits except for addiction treatment visits, which would be \$20. Or it could allow 120 days of hospital care a year for all conditions other than addictions or mental illnesses.

Legalizing Drugs in the US: A Solution to Mexico's Problems for Which Mexico Should Not Wait

Jonathan P. Caulkins

Michael Lee

Carnegie Mellon University

Abstract: US and Mexican drug problems are deeply intertwined; US demand for prohibited substances is the root cause of most violence and corruption associated with drug trafficking in Mexico. Legalization of all substances would solve those problems, while generating others, notably lower prices with resulting greater consumption and dependence. No one knows or can bound the legalization-induced increase in dependence, so legalization is a gamble. Furthermore, it is an irreversible gamble because if dependence rose sharply, that increased dependence would remain even if drugs were re-prohibited. That gamble looks very different within Mexico, where consumption is a growing but still modest problem and most trafficked drugs are destined for consumption elsewhere, than it does in the US, where crime and other sequelae of the drug problem are ebbing. Risky gambles are not appealing to the US. Hence, US and Mexican interests are not aligned when it comes to the question of legalization, and Mexico should not pin its hopes on waiting for the US to legalize. Nor will conventional drug control strategies offer a quick fix. Rather, Mexico must look for “orthogonal” strategies.

Introduction

Violence in Mexico has exploded. Its drug trafficking organizations (DTOs) murder more than 10,000 people per year¹ despite – some would argue because of – Mexico's war against the DTOs, where the term “war” is not mere hyperbole as

it is in the US The Mexican government has quite literally deployed its military in the struggle. The DTOs are diversified criminal enterprises, generating revenues from a range of illicit activities. However, unquestionably they became so rich and powerful in no small measure by supplying the huge US demand for drugs. Recognizing this, some in Mexico have called on the US to debate legalizing drugs as a way to undercut DTO funding and hopefully stop the violence.

We are willing to stipulate for the sake of argument that legalizing all drugs would in fact seriously weaken the DTOs, but nonetheless ask whether it is wise for Mexico to pin its hopes on the US taking such an action. This paper argues that five basic facts combine to answer this question in the negative; it is simply not in US interests to legalize the substances responsible for the bulk of the DTOs’ drug revenues. Since this conclusion favors a status quo that has become so intolerable from Mexico’s perspective, we close by speculating about some out of the box (“orthogonal”) ways for Mexico to think about its options.

Fact 1: Legalizing Marijuana Would Not Alter the Character of the Drug War

Marijuana is the only major illegal drug with a realistic prospect of being legalized in the US Since 2000, propositions for legalization in Alaska, California, Colorado, and Nevada have each garnered the support of 40% or more of voters. In 2010, California’s Proposition 19 needed only 3.6% more of the vote to pass (California Statement of Vote, 2010, pg. 7). Along with the Ammiano Bill, this makes two serious legalization attempts in California in 2010.

Would legalizing marijuana reduce violence in Mexico? Advocates such as former New Mexico governor Gary Johnson argue that legalizing marijuana is “the only practical way to weaken drug cartels” (Johnson, 2010), often citing an Office of National Drug Control Policy (ONDCP) document which asserted that 61% of DTO revenues derive from marijuana exports (National Drug Control Strategy, 2006, pg. 36). However, 61% is a gross exaggeration even for strictly drug-related revenues, and DTOs also generate considerable revenue from nondrug-related activities. Kilmer et al. (2010b) debunk the 61% figure and estimate the correct proportion to be more like 15-26% of drug-related revenues.

Statewide legalization in the midst of continued federal prohibition is far different than nationwide legalization. Still, given how easy it is to smuggle drugs across state lines within the US, marijuana diverted from legal production in even one state might displace most Mexican marijuana from US markets (Kilmer et al., 2010b; Caulkins and Bond, in submission).

It is very hard to know how losing perhaps one-fifth of drug-related revenues would affect DTO violence (Kilmer et al., 2010b). Perhaps it would cut violence by as much as one-fifth, but the DTOs might respond by trafficking more of other drugs or shifting focus to nondrug-related activities such as kidnapping, human trafficking, or racketeering (Felbab-Brown, 2010). What is certain though is that legalizing marijuana in the US will not make the DTOs go away (Longmire, 2011).

Legalizing marijuana would also only modestly impact drug harms in the US. Even though marijuana accounts for most drug use and nearly half of all drug arrests, marijuana's social costs are relatively low. It represents only about 8% of drug-related imprisonment, one-sixth of user spending, and about 16% of treatment admissions (Caulkins and Sevigny, 2005; ONDCP, 2001; ONDCP, 2010). Marijuana is even less implicated in other drivers of drug-related social costs; it contributes minimally if at all to HIV/AIDS transmission and overdose deaths (ONDCP, 2004). Statistics breaking down drug-related crime by substance are hard to come by, but one rarely hears of drive-by shootings between rival marijuana gangs in the US. Low-level marijuana distribution is mostly embedded within social networks (Caulkins and Pacula, 2006) rather than being a strictly for-profit commercial activity. Likewise, marijuana is cheap enough that even heavy users have less incentive to turn to property crime than do, say, dependent heroin users (Kleiman, 1992).

Fact 2: Prohibition Drives Prices Up Far Above Legal Levels

Legalization's proponents sometimes argue that legalization need not drastically affect the prices or availability of illegal drugs. They invoke various analogies to substantiate their argument, such as alcohol prices not plummeting after the repeal of Prohibition, medical cocaine being very expensive, and marijuana in Dutch coffee shops and Californian medical dispensaries selling for near black market prices (e.g., Miron, 2003). Upon closer examination, however, these analo-

gies start to look very weak. To understand prohibition’s effect on the free market price, it is more instructive to look directly at facts concerning production and distribution costs. (We discuss the possibility of assessing very high excise taxes in the next section.)

Legalization could easily cut wholesale prices of cocaine and heroin in the US by 85-95% because current international prices plus legal transportation costs are that far below current wholesale prices. The United Nations Office of Drugs and Crime (UNODC) reports that cocaine costs \$2,348 per kilogram in Colombia and heroin costs \$2,405 per kilogram in Afghanistan (UNODC, 2010). If these substances were legal, distributors could ship them by any of the various means now used to transport other legal goods. For example, FedEx charges only \$65 to send a one-kilogram package from Colombia to the US, and \$196 to ship from Afghanistan to the US, negligible amounts compared to the more than \$10,000 per kilogram it now costs to smuggle them illegally. This suggests that free market wholesale prices for these drugs in the US might be something like²:

$\$2,348 + \$65 = \$2,413$ per kilogram for legal Colombian cocaine and

$\$2,405 + \$196 = \$2,601$ per kilogram for legal Afghan heroin

The UNODC (2010) cites a range of wholesale prices for one kilogram of cocaine in the US (\$10,000 - \$43,000), but the geometric mean (\$20,700) is more than eight times this implied free market price. The corresponding figure for heroin in the US today (\$53,000) is more than twenty times the implied legal price.

Retail price declines would be even greater. To see why, note that the free market retail price equals the wholesale price (effectively, the retailers’ cost of goods sold), plus a markup to account for distribution and retailing costs, plus sales tax.

The key to estimating the correct markup is finding a contemporary analogue with a similar value to weight ratio that requires similar processing – which is to say very little processing since wholesale cocaine and heroin are already in ready to use form. Conventional, legal agricultural products mostly fail on both counts.³ The best current analogy may be silver.

As of this writing, silver on commodity exchanges was trading at \$43.58 per troy ounce. This equates to \$1,400 per kilogram,⁴ putting silver's wholesale value to weight ratio in the vicinity of what we project for cocaine and heroin after legalization. The same day, a local coin shop was selling one ounce silver rounds for \$47.00⁵. That reflects a wholesale to retail markup of 7.8% or \$0.11 per gram⁶.

Dividing the wholesale prices (found above) by one thousand to express them on a per gram basis, and adding the 7.8% wholesale to retail markup plus a 7% sales tax suggests free market retail prices could be approximately:

$$\$2.41 \times 107.8\% \times 107\% = \$2.78 \text{ per gram for cocaine and}$$

$$\$2.60 \times 107.8\% \times 107\% = \$3.00 \text{ per gram for heroin.}$$

The UNODC cites current retail prices for illegal cocaine and heroin in the US of approximately \$59 and \$91 per gram, respectively, but these are for retail purity. Scaling them up by the ratio of wholesale to retail purity to put them on the same footing⁷ as the implied legal prices above suggests current retail prices at wholesale purity of:

$$\$59 \times 63\% \text{ pure at wholesale} / 56\% \text{ pure at retail} = \$66 \text{ per gram for illegal cocaine}$$

$$\$91 \times 55\% \text{ pure at wholesale} / 36\% \text{ pure at retail} = \$140 \text{ per gram for illegal heroin}$$

Thus these calculations suggest legalization could cut retail prices of cocaine by 96%, from about \$66 to \$2.78 per gram at 63% purity, and retail heroin prices by 98%, from about \$140 to \$3 per gram at 55% purity.

For marijuana, Kilmer et al. (2010a) develop bottom-up estimates of post-legalization production costs for sinsemilla under different conditions, including farming in large outdoor fields (<\$20 per pound vs. \$2,000 per pound currently) and grow houses that more or less fill an entire residential house with marijuana plants (\$200 - \$400 per pound). They focus on the latter as more plausible if a state legalized marijuana, but the federal government did not, because the producers would seek to avoid attracting federal enforcement attention. Factoring in distribution and retailing costs (greater, proportionately, than 7.8% because of marijuana's lower value to weight ratio), they conclude that production, distribution, and retailing

costs would amount to about \$38 per ounce of sinsemilla, a decline of more than 80% from current prices of \$300 - \$450 per ounce.

**Fact 3: The Taxes Necessary to Prevent a Price Collapse are
Uncollectable**

Production plus distribution costs without prohibition would be far lower than current retail prices. Justifiably fearing increases in consumption and seeing the benefit of raising tax revenues, some suggest using excise taxes to counteract the price collapse (e.g. Caputo and Ostrom, 1994). However, the collapse would be so great, both in absolute dollars and as a percentage, that the magnitude of the required taxes per unit weight would have no precedent.

Consider, for example, the Ammiano Bill’s proposed marijuana excise tax of \$50 per ounce. That is only a fraction of what would be necessary for California to fully close the gap between Kilmer et al.’s (2010a) estimate of the untaxed legal retail price (\$38 per ounce) and the current illegal price of \$300-\$450 per ounce (Kilmer et al., 2010a). Even so, a \$50 per ounce tax is more than eighteen times higher per unit weight than is California’s tax on cigarettes. Relative to price drops of 96% for cocaine and 98% for heroin, a \$50 per ounce tax isn’t even on the map. Closing the gap between cocaine’s current price of \$67 and its \$2.78 per gram free market price would require a tax of over \$1,800 per ounce. Heroin would require a tax of nearly \$4,000 per ounce.

As the tax per unit weight increases, so does the incentive to sell untaxed products in a tax evading “grey market.” Currently tobacco is the consumer good with the highest excise tax per unit weight in the US Lafaive et al. (2008) find a positive relationship between a state’s tobacco excise tax rate and the proportion of consumption in that state that comes from the grey market. Caulkins et al. (2010) note that plugging the Ammiano Bill’s \$50 per ounce tax into this relationship predicts tax evasion rates of 50% – even using the public health literature’s relatively low estimates of current tax-evasion. Using the public finance literature’s estimates of tax evasion leads to predicted evasion rates of greater than 100%. Obviously, simple extrapolations from tobacco to marijuana or from tax rates of several dollars per ounce to \$50 per ounce should not be taken literally. But the

exercise is a sobering warning to those who blithely assume that excise taxes can easily prevent dramatic price declines.

Some suggest imposing sanctions on violators to enforce compliance with excise taxes (e.g., Becker et al., 2006). However, the financial reward of bypassing a \$50 per ounce excise tax is roughly double the current reward for smuggling commercial grade marijuana from Mexico into the United States (\$800 per pound vs. a cross border markup from roughly \$60 to \$300 per pound today). That suggests the magnitude of the punishment necessary to deter tax evasion would be greater than that which traffickers importing illegal drugs into the US face today. Theoretically, such Draconian punishments are possible, but there might be practical constraints and, more fundamentally, they would defeat the purpose of trying to eliminate smuggling opportunities from which organized criminals could profit.

Fact 4: Drug Use Responds To Price

Many once believed drug demand was impervious to price changes, that an addict would do whatever it took to get a “fix”, regardless of the price. Now, however, a solid empirical literature documents that the law of demand applies to illegal as well as legal drugs. (For reviews, see Grossman, 2005 and Babor et al., 2009.) When prices go up, people use less. When prices go down, they use more.

This responsiveness to price manifests not only in youth and general population survey responses (e.g., Pacula et al., 2001), which primarily reflect relatively “light” users, but also in overdoses, treatment admissions, and proportions of arrestees testing positive for drugs (e.g., Hyatt and Rhodes, 1995; Dave, 2006), reflections of heavier or more compulsive patterns of use.

Economists measure various drug market “elasticities” – the percentage change in a consumption metric that is associated with a 1% increase in price. For example, the “participation elasticity” is the change in the number of users, the “conditional elasticity” is the change in the average amount users consume, and, the most useful, “price elasticity of demand” (or “total demand elasticity”) is the change in overall consumption. Estimates of total demand elasticity vary widely by drug, population, and study, but typical summary values are -0.525

for marijuana (Pacula, 2010) and -0.75 for cocaine (Caulkins and Hao, 2008), meaning that consumption would go up by 0.525% or 0.75% if prices fell by 1%. Variability across studies generates uncertainty about the magnitude of the elasticity. For example, based on Pacula (2010), Kilmer et al. (2010a) consider marijuana elasticities ranging from -0.4 to -1.2, not just -0.525.

However, when projecting the effects of legalization, there is another, more important, and fundamentally irreducible source of uncertainty. Legalization will quite literally take prices outside the support of the historical data.⁸ Every empirical study of price responsiveness is necessarily based on historical data, so the estimates are derived from price changes of 1% or 10%, not 80-98%. Since no developed nation in the modern era has ever legalized one of the major illegal drugs,⁹ there is literally no empirical basis for estimating the shape or curvature of the demand curve for prices far below current levels. Moreover, different but reasonable assumptions about the demand curve’s functional form can yield radically different projections of how price declines will affect consumption (Caulkins, 2001; Kilmer et al., 2010a). There is also considerable uncertainty about how the non-price aspects of legalization would affect consumption (MacCoun, 2010).

Fact 5: Legalization Is an Irreversible Gamble

Legalization would reduce the costs of supplying drugs by more than taxes could offset, pushing retail prices into uncharted waters. We can be confident this would affect consumption; we just don’t know by how much. One might consider giving legalization a trial run, pledging to repeal it if consumption ended up rising more than anticipated. However, even temporary legalization could have permanent consequences. Society could certainly “unlegalize” and reimpose prohibition, but that would not return matters to the status quo ex ante any more than putting toast in the freezer would change it back into fresh bread.

Some of the legalization-induced increase in drug use would be reversible; those consumers would return to baseline levels of use if prices were pushed back up. However, in others the increased use will lead to dependence – meaning very long-lasting changes in the brain’s neural pathways. Dependence is not the same as intoxication; it cannot be undone via “detox”. Once dependent, even when

users stop using for a time and become sober, their demand, even cravings, for the drug endures. This plasticity of the human brain's response to chemicals that mimic neurotransmitters means that legalization is not fully reversible.¹⁰ Once drugs have been legalized, pre-legalization conditions will be gone forever.

We cannot be confident of any particular prediction or bound for how much legalization would drive up use or dependence because there is no historical precedent for a modern industrialized country facing such low prices. So legalization's effect on consumption could fall anywhere along a very broad range. Imagine though, for simplicity, there are just two possible outcomes. In the "good" outcome, dependency would increase only moderately, so that the benefit of eliminating black markets more than offsets the problems of greater dependency, resulting in lower aggregate social costs. In the "bad" outcome, the increase in dependence is high enough for the accompanying social costs to surpass prohibition levels, despite the benefits of reduced crime, corruption, and drug enforcement. If legalization turns out badly, then reimposing prohibition would not undo the damage. One would get back all the original black market problems of crime and enforcement costs, but multiplied severalfold by the extent to which long-term dependency had gone up during the interval of legalization.

Mexico Shouldn't Expect Help from US Domestic Drug Policy

The political landscape in the US is not amenable to drug legalization, with the exception of marijuana. To achieve a noticeable decrease in Mexican violence, legalizing marijuana would not be enough. The US would have to legalize hard drugs as well. However, as Keith Humphreys notes (2011; elsewhere in this volume), the probability of legalizing hard drugs in the US is essentially zero. Congress and the American people simply don't want it. The body of this paper explains why that reticence can be grounded in a perfectly rational aversion to irreversible risky gambles, not necessarily from ignorance or lack of imagination.

Furthermore, although drug problems in the US remain substantial, overall levels of use have been stable for some time. From 2002 to 2009, the recorded prevalence of illicit drug abuse remained between 7.9% and 8.7% every year, with marijuana accounting for more than two-thirds every year (National Survey of Drug Use and

Health, 2009). Demand for the expensive illegal drugs (cocaine/crack, heroin, and methamphetamine) is harder to measure. However, the most recent official series reported spending on cocaine/crack and heroin had fallen by 50% during the 1990s (ONDCP, 2001), and methamphetamine spending had fallen back to baseline after a peak in the mid 1990s. In addition, Kilmer et al. (2010b, Appendix D, p.32) summarize a variety of indicators suggesting continued declines in the first decade of this century. From the US perspective, this does not seem like an appealing time to roll the dice on legalization.

Depenalization, or decriminalization, is a typical suggestion for reducing the costs of drug prohibition without taking the plunge into all out legalization. In one sense this is a “meet-me-halfway” compromise for a final market country, but from the perspective of producer and transshipment countries, such as Mexico, decriminalization offers the worst not the best of both worlds. It leaves high-level production and distribution fully illegal, with the same incentives for violence and corruption, but removes disincentives to use, which increases demand. The supply chain would be just as illegal as before, only bigger. Empirical estimates tend to find modest effects on consumption (Room et al., 2010), but the effects are nonetheless in the wrong direction from Mexico’s perspective (Caulkins and Sevigny, 2010). Richer DTOs are the last thing Mexico needs.

This does not mean there is nothing the US could do. Notably, treatment, prevention, or anything else that reduces US demand would help. Unfortunately, with the possible exception of coerced abstinence (Kleiman, 2009), programs that target users’ demand do not produce rapid results. So the Obama Administration policy initiatives Humphreys (2011) described are constructive, from Mexico’s point of view, but they are unlikely to bring immediate or decisive relief from traffickers’ violence.

The upshot of this is that although Mexican and US drug problems are deeply intertwined, and there is much common ground in terms of operational level cooperation on enforcement, Mexico ought not to look to US policy changes as the key to reducing DTO violence. Mexico will have to solve its own problems.

Mexico Needs an Orthogonal Solution

It is conventional – although not always accurate or constructive – to think of drug policy as falling on a dove-to-hawk spectrum ranging from depenalization or harm reduction on the one hand, to full prohibition with strong enforcement on the other. Within this metaphor, the Calderón Administration's policy of going after the DTOs is a shift towards the toughness end. The objective has been to root the drug trade out of Mexico, but the result has been unprecedented violence.

To the extent that Mexico is dissatisfied with the status quo, it makes sense to ask what are the alternatives? A toughness spectrum suggests that the only possible answers are moving towards harm reduction or towards heavier enforcement. Incremental shifts in policy are not likely to produce dramatic results, so consider for a moment the possibility of Mexico radically adjusting its current enforcement levels in one direction or another along the toughness spectrum.

The hawks' would argue for even more toughness. The hope would be that Mexico could make production and trafficking so difficult that the trade would move elsewhere. However, this seems very difficult. Mexico's long land border with the US and heavy legitimate traffic of people and goods across that border make it a natural platform for smuggling drugs into the US, which is and likely will remain the world's largest single market for illegal drugs by value. Furthermore, the general experience in the US has been that beyond moderate enforcement levels, additional increments in enforcement have only modest further effects on price (Caulkins and Reuter, 2010, pg. 14).

Mexico could instead become much more lenient, reducing enforcement and allowing prices to fall drastically. However, at least three problems follow. First, it risks increasing drug abuse within Mexico. Second, it would put some downward pressure on prices in the US, to which the US would likely object strenuously. Third and most fundamentally, Mexican DTOs' revenues depend primarily not on the level of prices in Mexico, but on the increment in prices between Mexico and the US. Unless Mexico flooded the US market with drugs, causing a price collapse in the US as well, DTOs could continue to reap large revenues.

This brief analysis seems depressing to the point of nihilism. The conventional spectrum offers no realistic hope of relief from Mexico’s horrific levels of violence. Yet this is an argument for abandoning the overly simplistic metaphor of a univariate spectrum of policy options, not for giving up hope.

Mexico needs to look for “orthogonal” strategies that try to reduce the number of homicides in Mexico without necessarily trying to change the relatively immutable scale of the US drug markets (Caulkins and Reuter, 2009). Some might think it is impossible to reduce drug violence without reducing drug use, but there is no universal constant guaranteeing a certain number of homicides per metric ton transshipped or per billion dollars of drug revenue; the inconstancy of the relationship between drug use and drug violence is clearly demonstrated (albeit in the opposite direction) by DTO violence in Mexico having soared at a time when US demand was stable, if not declining.

Kleiman (elsewhere in this volume) offers a creative suggestion for an orthogonal strategy – creating disincentives for trafficking violence by having US and Mexican agencies target the more violent DTOs. We close with a suggestion that is similar in spirit.

It may be geographically inevitable for drugs bound for the US to pass through Mexico, but to paraphrase the National Rifle Association, trafficked drugs don’t shoot people, drug traffickers do. So if Mexico could displace the people, while leaving the drug flow alone, that might ameliorate Mexico’s problems with violence. For example, if kingpins had reasons to avoid living in Mexico – perhaps because leaving assets in Mexico created an intolerable risk of forfeiture or because living in Mexico created a greater risk of capture, imprisonment, and extradition – they might prefer to live elsewhere.

Likewise, broadly speaking there are two ways of smuggling drugs: in dedicated shipments and comingled with legitimate commerce. The first may require armed thugs as escorts, but this would be superfluous if not counter-productive for the second. At various times and along various routes, drugs have been hidden among legitimate cargo and simply driven across borders by unarmed lorry

drivers or even shipped in containers that are not accompanied by any staff at all. If Mexico prioritized enforcement in such a way that DTOs found it was more reliable or less expensive to sneak drugs through Mexico rather than to smuggle them by intimidating or corrupting government authorities, DTOs might adapt their tactics because the DTOs fundamental objective is to make money, not to create mayhem. Allowing trafficking without traffickers might repel those who see it as turning a blind eye to drug commerce, but Mexico's policy interest lies not in cutting down the drug flow through Mexico, but rather in cutting down on the more than 10,000 often gruesome homicides its citizens now endure every year.

These final paragraphs are merely speculative examples of how Mexico might look to solve its drug violence problem with orthogonal thinking. Their value, if any, may stem not from their practical relevance but rather from illustrating that there are ideas that might never occur to someone whose thinking is locked into the classic paradigm of a dove-hawk spectrum. Simply choosing the optimal intensity of enforcement, without altering its character, may not provide an answer for Mexico because it is the US that has the drug abuse problem; Mexico's problem is one of drug violence.

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¹ Eduardo Guerrero (2011; elsewhere in this volume) puts the “cumulative organized crime-related deaths” from 2007 to 2010 at 31,724. The Mexican newspaper *Reforma* puts the numbers for 2009 and 2010 at 6,587 and 11,583 respectively (justiceinmexico.org).

² These estimates are conservative because wholesale purity is sometimes lower than purity in source countries, and because legalization could cut production costs, which would lower prices in source countries.

³ Miron (2003) argues that illegal drugs and some legal crops are marked up by roughly similar proportions between farmgate and retail. E.g., in Miron’s analogy, cocoa/chocolate prices per *pound* are comparable to coca/cocaine prices per *gram* – but there are 453.6 grams to a pound, so the value to weight ratios differ by more than two orders of magnitude, and legal distribution costs depend on bulk not just value.

⁴ Based on a \$43.58 per troy ounce quote from [kitco.com](http://www.kitco.com) obtained on May 3, 2011. There are 32.1507 troy ounces per kilogram.

⁵ Quote from the Coin Exchange coin shop at 143 6th Street, Pittsburgh - (412) 261-9000.

⁶ Or \$0.11 per gram

⁷ Geometric means of min and max values of the UNODC's purity range for those levels.

⁸ Kilmer et al., (2010a, pg. 27) made the following comparison to illustrate this point: "For those familiar with analysis of the Challenger space shuttle disaster, this issue is similar to data about the relationship between O-ring performance and temperature. The launch temperature on January 27, 1986, was "beyond the support of the historical data" (to use the technical jargon). Simply put, all the evidence about O-ring damage came from temperatures of 53° F and above, whereas the forecast temperature was 26–29° F (Tufte, 1997; Robison et al., 2002). Likewise, all our evidence about marijuana demand comes from times when average wholesale sinsemilla prices were above \$3,000 per pound (inflation-adjusted to today's dollars), but we expect post-legalization prices to be much lower, perhaps something on the order of $\$350 \times (1 + 25\%) = \440 per pound."

⁹ The Dutch have essentially legalized retail sale of marijuana (up to 5 grams), but production and distribution remain illegal and subject to considerable enforcement, so Dutch marijuana prices are not altogether dissimilar from those in neighboring countries (MacCoun, 2011).

¹⁰ The reversible/irreversible terminology comes from engineering; in social science, a similarly applicable concept is referred to as "path-dependence".

Targeting Drug-Trafficking Violence in Mexico: An Orthogonal Approach

Mark A.R. Kleiman¹

UCLA School of Public Affairs

Current drug policies produce results that vary from unsatisfactory to catastrophic. Mexico's current wave of violence illustrates the catastrophic side of the picture. If we characterize the current policies as "the war on drugs," then it seems obvious that the right solution is to end the war on drugs, substituting what is variously – and for the most part vaguely – referred to as legalization or a "public-health approach." Supporters of current policies argue, albeit with diminishing conviction, that the drug war is the sole alternative to a society-threatening wave of drug abuse and that our commitment to drug abuse control via enforcement, prevention, and treatment needs to be increased. As Santayana said, fanaticism consists of redoubling your efforts after you have lost sight of your aim.

Edwin Land once remarked that the correct answer to a polarized and bitterly disputed problem is unlikely to lie at a "golden mean" somewhere along the polarity; rather, it is likely to exist in some dimension at right angles to the line of polarization. That may be the case for drug policy, and in particular for the problem of how to dam the rivers of blood now washing across Mexico.

This essay proceeds in three stages: first, an explanation of why simply "ending the war on drugs" is not a feasible solution; second, a demonstration that devoting more resources to conventional drug-control techniques – the triad of enforcement, prevention, and treatment – is unlikely to be effective; and third, a sketch of two unconventional approaches, either of which might hold out some promise: diverting drug dealing around Mexico by reducing anti-smuggling efforts in the

Caribbean on the one hand, or, on the other, redirecting Mexican and US drug law enforcement efforts toward creating disincentives for violence.

In Defense of Drug Laws

A widespread belief, reflected in part in President Zedillo's remarks and reflected in Steven Duke's book and Jeff Miron's writings, is that the war on drugs is just a mistake. Drug control efforts are variously imagined as either a political scheme to generate domestic enemies or the product of Puritanism gone wild. On this account, if we just exhaled, relaxed, and listened to the experts in medicine and public health, we could deal with the health problems as a health problem and go back to sleep.

That assumes that, if drug abuse constitutes a public health problem, it is therefore to be treated by people wearing white coats, and that people with guns and badges could never protect health. That seems to me incorrect.

We have drug policy because there exist in the world some chemicals that some people enjoy using and that some of them lose control over: losing control of their own behavior while they're under the influence or, more frighteningly, losing control of their drug-taking behavior, and winding up with some form of substance abuse disorder.

That fact of drug abuse exists independent of law. It is quite possible to be addicted to legal drugs, as alcohol demonstrates. Professor Duke is right that the United States consumes more illicit drugs than anybody else in the world. But that is not because Americans are especially devoted to chemical mood-alteration compared to other nations.

Looking at psychoactive use generally, the US does not actually stand out very much. The dominant intoxicant used all over the world is alcohol, and the United States is toward the middle to the bottom of the league table on alcohol consumption.

If you look at the prescription drugs, US abuse of prescription drugs has been rising, but the country has a long way to go before it catches up with France, which uses about ten times as much of the benzo-diazepines per capita as the US does. The impulse to alter one's mental functioning with chemical assistance

is widespread, and doing so turns out to be one of those activities that tends to run out of control.

Most people who use drugs do not lose control of their drug taking and do no damage to themselves or anybody else. Drug abuse is a problem of a minority. Even within that minority, a still smaller minority winds up trapped in chronic substance abuse in what is popularly – though not scientifically –called addiction. However, that minority is not something we can afford to ignore.

If we want to see what drug abuse looks like when treated as not a criminal issue, then we need only look at alcohol, and there we do not see a pretty picture. Alcohol, the one addictive intoxicant that’s perfectly legal to sell in the US, is abused by more people than all of the illicit drugs combined. Its abuse accounts for more disease and death than all of the illicit drugs combined. It accounts for more crime than all of the illicit drugs combined. It results in more incarceration than all of the illicit drugs combined, if we consider the consequences of intoxication.

By legalizing alcohol in 1933, the United States traded a crime problem around alcohol distribution for a crime problem around alcohol consumption. That may have been a good trade. No reasonable person would argue that alcohol prohibition, as actually enforced in the United States, was a success. Trying to ban a very widespread habit is a hard thing to do, and clearly the state capacity in the United States in the 1920s was not up to it. The federal drug enforcement effort today employs an order of magnitude more agents than the Prohibition Bureau employed, and even that represents a small share of the total enforcement effort, which is concentrated at the state and local levels.

Nonetheless, there is good evidence that prohibition substantially reduced alcohol consumption, particularly in its early days. The best data we have on that is deaths from cirrhosis of the liver, which according to death-certificate data fell about two-thirds in the first days of Prohibition and then went back up as that enforcement regime collapsed.

So we do not have the option of not having a drug war and also not having a bigger drug problem than we have. The likely consequence of the legal availability of cocaine, methamphetamine, and heroin is a lot more abuse of cocaine, methamphetamine,

and heroin, particularly considering what a licit market in any of those commodities, and the marketing effort created by that market, would look like.

It is possible to imagine not criminalizing drugs and also not allowing open commerce in them, but both history and the political economy of the problem suggest that it may be much easier to imagine than to do.

The consequences in the United States of open legal sales of heroin, cocaine, and methamphetamine are unknowable, but all logic and evidence suggests that they would include massive increases in the levels of abuse of those drugs. The fact that the one licit addictive recreational intoxicant – alcohol – has several times as many problem users as all the illicit drugs combined suggests the risks. Even if legalization were prudent, it is a political fact that there is no measurable support for it in the US political system.

Cannabis is a partial exception. Public opinion is far more open to cannabis legalization than to the legalization of other drugs, and not without reason. Cannabis abuse presents a less florid problem than abuse of the “hard” drugs, and the distance between the current situation in the US and full legalization, while impressively large, is still smaller for cannabis than it is for cocaine, heroin, or methamphetamine. State-level referenda may create quasi-legal production and sales in California and as many as two other states in 2012, and national legalization over the next decade is not inconceivable.

But legalizing cannabis might shrink the dollar value of the Mexico-US illicit traffic by 20%: not more. Even if it were immediately on offer – which it is not – the impact on Mexican violence would not be profound.²

So legalization does not provide a practical way out of the problem. Halfway measures would have either perverse effects – decriminalization of possession for personal use, for example, would if anything increase demand while leaving supply in illicit hands – or would turn out, in the end, either to be practically indistinguishable from the current system or to be practically indistinguishable from legalization. Taxes and regulations tight enough to actually keep drug abuse from expanding massively would generate illicit efforts at evasion and would therefore require enforcement.

The Essential Failure of Current Policies

Mexico and the United States both have drug problems, and those problems are linked, but they are not the same problem. The US problem is drug abuse and domestic drug trafficking. The Mexican problem is violence and corruption associated with the illicit traffic. (Mexico also has a modest but growing drug-consumption problem.)

The ideology on the war on drugs creates a tendency to measure outcomes entirely in terms of reduced volume and a reduced number of illicit-drug users. That is a mistake. The goal of drug enforcement in Mexico and in the United States with respect to drugs imported from Mexico should not be to shrink the volume. We have much less drug abuse than we would have if the drugs were legal. We should be satisfied with that. We should not imagine federal law enforcement agencies can further improve the public health situation by arresting more drug dealers. That is beyond their capacity.

But that is not to say that law enforcement is without value. Law enforcement can defend us from the side effects of prohibition, in particular, from the violence associated with drug dealing, but to do that, we have to instruct our law enforcement agents that their job with respect to drugs like their job generally is protecting public safety and order, not protecting public health. We have asked them instead to do a public health job by reducing the flow of drugs.

The Mexican aspect of the bi-national drug problem has become enormously worse since 2006, with trafficking-related homicides now in the tens of thousands per year and still rising, and Mexican law enforcement seemingly incapable either of deterring the violence or of apprehending and incarcerating those responsible for it: not only the men pulling the triggers, but those giving the orders.

The United States consumes large amounts of cocaine (about \$25B per year), heroin (\$10B per year), cannabis (\$15B per year) and methamphetamine (\$5B per year). Almost all of the cocaine comes through Mexico. Almost all of the heroin comes from or through Mexico. Most of the cannabis by weight comes from Mexico, but domestic production and Canadian and Jamaican imports account for perhaps half the value. Methamphetamine is mostly either imported from Mexico or made domestically from precursor chemicals imported from Mexico.

Perhaps 10% of the retail value represents the revenue of source-country and transit-country traffickers; Mexican drug trafficking organizations earn about \$4B per year from the US drug trade. That flow of funds toward an illicit activity – and the flow of guns that it finances – has created the conditions for an explosion of violence, while the flow of drugs in the other direction helps sustain both the public-health and the crime-control problems created by the use and sale of illicit drugs in the United States.

Starting with the Nixon Administration, the stance of the United States government has been to demand that Mexico act to reduce the flow of drugs across the border. This has always been a foolish and futile demand. If drugs reached the United States via other routes – cocaine used to come from Colombia via the Caribbean, heroin used to come from Europe or Asia, methamphetamine was once largely domestically produced from domestic precursors – the US problem would not change very much, but the Mexican problem would change dramatically. While Mexico has obvious advantages as a source of illicit drugs for the United States, changing the import routes would have little effect on retail drug prices, on the quantity consumed, or on the level of violence and disorder associated with domestic drug dealing.

And yet the most Mexico could conceivably do by enforcing its drug laws more effectively would be to force the traffic to shift to other routes. Therefore the notion that Mexico has a duty to its neighbor to reduce drug trafficking in order to reduce US drug consumption rests on a fallacy: it cannot be Mexico's duty to perform the impossible, and doing the maximum possible would have at best very modest effects on the US drug problem. (Mexico does need to maintain some level of enforcement to avoid falling prices and increasing drug flows that might either worsen drug abuse in the US or cause a border crackdown damaging to bi-national trade.) Therefore, from a US as well as a Mexican perspective, Mexican drug policy (and US drug enforcement efforts in Mexico) should be designed primarily with respect to their effects on the Mexican economy, society, and government.

Mexican demands on the US with respect to the shared problem are, for the

most part, equally misconceived. The most perverse is the demand that the US maintain or increase its efforts against domestic drug production, particularly of cannabis. Eradicating cannabis grown in the US can only increase the demand for cannabis grown in Mexico.³

Reducing sales in the US would no doubt help reduce violence and corruption in Mexico. But the insistence that the US increase the vigor of its conventional enforcement, prevention, and treatment efforts is as futile as the demand that Mexico somehow stop the flow of drugs across the border, because those techniques have not demonstrated the capacity to markedly reduce the quantity of illicit drugs consumed.

The experiment in reducing drug abuse by increasing enforcement in order to make drugs harder to get and more expensive has been tried, and failed. Over the last 40 years, the number of drug dealers in prison in the United States has increased by a factor of 15. The prices of heroin and cocaine have fallen by 90%. It turns out that the capacity of drug dealers to adapt to new enforcement efforts, and the number of people willing to risk substantial prison terms to deal drugs, frustrate the effort to raise prices by locking up dealers. With half a million dealers currently behind bars at any one time, further ratcheting up that effort is no more feasible than legalization.

Far less effort has been put into prevention and treatment, but there is simply no reason to think that even massive increases in those activities would make a noticeable difference in the burden that US drug consumption puts on Mexico. As Jonathan Caulkins demonstrated in *An Ounce Of Prevention, a Pound of Uncertainty*, while prevention efforts have measurable, though modest, effects on the number of new users of cannabis, there is no evidence to date that more vigorous prevention efforts could measurably decrease the number of high-volume users of cannabis, who account for at least 80% of total demand, or the number of users of the hard drugs that account for the vast bulk of the binational drug trade. Even those modest gains come from the best programs; the current prevention effort consists largely of a school-based program called DARE and a mass-media “anti-drug” campaign, neither of which has any demonstrated efficacy.

Drug treatment helps some of the people who use it. But it is not possible for us to treat our way out of our current problem. For heroin and the other opiates, we have effective treatments in the form of the substitutes methadone and buprenorphine. But the opiates are a modest share of the total problem. The capacity of treatment to address the abuse of stimulants is sharply limited, largely because most of the people who “need” treatment by clinical standards either will not enroll or, once enrolled, will quickly leave. That remains true even under the legal coercion of drug diversion programs and drug courts, as the coercion turns out to be more nominal than real. If you take a group of methamphetamine users and put them in the best treatment program available, a year from now about 18% of them will not be heavy methamphetamine users; the rest will still be using.

The most promising approach on the demand-reduction side is called HOPE. It is not generally considered “drug treatment” because it is not carried out by clinicians. Instead, HOPE – as implemented by Judge Steven Alm in Honolulu – depends on the enforcement of drug abstinence among criminally-active drug abusers under community supervision (probation or parole). Instead of mandating treatment, HOPE uses frequent random drug testing with swift, certain, and mild sanctions (a few days’ confinement) for each detected instance of drug use.

By contrast, traditional community supervision programs punish irregularly and unpredictably but severely: in the United States, 40% of probationers and more than 60% of parolees wind up in prison within three years – for periods of months or even years - in many cases for repeated “technical violations” such as continued drug use. The very severity of the sanctions makes it impossible to hand them out very often, thus creating a “social trap” of high violation rates, low conditional probabilities of punishment, and high aggregate punishment.’

The comparatively mild punishments used in HOPE are far less costly to administer. That allows every detected violation to be punished. Consistent punishment, in turn, reduces violation rates to manageable levels, in a “virtuous circle.” The certainty of punishment is an essential component of this approach. When violations are only punished sporadically, probationers are more likely to violate the terms of their probation because they know they will likely go unpunished, and when a violation is punished, it seems unfair or arbitrary.

As a result, despite being punished for every detected violation, HOPE participants spend no more time in jail than those in traditional community supervision programs and they spend less than half as much time in prison, because they are less than half as likely to have probation revoked and less than half as likely to be arrested for a new crime.

The HOPE approach seems to be far more effective than traditional treatment programs. HOPE participants, mostly long-term methamphetamine users, were 80% abstinent at the end of a year.

Heavy (as opposed to casual) drug users are responsible for most of the demand for drugs, and a substantial fraction of heavy drug users are criminally involved. Indeed, criminally-active users account for more than half of the US consumption of hard drugs. As a result, a successful application of HOPE principles to the entire probation and parole population (plus those on pre-trial release) could substantially reduce aggregate drug consumption, and thus the pressure on Mexico.

HOPE is now being replicated elsewhere, with encouraging results so far. Since this strategy targets users who account for more than half of the US demand for hard drugs, a massive expansion of HOPE might create substantial benefits for Mexico. And yet HOPE is neither drug law enforcement, drug prevention, nor drug treatment; it stands at right angles to all of them.

Thus enforcement in Mexico has little to offer the United States in terms of reduced drug abuse, and the enforcement-prevention-treatment triad in the United States has little to offer Mexico in the way of relief from the problems created for Mexico by US drug consumption.

Two Orthogonal Enforcement Approaches

In the eyes of many, the analysis of the essential failure of current policies implies that the situation is hopeless, or – what amounts to the same thing – that the only hope for Mexico lies in drug legalization

Within the existing legal framework, however, there are two major opportunities to reduce the damage that drug trafficking does in Mexico.

The first, and simplest, would be to reconfigure US anti-smuggling enforcement, which currently makes the Caribbean route more expensive and hazardous for traffickers than crossing the Rio Grande. Reducing the density of Caribbean enforcement might shift the flow away from Mexico. That would not greatly increase drug abuse in the US, though such changes would no doubt generate howls of protest from the states along the Gulf Coast and from the island nations that would experience an upsurge of illicit drug trafficking. And those complaints would have real moral force. While the effects on Mexico of the crackdown on seaborne trafficking in the early 1980s were entirely predictable, they do not seem to have been predicted in official circles; no one decided that it would be a good idea to spare Jamaica at the expense of Mexico. If the decision were reversed today, no one could pretend not to know how bad it would be in the Caribbean.

The alternative – perhaps less politically controversial, though also more operationally difficult – would be to reconfigure the drug law enforcement efforts of both US and Mexican agencies to create disincentives for violence. This would mean – though the meaning need not be stated explicitly – de-emphasizing drug quantities in the algorithms used to select the targets of drug law enforcement.

The six major Mexican DTOs are not all equally violent. Changing market shares to favor the least violent groups, or encouraging any given group to reduce its level of violence, would both be desirable. Both might be achieved by instituting a pre-announced strategy of violence-targeted enforcement.

Consider, for example, the following approach. The Mexican Government crafts and announces a set of violence-related metrics – a “scoring system” – for the violence level of each organization. Such metrics might include not only the total number of killings, but the distribution of targets (other dealers, enforcement agents, ordinary citizens, journalists, community leaders, and elected officials), the use of terroristic techniques or threats, non-fatal shootings and kidnappings, and perhaps other factors. The “score” for each organization might, or might not, be adjusted to reflect its size: that is, the program could target either total violence or the violence-intensity of trafficking activity. Mexican officials believe that they currently have the capacity to attribute each killing to a specific trafficking

organization, in part because the organizations now boast of their violence rather than trying to hide it.

Once the set of metrics had been published, the Mexican government would announce a violence-measurement process lasting for a period of weeks or a very few months. It might even publicly post intermediate “scores.” At the end of the announced period, or once it became clear that one organization clearly ranked first, that “most violent organization” would be proclaimed and targeted for destruction.

“Destruction” in this case need not mean massive arrests, or the arrest of the organizational leadership. All that would be required would be the imposition of sufficient differential enforcement pressure to make the target uncompetitive with the illicit drug-trafficking industry. The point of maximum vulnerability might not be within Mexico, but rather on the US side of the border. US agencies firmly believe that, for every major domestic distribution organization, they can identify one or more of the six dominant Mexican DTOs as the primary source or sources. If US authorities announced that their target-selection process would give high priority to domestic distributors supplied by the designated “most violent organization,” the result would likely be a scramble to find new sources. That process would not be expected to destroy net smuggling capacity: no doubt the five remaining organizations (or perhaps a new entrant to the market, assembled largely from already-active individuals) could take up the slack. But the leaders of the target would – if the program were successful – soon find themselves out of business.

The result might be the replacement of more-violent by less-violent trafficking activity, or alternatively it might be an upsurge in violence due to the disruption of existing processes and relationships. But if the destruction of the first designated target were followed by an announcement that a new target-selection process was underway, using the same set of violence metrics, the result would – if all went well – a strong tendency for each of the remaining groups to reduce its violence levels in order to escape becoming the next target. The process could continue until none of the remaining groups was notably more violent than the rest. In effect, this approach would attempt to hold the trafficker’s business interests hostage

to their willingness to conduct business in a relatively non-violent fashion⁴. (This echoes the violence-reducing approach to street gangs pioneered by David Kennedy under the label “Ceasefire.”)

Note that this does not mean any sort of explicit negotiation or “treaty” with trafficking organizations. Trafficking, even non-violently, would remain subject to enforcement, but violent trafficking would be the target of differential enforcement.

Of course such an approach faces many challenges – agreeing on a set of metrics, collecting accurate data (especially if some organizations attempted “false-flag” killings), keeping tabs on sourcing relationships, maintaining sufficient publicity and transparency to avert accusations of corruption. But unlike conventional enforcement/prevention/treatment the program has a logical chance of being effective, and unlike legalization it has a political chance of being adopted. In the absence of another convincing idea, it might be worth trying.

¹ Thanks are due to Jonathan Caulkins for his comments and to Greg Bonett for research assistance.

² Beau Kilmer, Jonathan P. Caulkins, Brittany M. Bond, Peter H. Reuter, “Reducing Drug Trafficking Revenues and Violence in Mexico Would Legalizing Marijuana in California Help? Santa Monica: RAND International Programs and Drug Policy Research Center, 2010.

³ See the parallel analysis of cocaine interdiction in Donald Putnam Henry, “The Effects of Interdiction on Drug Exports.” Appendix A in Reuter, Peter, Gordon Crawford, and Jonathan Cave, *Sealing the Borders: The Effect of Increased Military Participation in Drug Interdiction*, RAND, R-3594-USDP, Santa Monica, 1988.

⁴ Caulkins and Reuter; Greenfield and Paolli.

Government Policy Toward Illegal Drugs: An Economist's Perspective

Jeffrey Miron

Department of Economics, Harvard University

I. Introduction

This paper explains how economists think about government policy toward illegal drugs. The economics perspective suggests that rational discussion of drug policy must address two distinct questions. The first is whether policy should attempt to reduce drug use; the second is whether prohibition is a good method of reducing drug use, should that goal be desirable.

Economic reasoning suggests that reducing drug use is not necessarily a compelling goal for policy, although it does not rule out that perspective. Economic reasoning also suggests that prohibition is an inefficient method for reducing drug use – assuming that goal is taken as given – except under conditions that do not appear consistent with existing evidence.

II. Should Government Policy Attempt to Reduce Drug Use?

The first question that drug policy must address is whether government should attempt to reduce drug use at all. Stated differently, the question is whether policy should treat drugs differently than coffee, ice cream, cars, toaster ovens, down-hill skiing, alcohol, tobacco, or any other product. Most people think the answer to this question is obvious, but it is important to ask explicitly why drugs might be different than other goods.

Economists generally assume that people consume particular goods because they think such consumption makes them better off. Thus, the natural starting point

for economists is that policy should *not* discourage drug use; any attempt to do so reduces the welfare of drug users by making it harder for them to consume drugs. This is the economics view regarding all goods.

This perspective applies even for goods that might be addictive (Becker and Murphy 1988). Rational economic consumers consider the possibility of addiction and only consume such goods when they regard the benefits from current and future consumption as greater than any costs addiction might generate. Similarly, the economic perspective applies even for goods that might have adverse effects on health or productivity. Rational economic consumers consider the possibility of such effects and only consume these “risky” goods if the expected benefits from consumption exceed the expected costs of diminished health or income.

This rational economic perspective may strike many non-economists as odd, and indeed most economists regard this perspective as the beginning of the analysis, not the end. Economists offer two reasons why policy might want to treat drugs differently than other goods.

Paternalism and Irrational Drug Use

A possible alternative to the rational economic perspective is that when people “choose” to consume drugs, they are not making informed choices that weigh present and future costs and benefits. Instead, some consumers might be uninformed about the risks of drug use, or they might lack the self-discipline to control their consumption of addictive goods, or they might be overly optimistic about resisting addiction.

If some consumers make “irrational” decisions about drug use, policies that attempt to reduce drug use can potentially make these consumers better off. Several caveats apply, however, in adopting this “paternalistic” perspective as a basis for policy.

To begin, the negative consequences of drug use for health and productivity, along with the risk of addiction, are routinely overstated (Miron 2004); likewise, the possibility of irrational consumption is hardly unique to drugs. In fact, many goods are addictive or potentially dangerous, so if policy should discourage drug use, it should presumably target other goods as well. Current policy does

try to reduce consumption of alcohol, tobacco, gambling, and saturated fat, as well as encourage exercise and saving for retirement. But the list of goods and activities that might be subject to irrational excess is far larger (e.g., trading stocks on line, watching too much television, participating in extreme sporting events), so government would quickly exhaust its resources if it aimed to prevent all consumption that might be irrational.

A different consideration is that choosing drug policies based on paternalism potentially starts policy generally down a slippery slope. If government decides that it knows better about individual drug use than individuals themselves, it is a small step to assume that government knows best about how much people should exercise, what foods they should eat, how much they should study, where they should go to school, what books they should read, which religion they should practice, and so on. Governments throughout history have adopted coercive policies in all these areas. Unless one is confident that government paternalism will usually be benevolent, the potential for slippery slopes should generate caution about putting government in charge of personal decisions about drug use.

A crucial additional caveat is that although some drug use is plausibly irrational, much drug use is almost certainly rational. Millions of people use drugs with minimal ill effects and claim they get some benefit, whether for medicinal, recreational, religious, or other reasons. Since any policy that tries to reduce irrational drug use is likely to restrict rational drug use, the net effect on drug users is impossible to determine *a priori*.

Taking these caveats into account, some people might still argue for policies that aim to reduce drug use based on paternalistic considerations. But this position should recognize that paternalistic policies raise potentially difficult issues and might easily generate far more cost than benefit.

Externalities and Drug Use

A different alternative to – or more accurately, a generalization of – the rational economic perspective on drug consumption holds that even if most use is individually rational, this use can adversely affect people other than users themselves. These spillovers to non-users, known by economists as externalities, include

driving accidents, health effects on unborn children, and increased expenditure for publicly funded health care (a fiscal externality). When consumption of a particular good generates externalities, policies that reduce such consumptions can increase social welfare.

As with the paternalism, several caveats are in order. The externalities from drug use are easily exaggerated; for example, the effect of marijuana on driving ability, while not trivial, appears to be less than that of alcohol (Miron 2004). Relatedly, many goods generate externalities, including driving on the highway (congestion and air pollution), washing dishes or laundry (water pollution), and late night TV (reduced job productivity caused by lost sleep). And much drug use does not generate externalities, so policies that target drug use are harming these consumers without an offsetting benefit in the form of reduced externalities.

A different problem with the externality perspective is that deciding which externalities to target is tricky. Cigarette smoking causes reduced health, some of it paid for by publicly funded health insurance programs. This might seem to imply that policy should tax smoking to reduce externalities. But smoking also causes early death, which means smokers collect less in Social Security and Medicare benefits than non-smokers. Thus the externality logic could imply that policy should subsidize smoking, since this might reduce externalities on net. Few people would argue for such a policy, but this shows that the externality argument can be used selectively, rather than reflecting evidence on the magnitude of different externalities.

Rational concerns about externalities, therefore, can plausibly justify policies that attempt to reduce certain kinds of drug use (e.g., driving under the influence). But this position should recognize that the externality perspective is messy, and the net effect of such policies on social welfare is ambiguous.

Summary

Economic thinking provides plausible reasons why policy *might* want to reduce drug consumption. Nothing in this reasoning, however, suggests that the right goal for policy is eliminating all drug use (driving cars causes pollution and accidents,

but no one suggests eliminating cars or driving). Rather, economic analysis suggests only reducing irrational or externality generating drug use.

III. Prohibition versus Other Policies Toward Drug Use

If policymakers wish to reduce drug use, one possible approach is prohibition, which means outlawing production, distribution, sale, and possession of drugs and punishing violations via jail terms, fines, asset forfeiture, and the like. Prohibition is not the only way to reduce drug use, however; policy can also attempt to reduce drug use via sin taxes, age restrictions, public health ads, subsidized treatment, and more.

The choice among these policies should recognize that all policies have costs and unintended consequences, whether or not they achieve their stated goals. So the right question for policymakers is what policy best balances the costs of irrationality and externalities against the costs created by the policy itself? From this perspective, prohibition is almost certainly the worst possible choice.

The Unintended Consequences of Prohibition

Prohibition does not eliminate drug markets; instead, it mainly drives them underground.

Prohibition may reduce the amount of drug use, but substantial drug markets remain, even under strongly enforced prohibitions (Miron 2004). Given these black markets, a range of negative side effects occur.

In underground markets, participants cannot resolve their disputes using non-violent mechanisms like lawyers and advertising, so they resort to violence instead. Participants cannot lobby legislators, so corruption is more common. Income-generating crime is higher under prohibition because those drugs users who obtain income from activities like theft and prostitution face higher prices for drugs and therefore commit more crime. Quality control is more difficult in an underground market, so accidental poisonings from impurities and accidental overdoses from overly potent drugs are more common. Drug users are worse off because they face higher prices and reduced availability, purchase drugs from underground dealers rather than legal purveyors, and face the risk of incarceration. HIV transmission

is more common due to prohibition because elevated drug prices encourage high bang-for-the-buck methods of administration like injection; these combine with prohibition-induced restrictions on clean needles to encourage sharing of contaminated needles. Prohibitionist zeal causes limits on drug use for medicinal purposes and generates burdensome restrictions on research. US attempts to impose prohibition around the world mean greater violence and corruption in supplier and transit countries like Colombia, Peru, Mexico, and Afghanistan. The desire to enforce prohibition means diminished civil liberties and racial tension because of the victimless nature of the drug transactions. And prohibition breeds disrespect for the law because no matter how vigilantly enforced, many people evade prohibition, so everyone learns that laws are for suckers.

Given these negatives of prohibition, it is hard to conclude that prohibition is better than a policy of laissez-faire. Prohibition might reduce irrational or externality-generating consumption enough to justify its own costs, but the broad range of negatives make this claim at least controversial if not highly doubtful. At a minimum, this perspective raises the question of whether a policy other than prohibition might achieve a better balancing of positive and negative consequences.

The obvious alternative to prohibition is a sin tax on drugs, similar to those employed in most countries for alcohol and tobacco. Under broad conditions, sin taxation is strictly preferable to prohibition (Becker, Grossman, and Murphy 2006). Consider, in particular, the regime in which the level of prohibition enforcement just balances the costs of prohibition against the benefits of reduced drug consumption to a regime with a sin tax on drugs that raises trafficker costs a smidge less than this degree of prohibition. Assume that the same enforcement against illegal production under prohibition would be levied against legal market suppliers who attempted to evade the sin tax.

Under the sin tax regime, the legal suppliers who paid the tax would have a strict advantage over illegal suppliers or tax evaders, so they would supply legally and pay the tax. Price would be almost as high as under prohibition – so consumption would be almost the same – yet society would avoid all the ancillary costs of black markets as well as some of the costs of enforcing prohibition.

Indeed, policy can under plausible conditions choose an optimal sin tax – one that balances the benefits of reduced consumption against the costs associated with enforcement – that raises drug prices and lowers drug consumption more than occurs under an optimal prohibition (Becker, Grossman, and Murphy 2006). The reason is that whatever the optimal rate of taxation, policy can enforce this by making evasion so costly that few producers actually evade. Then enforcement costs are limited to maintaining an enforcement regime, while conducting minimal enforcement activities, which is less costly than a prohibition regime in which enforcement costs will be substantial because all production occurs illegally.

The implication is that even if one believes that much drug consumption is irrational or imposes significant externalities, prohibition is unlikely to be the preferred approach for reducing drug use. Prohibition is superior to sin taxation under some conditions, especially highly elastic demand or a large impact of prohibition on the demand curve for drugs. Yet neither condition appears to be satisfied in practice.

IV. Conclusion

Reasonable people can disagree over whether policy should attempt to reduce drug use. But everyone should agree that prohibition has a broad range of unintended consequences, so any case for prohibition requires evidence that the benefits of reduced drug use exceed the costs of prohibition. For those who view all drug use as undesirable, that case seems easy to make, but calm assessment of the evidence does not support that perspective.

Everyone should also recognize that, whatever the pros and cons of drug use, alternatives to prohibition might generate a better ratio of benefits to costs. Sin taxation, in particular, raises the price of drugs and lowers consumption, with far lower negative side effects. Thus economic analysis suggests that drugs should be legal, not prohibited. Analysis of auxiliary policies like age restrictions, public health announcements, harm reduction, subsidized treatment, and other interventions should occur within that framework.

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Rethinking America's Illegal Drug Policy

John J. Donohue III
Stanford Law School

1. Introduction

Illegal drugs, along with alcohol, tobacco, and guns, create large social costs to society. Interestingly, each one of these is estimated – albeit crudely – to impose about \$200 billion per year in social costs on the US (albeit in very different ways). These four entities 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 in the case of drugs, alcohol, tobacco, and guns, restricting use to only those who impose minimal social costs is extremely difficult.

Cocaine and opiate drugs first became criminalized 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, promoted legalization of illicit drugs:

“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 simultaneously *reduce the amount of crime* and improve law enforcement. It is hard to conceive of any other single measure that would accomplish so much to promote law and order”¹

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, Weiner² 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?”³ 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.”⁴

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 neoclassical economics and consumer surplus) are to be had from this emphasis on individual choice. Further, Friedman draws on evidence from the prohibition and re-legalization of alcohol in the United States 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 suggests poignantly that by legalizing drugs, we would eliminate the massive policing costs of prohibition.

On the other hand, Weiner accurately argues that drug consumption itself will produce major social costs if not inhibited by law, and hence should be illegal because the socially optimal level of drug consumption is low or close to zero. Moreover, *given* that these drugs *are* criminalized, argues the Weiner position, 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 to Evaluate the Theories

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 illegalization of drug use.

Of course, theories premised on large and unavoidable externalities and internalities would support a criminalization approach. Drug use produces *negative externalities*, or social costs that accrue to non-market participants, in the form of various harm to the dependents of drug addicts, for example. The concept of *internalities* is less commonly invoked – these are costs that accrue to drug users themselves but that the users fail to account for in making their consumption decisions. UCLA Professor of Public Affairs Mark Kleiman gives an example of this: when you choose to smoke at age 18, for example, you don’t think years down the road how it will hurt your 12 year old son when you die early.⁵ 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.⁶ 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 – seem more socially optimal than the free-market libertarian policy of Friedman.

4. Alternative Approaches

In addition to the polar theories of legalization and a “war on drugs,” less extreme alternatives have been suggested. Supply-side policy suggestions include proposals for (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 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). The main 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 instant 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.⁷ 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, which incidentally was higher than for marijuana, ranked twelfth.

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 US⁸ 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.⁹ Two similar studies estimate the cost of alcohol use at \$244 billion the cost of smoking at \$195 billion,¹⁰ again in 2008 dollars.¹¹

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 US drug policy, and force us to ask whether a “war on drugs” is truly optimal.

A study¹² comparing countries’ drug use helps illuminate the US “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 US respondents topped other countries in cocaine use by a huge margin – 16% of US respondents indicated they had used cocaine; the next highest was New Zealand, at just over 4%. 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.¹³ Weiner would suggest that these numbers, lower *current use* than *ever use*, are evidence that the war on drugs is working.

Indeed, illegal drug use in the US is down substantially from the late 1970’s, the height of US illicit drug usage.¹⁴ The trend in reported recent marijuana use 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.¹⁵

So, even if Weiner were correct that the all-out war on drugs reduced drug use, these statistics suggest that raising the drinking age and increasing tobacco taxes has generated equal or greater drops in the usage levels of these respective substances.

6. 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.¹⁶ 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%.¹⁷

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)¹⁸ 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. Regardless, 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.

7. 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.¹⁹ Surprisingly, the rate of US 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.²⁰

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.²¹ 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 1000 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.

This discussion relates to the “Big Question” of the US punitive approach to the war on drugs: How did prices for US illegal drugs fall so sharply in the face of such intense enforcement?²² 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 US 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.²³

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.²⁴ His logic here is straightforward: homicide rates in Western Europe are just 10-20% of those in the US, and Colombia, where domestic and international efforts to prohibit drugs are considerable, experiences homicide rates about 8-10 times those of the US. From this evidence, 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 South America primarily to policies towards illegal drugs?

Moreover, evidence from the US in the past 20 years somewhat refutes Miron's suggestion. Since the mid 1990's, the “Miron Drug Prohibition Enforcement Index”²⁵, 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.

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

Caulkins et al. (1997) presents a poignant analysis by evaluating the cost-effectiveness of opposite types of drug policy.²⁶ Overall, the authors find that a

demand-side policy, drug treatment, was more effective than an aggressive prohibition policy, 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, short-run tripling of prices, and a drop in purity from 90% to 20%.²⁷ 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 create. 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 keep up 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.

The Netherlands, where small transactions (5g or less) of cannabis are decriminalized, shows somewhat similar evidence. Lifetime use of marijuana still continued to be lower than in the US 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.²⁸

Some US 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.

9. 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 overwhelmingly large drug problem in the US. Caulkins and Kleiman (2007) estimate that two-thirds of the social costs of illegal drugs in the US are accounted for by cocaine,²⁹ not to mention the prevalent violence just across the border in Mexico over cocaine trafficking. 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, 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.

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 US-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 unintended consequence of this would be new data with which to analyze the question of drug control), but marijuana should necessarily be included 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 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.

¹ *Crime*, reprinted in *In the Name of Justice*, Timothy Lynch, ed., 2009, appendix B at p. 186.

² Weiner, Robert [former head, White House National Drug Policy Office]. Address in Washington, June 14, 2009.

³ 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.

⁴ *Id.*

⁵ Kleiman, Mark, at 2011 “Rethinking the ‘War on Drugs’ through the US-Mexico Prism,” Yale University, May 12, 2011.

⁶ 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).

⁷ Nutt et al. (2007). “Development of a Rational Scale to Assess the Harm of Drugs of Potential Misuse.” *The Lancet* 360(9566): 1047-1053.

⁸ See https://www.ncjrs.gov/ondcppubs/publications/pdf/economic_costs.pdf

⁹ 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.

¹⁰ 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 Proceedings of the Association of American Physicians, at 119.

¹¹ 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.

- ¹² 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).
- ¹³ World Drug Report 2009, see <http://www.unodc.org/unodc/en/data-and-analysis/WDR-2009.html>.
- ¹⁴ 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.
- ¹⁵ *Id.*
- ¹⁶ 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).
- ¹⁷ Sarah Kershaw and Rebecca Cathcart, *Marijuana is Gateway Drug for Two Debates*, *New York Times*, July 19, 2009 at ST1 (citing Institute of Medicine of the National Academies).
- ¹⁸ Gary S. Becker & Kevin M. Murphy, *A Theory of Rational Addiction*, 96 *Journal of Political Economy* 695 (1988).
- ¹⁹ Bureau of Justice Statistics, *Drugs and Crime Facts*: <http://www.ojp.usdoj.gov/bjs/dcf/enforce.htm>.
- ²⁰ Boyum and Reuter. (2005). *An Analytic Assessment of US Drug Policy*. AEI Press.
- ²¹ Viscusi, Kip. (1991). "Toward a Proper Role for Hazard Warnings in Products Liability Cases." *Journal of Products Liability* 13: 139-163.
- ²² 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.
- ²³ Owens, Emily. (2011). "Are Underground Markets Really More Violent? Evidence from Early 20th Century America." *American Law and Economics Review* 13(1): 1-44.
- ²⁴ Miron, Jeffrey. "Violence and the US Prohibitions of Drugs and Alcohol," *American Law and Economics Review*, Fall 1999, 1-2, 78-114.
- ²⁵ See Miron (2005). *The Budgetary Implications of Marijuana Prohibition*. Washington, DC, Marijuana Policy Project.
- ²⁶ Jonathan P. Caulkins et al., *Mandatory Minimum Drug Sentences: Throwing Away The Key or The Taxpayers' Money?* RAND Corporation, Drug Policy Research Center 22 (1997).
- ²⁷ Dobkin and Nicosia (2009). "The War on Drugs: Methamphetamine, Public Health and Crime" *American Economic Review*, Vol. 99, Issue 1, pp. 324-49
- ²⁸ Manja D. Abraham, *Places of Drug Purchase in the Netherlands*, 3-4 (1999).
- ²⁹ Jonathan P. Caulkins & Mark A.R. Kleiman, *Drug Policy*, in *Understanding America: The Anatomy of a Exceptional Nation* 564 (Peter H. Schuck & James Q. Wilson eds., 2007).

Why Existing Economic Studies of the “War on Drugs” are Insufficient for Informing Policies Using a US – Mexico Perspective

Rosalie Liccardo Pacula

Co-Director RAND Drug Policy Research Center
RAND Corporation

The discipline of economics contributes to our understanding of the impact of the so-called “war on drugs” in two principal ways. First, it provides insights into how drug markets operate and how particular government policies influence the behavior of participants engaging in these markets. Second, it provides the framework and tools for conducting economic evaluations (cost-benefit analyses or cost-effectiveness analyses) of approaches for dealing with the problem. My colleagues on this panel will be highlighting what economics has taught us in terms of the former so I will focus my remarks on what can be learned from the latter.

Economic evaluations of government interventions are common in all policy areas. Results from these studies are often discussed with a sense of certainty and objectivity. For example, the economic burden of drug abuse in the US was \$190.3 billion in 2007 (NDIC, 2011) and the budgetary impact of ending prohibition is \$41.3 billion (Miron and Waldock, 2010). In actuality, the findings from economic evaluations are rarely either certain or entirely objective; only sometimes is this made explicit. Certainty is rarely guaranteed in any policy experiment; objectivity, however, is an attainable goal. To achieve objectivity, those conducting economic analyses must fully consider five critical elements: (1) a clear statement of all relevant perspectives (stakeholders) and goals based on those perspectives, with

consistent consideration of them throughout; (2) a clear understanding of which markets are impacted; (3) an understanding of whether valuation of benefits and/or costs are fully captured by the primary markets; (4) a recognition of costs and benefits not captured in the analysis; and (5) a recognition that the valuation of costs and benefits are done with a presumption of where the market ends up, which is never known with certainty.

If one carefully considers each of these critical elements, it becomes clear why studies conducted thus far provide little insight into how one might move forward in addressing the drug problem using a joint US-Mexico perspective.

First, simply put, no economic evaluation conducted thus far has approached the endeavor using a joint US-Mexico perspective. Lots of studies have evaluated various drug policies from a US perspective, where the primary goal is to reduce consumption. Although more recent US studies also give consideration to reducing the cost of prohibition (e.g. Miron and Waldock, 2010; Geiringer, 2009), the stated objective of US policy is to reduce use (ONDCP, 2011) and the premise that prohibition has failed to reduce use in the US is not one that is universally accepted. There have been a growing number of papers evaluating the impact of the US War on Drugs on Mexico, and studies examining the role of the drug trade on violence in Mexico, but these are focused on Mexico's issues and it's goal to reduce violence and corruption (e.g. Rios and Shirk, 2011). No economic evaluations I am aware of have adopted both a US and Mexican perspective incorporating and considering simultaneously both countries' objectives.

The likelihood that an objective study using a US-Mexico perspective is conducted and then used to inform policies in both countries is slim. The problem is that there is no agency charged with developing policies beneficial to both countries with any real political authority over them. Moreover, the immediate goals of Mexico and the US are not currently aligned, making it difficult for objectivity to emerge when national biases cause greater weight to be given to particular positions. The fastest way to reduce violence in Mexico caused by the illicit drug trade is to legalize drugs there, although if prohibition in the US is maintained then the economic incentive to supply drugs remains. A very effective way of reducing

demand in the US is by keeping prices artificially high, which has been accomplished through the prohibition of supply and a rigorous enforcement strategy (Kilmer et al., 2010a; Kleiman, 1992).

Second, a clear understanding of all the markets involved has not been articulated in the discussion for both countries. Specifically, would legalization apply to just marijuana or all illicit drugs? The distinction is extremely important when thinking about the costs and benefits of legalization for both countries. The benefit in terms of reduced violence in Mexico associated with marijuana legalization, for example, is much lower than if all drugs were legalized (Kilmer, et al., 2010b). The feasibility of legalizing all drugs in the US, however, is considerably lower than doing so for just marijuana.

Similarly, when discussing the benefits of legalization or the costs of prohibition in each country, it remains unclear what is used as the starting point for describing the current situation. Those familiar with marijuana policy in the US know that there is huge variation across states and even within some states in the level of enforcement intensity and actual penalties associated with possession and even supply (because of medical marijuana laws). The benefits of legalizing marijuana, measured in terms of reduced criminal justice expenditure for example, will depend on whether you start with a policy of strict prohibition or decriminalization and/or medical marijuana.

Third, unlike goods supplied in perfectly competitive markets, the economic cost and benefits associated with policies targeting drug markets cannot be evaluated solely in terms of the primary drug market (end users and suppliers). They must also consider so-called secondary markets, those markets that feed into the supply of the drug (inputs into production and their alternative uses) or the externalities associated with these markets (e.g. pollution in the case of meth production; overdoses associated with use). While many of the economic evaluations conducted in the US have taken notice of some of these secondary market effects (e.g. health market, social welfare), I am unaware of any studies in Mexico that have given full consideration to the impact of legalization beyond its effects on violence. Perhaps this is due to the fact that the economic burden

of drug-related violence in Mexico exceeds these secondary costs. Nonetheless, the lack of attention to these other impacts will make it difficult to consider the sort of legalized regime that makes the most sense for Mexico in the long run.

It is important to point out that even when secondary market effects are known and considered, they may not be accurately reflected in a particular study. Two important examples for the US come readily to mind. The first pertains to the health care costs associated with consumption of illicit drugs. The traditional “cost-of-illness” approach employs population level data from hospitals, emergency room departments and treatment centers, and applies attribution factors that assess the extent to which drug-involved cases are due to drug use (Pacula, 2010; Collins and Lapsley, 2008; Popava et al., 2007; Harwood et al., 1998). While considerable attention has been given by scientists to the problem of identifying causal attribution, far less consideration has been given to the healthcare data to which they are applied. Hospital emergency data may not accurately reflect the number of drug-involved cases because many state laws allow health insurance companies to deny coverage for trauma care received by patients who are impaired by alcohol or illicit drugs (APIS, 2011; Teitelbaum et al., 2004; Rivara et al., 2000). This denial of coverage creates an economic incentive for physicians not to include drug use on the medical record unless it directly impacts the course of treatment. The extent of actual underreporting caused by these laws has yet to be evaluated.

Similarly the cost of enforcing prohibition is not accurately reflected by specific agency budgets, due in large part to the fact that dollars that are allocated to particular purposes do not necessarily reflect the actual resource allocation toward the drug problem but instead reflect the stated objectives of the administration providing those budgets (Murphy et al., 2000). Moreover, arrests, seizures, and convictions are notoriously bad measures of actual effort dedicated to drug activities; yet these are the metrics that get used to assess the amount of resources dedicated to drug enforcement. Efforts to adjust these metrics so as to attribute actual resources used vary widely. In our recent RAND study of the impact of legalizing marijuana in the state of California, we show how different assumptions regarding the allocation of policing, adjudication, and corrections budgets can

lead to substantially large differences in the estimated cost of enforcing prohibition. Previous estimates ranged from \$200 million (Gieringer, 2009) to almost \$2 billion (Miron and Waldock, 2010) and our estimate ranges from \$190 - \$267 million (Kilmer et al., 2010a).

The fourth critical element of a good economic evaluation is the clear recognition of costs and benefits that do not get measured in the analysis and a sense of whether these are large or small. There are a variety of costs and benefits that have yet to be fully considered when thinking about the attractiveness of legalization vis-à-vis prohibition, some of which might be quite large. For example, we do not have a good estimate of the loss in personal liberty caused by prohibition for users who are otherwise law-abiding citizens. Willingness-to-pay techniques coupled with other econometric techniques could be used to try to assess the impact of this loss so that the potential magnitude could be considered vis-à-vis other costs currently considered.

On the other hand, we also have no estimates of the cost of regulating drugs in a legalized market, in large part because there has been so little real discussion of what a regulated legal drug market would look like. Although lots of suggestions are offered to regulate illicit drugs like alcohol or cigarettes, the substances are not regulated in a similar fashion and we have no published estimate of the cost of regulating either of these substances that considers the full cost of regulations and enforcement. Regulations might apply to producers/distributors, retail sales outlets (on-premise and off-premise differentially), consumers, or all of them. The cost of the system depends on which get adopted and how rigorously they are enforced. As Mark Kleiman likes to point out, alcohol legalization has not led to the elimination of incarceration for alcohol offenses, so the mere legalization does not guarantee an elimination of criminal justice costs.

Another important example of an unknown is the impact of legalization on consumption. In this instance, analysts on both sides of the debate often presume a particular response (e.g. no change in consumption, large change in consumption) and act as if this is known with certainty. They rely on selected studies evaluating the responsiveness of demand (referred to as “price elasticity of demand”)

in particular settings to form the basis of these claims, and either ignore or fail to acknowledge the broader setting or literature that considers these changes. Non-economists need to understand two things about the price elasticities used in these analyses. First, most of the literature pertains to participation elasticities, not total demand elasticities. This is an important distinction not just to economists, as participation elasticities only tell us how changes in the number of users will change with a small change in price, whereas total demand elasticities tell us how both participation and total consumption among existing users will change. As many of the externalities of use are associated with heavy or addicted use, not the number of users, the lack of information regarding how consumption among existing users changes is an important unknown. Second, price elasticities of demand are only relevant for predicting changes in consumption associated with a very change in price, and assumes the demand curve remains constant. In the case of moving from a prohibited market to a legalized market, there is no reason to believe that the price change will be small. In fact, our own analysis of legalization of marijuana in California suggests that the decline in the pre-tax price would be at least 80% (Kilmer et al., 2010a; Caulkins 2010). In instances of large price changes such as these, economists rely on knowledge of the shape of the demand curve and income effects, not the price elasticity. In the case of illicit drugs, we do not know the shape of the demand curve. Our RAND study shows that alternative plausible assumptions of its shape generate big differences in terms of potential changes in consumption (Kilmer et al., 2010a).

The final key element is that one has to have a clear understanding of what the end point will look like. This brings us back to a point raised earlier: we have not yet described what a regulated drug market would look like. It is far easier to construct an estimate of the cost of prohibition in the U.S and Mexico given that this is the current state and costs are observable. Without a clearly defined alternative, it is difficult to quantify the potential costs associated with the alternative state or the net gain of moving from the current status quo. For example, in the US we know that criminal justice expenditure will most certainly be lower with legalization of marijuana. We cannot say how much lower, however, as it

will depend on what the regulated market looks like and how rigorously those regulations are enforced (e.g. drugged driving, providing to minors, etc).

Furthermore, one must keep in mind at all times that drug markets are not static. The drugs of choice, methods for production and distribution are constantly changing, even in prohibited markets. The ability of enforcement agencies to adjust sufficiently quickly so as to minimize the harms is not guaranteed even if the market is legal and highly regulated, as is evidenced by the widespread abuse of prescription drugs in the United States today. Thus, for a truly objective and insightful economic evaluation to be conducted one would need to consider a range of plausible end states that could occur rather than determine with certainty that any one end state will exist.

The main insights I hope this audience takes away from these remarks are the following. First, current economic evaluations of drug policy reforms are of limited value for informing debates from a US-Mexican perspective for a variety of reasons, including the fact that none have jointly considered meeting the stated objectives of both countries simultaneously and the impact of alternative strategies on all the relevant stakeholders in both countries (consumers, producers, traffickers, etc). One cannot simply aggregate results from select studies to fill in those perspectives due to the methodological differences across studies as well as the biases reflected in each. Second, given the different end goals pursued by the US and Mexico, a more productive discussion of policy reform at this stage should be focused on more intermediate steps that can make moderate progress toward achieving both countries’ primary objectives: reduced violence and reduced use. Legalization of drugs most certainly would not reduce use in the US even if it did reduce violence in Mexico, so it does not seem like the most logical place to start discussions that are aimed at achieving cooperation and consideration of both countries stated goals. Instead, a more useful question should be raised: are there intermediate steps between prohibition and legalization that could be taken or another alternative all together that could help both countries get closer to their goals and reduce the violence?

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Debunking the Mythical Numbers about Marijuana Production in Mexico and the United States

Beau Kilmer, PhD¹

Senior Policy Researcher and Co-Director of the
RAND Drug Policy Research Center
RAND

Marijuana is the most commonly used illicit drug in Mexico and the United States. Having a better understanding about the amount of marijuana consumed and produced in each country would substantially inform marijuana discussions on both sides of the border. Without this information it is hard to answer a number of policy-relevant questions, such as what are the potential tax revenues from marijuana legalization or how would policy changes in the United States influence drug trafficking organizations (DTOs) in Mexico.

Obviously, precise figures about prohibited drugs are hard to come by since these substances are exchanged in a black market—one cannot simply look to the back pages of *The Economist* or *Wall Street Journal* for marijuana trade data. Still, there are a number of reports published by governments and international organizations that provide information about illicit drug production and some include careful analyses with heavy documentation. But estimates of marijuana produced in Mexico and the United States are rife with “mythical” numbers.

In a classic article, Max Singer (1971) wrote about the vitality of mythical numbers, which he defined as numbers that get repeated so often they are trusted as common wisdom. More than a decade later, Peter Reuter’s follow-up essay (1984) highlighted the continued vitality of mythical numbers in drug policy discussions. Most relevant for this essay was his finding that estimates of the size of the US marijuana market were unbelievably large in the early 1980s. In 1996,

Reuter published another piece on the mismeasurement of illegal drug markets, noting the “fundamental unsoundness” of marijuana production estimates for Mexico (Reuter, 1996).

Unfortunately, not much has changed in the past 15 years, and such mythical numbers continue to abound.

In this essay, I identify several mythical numbers used in discussions about marijuana policy and offer a few ideas for improving these estimates. These insights are based on work co-authored with Brittany Bond, Jonathan Caulkins, Rosalie Liccardo Pacula, and Peter Reuter; those documents provide supporting information for the figures discussed here (Kilmer et al., 2010; Kilmer et al., forthcoming).

Myth 1. Exporting Mexican marijuana to the US accounts for more than 60 percent of Mexican DTOs drug export revenue

This claim that Mexican drug trafficking organizations earn more than 60 percent of their revenue from marijuana has seeped into a number of reputable media sources and has been used by advocates on both sides of the legalization debate. Most recently, the figure was used by Proposition 19 advocates to bolster the claim that marijuana legalization in California would diminish the profits of the Mexican DTOs.

Although the “60 percent” number is ubiquitous, my colleagues and I could not easily determine where it originated. After some detective work, we discovered that it came from ONDCP’s 2006 National Drug Control Strategy (ONDCP, 2006). The report includes a bar chart that displays estimated Mexican DTO revenues from cocaine, heroin, marijuana, and methamphetamine. The sources for the chart are ONDCP and the National Drug Intelligence Center. Very little was written about where the revenues come from, although the text specifically states that “61 percent of that revenue, or \$8.5 billion, is directly tied to marijuana export sales.”

There are at least five reasons to be skeptical of this 60 percent figure. First, the text offers no explanation of where the figure comes from, and we did not find documentation elsewhere. Second, subsequent estimates from the General Accounting Office suggest that there is massive uncertainty about the figure (GAO, 2007). Third, if one were to believe the 60 percent figure, it would imply a US

consumption level that is almost three times higher than the United Nations Office on Drugs and Crime estimate for the United States (UNODC, 2009). Fourth, in September of 2010, ONDCP publicly distanced itself from this figure (ONDCP, 2010). Fifth, our estimates suggest that the figure is probably closer to 15–26 percent (Kilmer et al., 2010).

Given these reasons, it is hard to stand by the 60 percent figure.

Myth 2. Mexico produced over 21,000 metric tons of marijuana in 2008

The claim that Mexico produced over 21,000 metric tons (MT) of marijuana in 2008 comes from the US State Department (USD). Each year, the USD publishes the International Narcotics Control Strategy Report that includes information about marijuana production and seizures in Mexico. This report suggests that net marijuana production in Mexico tripled from 7,000 MT in 2001 to over 21,000 MT in 2008 (USD, 2010).

To put 21,000 MT in perspective, the UNODC's upper-bound estimate of US marijuana consumption was close to 5,000 MT—and that includes marijuana produced in Mexico, Canada, Jamaica, and the United States. If there really was a tripling of production, there should have been a noticeable increase in US consumption during this period because the vast majority of Mexican marijuana ends up in the United States. (Seizure data on both sides of the border do not come close to accounting for the difference between the UNODC and USD figures). However, the number of past-month users in the US National Survey on Drug Use and Health from 2001 to 2008 is completely flat, at roughly 15 million. Data from the Monitoring the Future high school senior survey also show that the number of students reporting daily use of marijuana was stable during this period. Obviously, an increase in consumption cannot explain this large increase in production.

A simple back-of-the-envelope calculation also raises serious doubts about the validity of this figure. After accounting for seizures and consumption in Mexico and then making a conservative estimate about the share of marijuana used in the United States that does not come from Mexico, we find that this USD figure implies that every past-month user in the United States consumed 1.2 kilograms

of marijuana in the previous year—enough for every single past-month user to be intoxicated for every waking hour of every day for an entire year.

This implausible scenario, in conjunction with stability of US marijuana consumption from 2001 to 2008, suggests that 21,000 MT is not a credible estimate.

Myth 3. The United States produces 10,000 MT of marijuana annually

The claim that after accounting for seizures and eradication efforts the United States produces 10,000 MT of marijuana each year is also ubiquitous in national and international documents (e.g., the USD’s 2002, 2003, and 2005 International Narcotics Control Strategy Reports; ONDCP’s 2003 and 2004 National Drug Control Strategies; and various UNODC reports). However, if you look at the USD and the ONDCP publications, they do not provide sources for this figure, and if you look at the UNODC figures, they simply cite the USD and ONDCP.

So, where did this figure come from?

We think that it is based on a report from the Drug Availability Steering Committee (DASC, 2002), an interagency committee chaired by the Drug Enforcement Administration (DEA). While the report made very clear that there was not enough information to present credible figures for the size of the marijuana market, it developed a methodology and demonstrated how it would work using hypothetical figures. The DASC’s nine hypothetical values of US marijuana production ranged from 2,450 MT to 37,350 MT, and 10,534 MT happened to be the value in the center square of the 3x3 table.

Note also that the DASC’s report contained not only these hypothetical values but also a memo from the DEA suggesting that annual production was closer to 2,300 MT—much lower than 10,000 MT.

Unfortunately, this mythical number not only continues to exist, it has also been used to create other mythical numbers. For example, the claim that California earns \$14 billion from marijuana production each year (Gettman, 2006; California Secretary of State, 2010) is based on the assumption that the United States produces 10,000 MT each year.

Improving Estimates of Marijuana Production

Data about marijuana production are weak, but that does not stop them from being used in debates about marijuana policy. Fortunately, there are ways to improve the evidence base and policy discussions about marijuana production in Mexico and the United States.

Avoid using numbers that are obviously incorrect. The first step is to stop using these questionable figures and assuming that we have precise estimates. Those producing and/or using these figures must acknowledge uncertainty; at a minimum, there should be a focus on producing ranges, not unbelievable point estimates. While these ranges will likely be large, the goal should be to accurately convey what is and is not known—not to produce a single figure when doing so would convey a false sense of certainty.

In this vein, the USD should be applauded for not publishing an estimate of marijuana production in Mexico for 2009. The USD's 2011 International Narcotics Control Strategy Report states that reliable information about marijuana yields were not available to estimate potential marijuana production for 2009 (USD, 2011). While this raises important questions about the reliability of the figures from previous years, this is definitely a move in the right direction. Similarly, ONDCP should be applauded for distancing itself from the 60 percent figure.

Encourage independent peer review of government production estimates.

Knowing that marijuana production estimates are going to be integral to policy discussions, ONDCP could bring experts together to come up with a reasonable range and/or facilitate independent peer review. While doing so could involve working with confidential data that could not be released to the public, this is not barrier to peer review since there are a number of independent drug policy researchers with security clearances.

Improve estimates of marijuana consumption in the United States. Another important way to learn more about production is to improve estimates about how much marijuana is actually consumed in the United States. The existing estimates range from 1,000 to 10,000 MT (Abt, 2001; Gettman, 2007), with some putting the upper bound close to 5,000–6,500 MT (UNODC, 2009; Kilmer et al., forth-

coming). These estimates are rooted in the annual National Survey on Drug Use and Health (NSDUH), which is a general population survey. Although the NSDUH has limitations, it does a good job of capturing a large share of marijuana users.

There are a number of ways consumption-based estimates could be improved to help calculate the amount of marijuana produced in Mexico and the United States. First, NSDUH and other surveys need to collect better information about the amount and type of marijuana consumed during a typical day of use. Second, more work needs to be done to assess the validity of NSDUH responses with biological drug tests. Since respondents tend to underreport or hide their use, it makes sense to assess the extent of underreporting on a semi-regular basis (e.g., every five years). Third, more needs to be learned about the characteristics and substance-use patterns for those not covered by NSDUH. To facilitate this, it may be worth considering whether the NSDUH should be conducted every other year, using the alternating years for a survey that focuses on populations that may not be represented in the sample (e.g., those involved with the criminal justice system).

Conclusion

Many estimates of marijuana production in Mexico and the United States are inflated and this distorts policy discussions. For example, exaggerated figures about the share of DTO revenues coming from marijuana gives the substance more prominence in debates about drug-related violence and organized crime than it deserves. Unbelievably large figures about marijuana production make it easy to overestimate the potential tax revenues from legalizing marijuana in the United States.

Singer (1971) and Reuter (1984) wrote about the mythical numbers infiltrating drug policy discussions at a time when it was hard to generate reasonable estimates; the underlying data simply did not exist. Over the past 25 years, the data have improved considerably and major advances have been made in our understanding of drug consumption and how drug markets operate. Since it is now possible to generate credible ranges of marijuana production and consumption, more must be done to eliminate the mythical numbers that hijack marijuana policy discussions in Mexico and the United States.

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