The Relationship Between Illicit Drugs and Violence in Major Drug Countries

by

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Chapter 1: Introduction and Literature

1.1 Introduction

Illicit drugs and crime have been linked far before the onset of drug prohibition. In the United States, this history is tied with the "war on drugs," or the ongoing battle to combat and end drug abuse. Other countries have adopted multilateral prohibitionist approaches or have chosen to stand alone in decriminalizing substances. Regardless of policy choice, illicit substances and violence have always coexisted. Their link has been demonstrated directly, through violence as a result of drug abuse, or even indirectly, from violence due to the tense aura of illegality and hostility that the drug war can create. The involvement of drug trafficking and governmental organizations has been shown to either exacerbate or mediate violence in a region, depending on different explanatory factors that create a context. Many variables play into how and when violence is expressed and the strength of the causal relationship between drugs and violence. Identifying how drugs and violence are linked and what variables play a major role in the occurrence of violence is key to determining how to minimize the harms from drug use and the drug trade.

The current literature on both violence and illicit substances points to a lack of a theory that explains variations in levels of violence across different illicit markets and also within the same market over time.[1] Therefore, my research question is framed as such: why do major drug countries differ in their levels of violence? This topic has been discussed thoroughly in light of the recent Mexican drug war and throughout history in

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[1] Richard Snyder and Angélica Durán Martinez. "Drugs, Violence, and State-Sponsored Protection Rackets in Mexico and Colombia." *Colombia Internacional: 70*. Brown University. Jul-Dec 2009. p. 61-91.

relation to both illicit and licit drugs. While the literature indicates that there is an

indirect correlation between illicit drug use and violence, my argument is that a high

presence of drugs in a country does not directly create violence; rather, I hypothesize that

external factors, such as level of prohibition enforcement, poverty, level of organized

drug crime and drug trafficking organizations, drug culture within and surrounding each

country and drug policy, have a major influence on violence in drug countries more than

just the general use, trafficking, or production of drugs. This hypothesis is based in part

on the wide variations in drug use, production, and trafficking exhibited by many major

drug countries. These countries have had high amounts of drugs for long periods without

high amounts of violence, and many have experienced the opposite.

  This hypothesis is contingent on several definitions, the first being the most

fundamental to the argument: violence. Violence can occur in relation to drugs in two

general forms. The first is non-purposeful violence by a drug user, producer, trafficker,

money launderer or any other acting agent while under the influence of illicit substances.

The second is purposeful violence in pursuit of more drugs or money to maintain a habit,

violence against competing drug trafficking organizations, interfering police, or even

innocent bystanders. These categories are not mutually exclusive; an act of violence

could be committed by a producer while under the influence, or by a user toward a law

enforcement agent. Regardless, both forms of violence will be measured cumulatively

through all homicides taken per 100,000 people in the population. This accounts for

murders committed for all reasons related to drugs. Other drug crimes can be committed

apart from murders, but because many crimes are not reported as being drug-related when

they are, data on this can be difficult to acquire reliably. Thus, examining homicides is a

consistent way of analyzing changing trends and levels of violence over time. I will examine "high" and "low" levels of violence both comparatively and internally within each country.

In regards to violence, the thresholds for homicides are defined as the following: "high" can be considered roughly more than ten homicides per 100,000 habitants, and "low" is less than ten. This is drawn from the stratification in the United Nation's Office of Drug Crime 2011 Report.[2] These are, however, also relative to each country; examining a single year is important, but what is more telling are the trends in each country examined over time as they relate to fluctuations in independent variables.

Colombia, Mexico, the United States, and the Netherlands all represent markets that show a high degree of statistical variability: all have had different levels of violence but have continuously maintained a high level of trafficking, production, or consumption of illicit substances. Analyzing these four cases in light of the production, consumption, and trafficking of illicit substances can shed light on both (i) what can cause violence in drug markets and then explicitly (ii) what policy applications can be drawn from these findings. The first three countries have all had varying amounts of violence in the last thirty years. In contrast, the Netherlands is an example of a country that has had high levels of drug production, trafficking, and consumption but has consistently been one of the most nonviolent countries in the world. The trends in violence for these four countries are roughly summarized in Table 1.

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[2] UNODC, World Drug Report 2011. United Nations Publication, Sales No. E.11.XI.10.

Table 1
Trends in Homicides for Colombia, Mexico, the United States, and the
Netherlands

Country	1980	1990	2000	Present
Colombia	High	High	Low	Low
Mexico	Low	Low	Low-High	High
United States	High	High	Low	Low
The Netherlands	Low	Low	Low	Low

Sources: Colombia: Juan D. Baron. "El Homicidio en Los Tiempos del Plan Colombia." *Documentos De Trabajo Sobre Economia Regional.* No. 115: Jul 2009; Mexico: "Homicidios Dolosos." ICESI: Instituto Ciudadano de Estudios Sobre La Inseguridad. Feb 2012; United States: "Crime in the United States." Federal Bureau of Investigation, U.S. Department of Justice. 2010. Feb 2012; Netherlands: "Causes of Death: Main Primary Causes of Death, Sex, Age." Statline: Centraal Bureau voor de Statistiek. Den Haag/Heerlen Sept 2012. Feb 2012.
Note: High and low homicides are considered above and below 10 homicides per 100,000 people, respectively.

There are some exceptions to the thresholds for violence; Mexico's violence in the

1980's is defined as being low, however, from 1980 to 1990, the homicides in Mexico

fluctuated around 20 homicides per 100,000 people. Still, for Mexico, this is generally

considered low. At one of Mexico's lowest points in 2004, the country reached 10

homicides per 100,000 people, but then toward 2009 and 2010 the number of homicides

increased to around 20 per 100,000. Although compared to the Netherlands's 30-year

average of about one homicide per 100,000 this figure is high, for Mexico's overall trend

in violence, ten homicides per 100,000 can be considered low. Taking these large

differences between countries into account is not necessary when looking at general

trends and shifts in homicides from 1980 to 2010, primarily because comparing trends is

more telling than examining single-year specific data. Conversely, in examining drug-

related homicides, creating strict thresholds and examining inter-country data would be more useful because it would not include homicides for any other reasons. There are many other factors that affect violence outside of the drug trade that are included in the figures for total homicides, so in this study, examining trends becomes much more telling.

Apart from having internationally high or low levels of violence, these four countries also have high amounts of drugs either in production, trafficking, consumption, or a combination of the three, and thus are consistently characterized as 'major drug countries.' To distinguish these concepts, the White House's definition for both major drug producing and major transit countries provides distinctions both in production and trafficking. A major illicit drug producing country is defined by the White House as a country that cultivates or harvests more than (i) 1,000 hectares of opium poppy per year, (ii) 1,000 hectares of illicit coca per year, or (iii) 5,000 hectares of illicit cannabis per year.[3] A major drug transit country is defined as a country that is a direct source of illicit narcotic or psychotropic drugs significantly affecting the United States or has a channel through which drugs are transported.[4] These definitions, however, are not complete. They ignore countries that produce psychotropic drugs, which are shown by the United Nations as being the second most-commonly used drug type.[5] The United Nations Office of Drugs and Crime (UNODC) provides a definition for countries producing psychotropic drugs, and when used in conjunction with The White House's definition for

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[3] United States Foreign Assistance Act of 1961. International Narcotics Control. Section 481 (e) (2), (5).
[4] *Ibid.*
[5] UNODC, World Drug Report 2011.

marijuana, opium, and cocaine covers all major drugs for trafficking, consumption, and production. The UNODC's distinction of a major amphetamine-type stimulant (ATS) producing country is a country that has multiple markets for any kind of psychotropic substance. Colombia, Mexico, the Netherlands, and the United States have consistently fallen under at least one category of these definitions and can thus be defined as being major drug countries.

All four countries have fallen into one or more of these definitions and they have generally all had high rates of drug use, production, and trafficking throughout the last three decades. Colombia's coca production in 1985 was at about 15,500 potentially harvestable hectares.[6] Over the last 30 years, this estimate has increased to about 116,000 hectares, even with increased eradication efforts over time.[7] This trend is not exclusive to Colombia; the Netherlands, United States, and Mexico have all shared similar tendencies. Mexico's marijuana and opium production has fluctuated much more than Colombia's almost linear increase in coca production, but has still eventually grown: Mexico's 2009 harvestable opium crop was about 12,000 hectares.[8] The Netherlands principally produces ATS in laboratories and is not a major grower. For this reason, the major drug prohibition efforts in the Netherlands have been focused around dismantling drug production laboratories. The United States's marijuana production is believed to be one of the highest in the world; the exact numbers are unknown, but crop amounts are

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[6] International Narcotics Control Strategy Report, 1988. Prepared by the Bureau of International Narcotics Matters, Dept. of State. S 1.2:N 16/3/ .
[7] International Narcotics Control Strategy Report, 2011.
[8] *Ibid*.

still believed to be rising based on the continuing increase of eradicated cannabis plants.[9]

Net marijuana production in the United States is estimated by the United States

Government to have increased at least ten fold since 1981.[10]

For the remainder of this chapter and thesis, I will examine several variables in an

attempt to determine what factors influence violence in drug countries. Finding statistical

correlations will help to illustrate further policy, and even finding that different variables

are not statistically correlated with violence has the potential to shift the focus onto more

important issues and factors. Currently, although there is a national focus on a "drug-free

America," and zero tolerance policies, there is a growing amount of literature supporting

combating the harms related to drug use rather than attempting to end drug use or

production itself. Approaching these issues in a rational way can help to end violence

and many of the harms associated with illicit drugs. The remainder of Chapter 1

discusses selected and relevant literature surrounding both violence and illicit drug use.

Chapter 2 explains the case selection and discusses the justification behind the

independent variables. Chapter 3 shows the results from the statistical analysis and

follows with an explanation of the findings. Chapter 4 contains the qualitative discussion

for the variables that cannot be measured quantitatively, and Chapter 5 contains

concluding remarks.

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[9] UNODC World Drug Report 2011. pp. 190.
[10] John Gettman. "Marijuana Production in the United States." The Bulletin of Cannabis Reform. Dec 2006.

1.2 Literature Review

In order to understand variations in violence across different illicit markets over time, it is necessary to first understand variations in crime. Gary Becker, Isaac Ehrlich, Alfred Blumstein, Shawn Bushway and Peter Reuter all offer arguments on understanding crime through economics and across drug markets. Becker's 1968 economic model in his essay, "Crime and Punishment: An Economic Approach," is commonly cited as the basis for understanding changes in criminal behavior. He claims that the optimal amount of enforcement for criminal activity is equal to the cost of catching and convicting offenders, the nature of their punishments, and the responses of offenders. Becker also addresses the type of people likely to face a conviction—he believes that "risk-loving" offenders are more responsive to changes in the probability of conviction they face per offense, rather than being deterred by the actual punishment per offense. Similarly, he adds that because offenders in general are more responsive to this probability, it is likely that most of them are actually risk takers. Blumstein adds to this in his 1995 paper "Youth Violence, Guns, and the Illicit Drug Industry," by finding that age is actually a major predictor for violence in an area. His investigation demonstrates that people ages 15 through 24 commit the majority of crime in a given area.[11] The type of crime youth choose to commit is significant, as well: youth tend to be less skilled and are risk takers, placing them in Becker's model.[12] Also, youth were found to have higher rates of gun possession, which turns what could have been a less-detrimental street fight

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[11] Alfred Blumstein. "Youth Violence, Guns, and the Illicit-Drug Industry." *The Journal of Criminal Law and Criminology (1973-)*. Vol. 86, No. 1. Northwestern University: Fall 1995. pp. 10-36.
[12] Blumstein 1997. p. 14.

into homicide.[13] Blumstein also adds the importance of race to determining crime, but for the purposes of this study, race is rendered irrelevant as it varies uniquely between each country.

Adding onto Becker's model, Bushway and Reuter present crime as a rational, utilitarian choice in their 2008 "Economists' Contribution to the Study of Crime and Justice." They claim that choosing to commit crime is based on the utility or profit of illegal work contrasted with legal work.[14] Illegal crime will almost always be more profitable than legal work. Subsequently, when faced with poverty and unemployment, a rational choice can lead to committing crime out of desperation.[15] Ehrlich adds a caveat to this in his 1967 essay, "The Deterrent Effect of Capital Punishment: A Question of Life and Death." He finds that the severity of a punishment at least can partially offset the low probability of not selecting crime over legal work.[16] Although in Ehrlich's case this punishment is the death penalty, he raises the economic argument that significant punishment and enforcement can deter people from committing crime. To do this, a low cost for enforcement is necessary; the higher the cost of enforcement, the less likely that enforcement will effectively occur. For example, an increase in the salaries of policemen actually raises the overall cost of enforcing the law—but improved occupational ethics in

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[13] *Ibid.*

[14] Shawn Bushway and Peter Reuter. "Economists' Contribution to the Study of Crime and the Criminal Justice System." *Crime and Justice,* Vol. 37, No. 1. Chicago UP: 2008. pp. 389-451.

[15] Bushway and Reuter 2008.

[16] Isaac Ehrlich. "The Deterrent Effect of Capital Punishment: A Question of Life and Death." *The American Economic Review,* Vol. 65, No. 3. American Economic Association: Jun 1975. pp. 397-417.

enforcement lowers the cost.[17] Therefore, based on this it is important to examine level

of prohibition enforcement to determine how effective the cost is per country, the general

age range of each country, and the factors that make choosing crime the highest utility-

valued choice. This is analyzed largely in terms of "high-risk areas," or areas with high

poverty and high unemployment. [18] [19] [20]

     In terms of defining violence in light of illicit substances, Blumstein develops

four major types of violence while borrowing from political scientist Paul Goldstein. He

mentions violence as a result of pharmacological consequences, where people under the

influence of drugs cause criminal activity; economic or compulsive crime, or crimes

committed to support a drug habit; systemic crime, committed as a part of the industry;

and, added by Blumstein, the disorganization effect, in which the norms of the drug

industry indirectly affect those not involved whatsoever with drug use.[21] For the

purposes of this study, these categories are split into either non-purposeful or purposeful

violence. Therefore, pharmacological consequences could be viewed largely as non-

purposeful, and system, economic, and disorganized crime all tend to be purposeful.

     Many different variables have been offered as the causes of violence in illicit drug

markets, but there has been a large emphasis on institutions and organized crime.

Richard Snyder and Angélica Durán list state-sponsored rackets as some of the most

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[17] Gary Becker. "Crime and Punishment: An Economic Approach." *The Journal of Political Economy,* Vol. 76. 1968. pp. 169-217.
[18] Blumstein 1997.
[19] Snyder and Durán 2009.
[20] Edgardo Buscaglia. "The Paradox of Expected Punishment: Legal and Economic Factors Determining Success and Failure in the Fight Against Organized Crime." *Review of Law and Economics*, Vol. 4, No. 1. 2008. pp. 290-317.
[21] Blumstein 1995. pp. 26-7.

effective ways of handling organized crime and drug trafficking organizations in their

2009 paper titled "Drugs, Violence, and State-Sponsored Protection Rackets in Mexico

and Colombia." Essentially, they define state-sponsored rackets as institutions in which

the law is either not enforced or enforced selectively in exchange for profits or

information from an organization.[22] This allows the government to unofficially regulate

the trafficking of illicit substances and select which drug trafficking organizations are

given power, if multiple are present. The state must, however, be a credible threat of

enforcement and have a legitimate amount of power to be able to boast this reward. The

likelihood that these will form depends on both the geography of enforcement and the

geography of criminality, or, how often officials change over and the relationship

between the spatial organizations of illicit markets.[23]

      This is juxtaposed with organized crime brackets in Edgardo Buscaglia's 2008

"The Paradox of Expected Punishment: Legal and Economic Factors Determining

Success and Failure in the Fight against Organized Crime." Buscaglia claims that the

introduction of more effective judicial-making control systems, higher frequency of

successful convictions, attacks against public sector corruption, and the presence of

preventive programs adding symbolic capital all help towards fighting organized crime.[24]

He draws on the idea of utility for committing crime and high-risk areas to assess the

effectiveness of different programs in combating crime. Still, state-sponsored brackets

can fit into the "control system" aspect of his model. Following this, the organized crime

model presented in David Mares' *Drug Wars and Coffeehouses* organized crime develops

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[22] *Ibid.* p. 65.
[23] *Ibid.* p. 66.
[24] Buscaglia 2008. pp. 291-2.

where high value and illegality are present.[25] However, he also adds that in Mexico,

crime can be explained without reference to organized crime in 1970's and the Medellín

drug trafficking organization in Colombia actually had little direct control over coca

grown in Bolivia, even through their extensive cocaine trafficking.[26]

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[25] David Mares. *Drug Wars and Coffeehouses: The Political Economy of the International Drug Trade.* CQ Press: 2009.
[26] *Ibid.*

Chapter 2: Case Selection and Independent Variables

2.1 Case Selection

Based in part on the definitions for homicides and major drug countries, Colombia, Mexico, the Netherlands, and the United States each represent a different facet and combination of illicit drug use and violence. Aside from the Netherlands, they have also each exhibited a change and shift in the violence they experience. Colombia has had high levels of drugs since the 1980's, but only in the 1980's and 1990's did the country experience a high level of accompanying violence. Mexico has consistently had high amounts of consumed and trafficked drugs, but since 2004 has experienced a major peak in violence without experiencing a peak in drug trafficking. The United States currently has a high amount of drugs and a low level of violence, but in the 1980's had a high level of violence along with a high level of drugs. Finally, the Netherlands has had consistently high levels of illicit drugs but has also had consistently low levels of violence. Each of the independent variables can be applied in these cases to determine both a quantitative basis for demonstrating the changes in violence as well as a qualitative explanation.

All four countries have significantly different levels and fluctuations in violence. As of 2010, Colombia had the highest intentional homicide rate out of the four, and the seventh highest in the world at 38 people per 100,000.[27] Mexico followed with 18, then

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[27] Juan D. Baron. "El Homicidio en Los Tiempos del Plan Colombia." *Documentos De Trabajo Sobre Economia Regional.* No. 115: Jul 2009.

the United States with 4.8, and finally, the Netherlands with 0.87.[28][29][30][31] Colombia has

been examined in light of the peak of violence the country experienced in the 1980's

through part of the 1990's.[32] Mexico actually had low levels of violence until the 1980's,

when they slowly began to increase.[33] Still, Mexico did not reach a peak in violence until

post 2004.[34] Similar to Colombia, the United States faced high levels of violence in the

1980's and 1990's, but has since dropped.[35] The Netherlands, however, has had a low

level of violence throughout the last century. It has consistently been regarded as one of

the least-violent countries in the world. Thus, in the next four sections, the drug related

legislation and violence in each of these countries will be examined to highlight some of

the shifts and changes throughout the last few decades.

The United States

In terms of the history of drug legislation and violence in the United States, the first

major piece of legislation attached to prohibiting any drug was the prohibition of opium

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[28] *Ibid.*

[29] "Homicidios Dolosos." ICESI: Instituto Ciudadano de Estudios Sobre La Inseguridad.
<http://www.icesi.org.mx/documentos/estadisticas/estadisticasOfi/denuncias_homicidio_
doloso_1997_2010.pdf>. Feb 2012.

[30] "Crime in the United States." Federal Bureau of Investigation, U.S. Department of
Justice. <http://www.fbi.gov/about-us/cjis/ucr/crime-in-the-u.s/2010/crime-in-the-u.s.-
2010/tables/10tbl01.xls> 2010. Feb 2012.

[31] "Causes of Death: Main Primary Causes of Death, Sex, Age." Statline: Centraal
Bureau voor de Statistiek.
<http://statline.cbs.nl/StatWeb/publication/?DM=SLEN&PA=7052eng&D1=89&D2=0&
D3=0&D4=6-41&LA=EN&HDR=G3,G1,G2&STB=T&VW=T>. Den Haag/Heerlen
Sept 2012. Feb 2012.

[32] Snyder and Durán 2009.

[33] *Ibid.*

[34] *Ibid.*

[35] Blumstein 1995.

in 1875. Prohibition of alcohol came later with the addition of the 18th amendment in 1920. It was overturned 13 years later in 1933 by the 21st amendment after Congress determined that organized crime had increased and strengthened with people's willingness to break the law and the need for taxes during the Great Depression. Narcotics were prohibited in the early 20th century, and marijuana was taxed and later prohibited. One of the first comprehensive drug acts came in 1965 with the Drug Abuse Control Amendments, which allowed the Food and Drug Administration (FDA) to control any drug deemed a problem. It was designed to specifically target amphetamines, barbiturates, and lysergic acid diethylamide (LSD). The act that determined how many drugs are treated today in the United States came five years later, with the establishment of the Drug Enforcement Administration (DEA) and the Comprehensive Drug Abuse Prevention and Control Act of 1970 (Controlled Substance Act of 1970). Few federal acts have been passed since, only changing or adding amendments to this existing legislation.

The murder, crime, and drug-related crime rates in the United States have all gone through plateaus and peaked at various intervals. The murder rate peaked in 1933 at 9.7 murders per 100,000, continued to drop and remain steady until about 1960, when it increased and fluctuated at high levels between eight and 11 murders per 100,000 from 1975 to about 1990.[36] Since then, it has been steadily decreasing to 6.9 murders per 100,000 in 1998 and 4.8 in 2010.[37]   An upward trend in drug arrests began in 1965 and peaked first in 1974, and then peaked at a much higher rate in 1989 at 539 arrests per

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[36] "Historical Data." Crime and Justice Atlas, 2000. Justice Research and Statistics Association. <http://www.jrsa.org/programs/Historical.pdf> pp. 34-47. Jan 2012.
[37] *Ibid.*

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100,000 people.[38] [39] Following 1990, the drug arrest rate decreased sharply, then

continued to rise until it peaked and plateaued from 1995 to 1998.[40] More than 60

percent of the drug arrests made around 1980 were marijuana-based; this declined until

1989 and continued to slowly increase until it reached 30 percent and plateauted from

1998 to the present.[41] Heroin and cocaine possession and sale arrests were highest

around 1989 at about 40 and 20 percent of total arrests, respectively.[42] Since then, the

United States has experienced a slight and steady decline in drug arrests. Overall, drug

arrest rates for the United States have always been some of the highest in the world, as

the U.S. has had stringent prohibitionist policies since the turn of the 20th century.

Mexico

Mexico, like the United States, had strict prohibition laws set in the early twentieth

century. Before 1980, the emphasis in anti-drug legislation was placed largely on

producing illicit substances, but after the late 1980's the emphasis moved toward

targeting trafficking and consumption.[43] In 1947 Mexico established the Federal Security

Directorate (Dirección Federal de Seguridad), which, similar to the DEA, had legal

jurisdiction to begin creating harsher penalties for drug-related crimes and illicit crop

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[38] *Ibid.*
[39] "Uniform Crime Reports." Federal Bureau of Investigation. Washington, DC: U.S. Government Printing Office. 1980-2010.
[40] "Historical Data" 2000.
[41] *Ibid.*
[42] *Ibid.*
[43] Ana Paula Hernandez. "Drug Legislation and the Prison Situation In Mexico." Pien Metaal and Coletta Youngers, eds. *Systems Overload—Drug Laws and Prisons in Latin America.* Transnational Institute, 2010. p. 60

eradication.[44] Several reforms and revisions for "crimes against health" ensued until 1978, when any and all drug use was criminalized.[45] The next major piece of legislation came in 1994 with the Federal Organized Crime Law, which increased penalties for drug production, transport, trafficking, commerce, or supply, and entry or removal from or to Mexico.[46] This also added a reduction in penalties for growers.

Mexico experienced an increase in violence around 1989 at eighteen murders per 100,000—much higher than any of the peaks in the United States. The murder rate dropped and plateaued around eleven homicides from 1990 to 1998, but then sharply increased from ten to twelve in 2008, then up to fifteen in 2009, and finally reached eighteen in 2010.[47] [48] Drug-related killings have also spiked; while the data is difficult to track, cases of killings were between one and two thousand from 2001 to 2006, and then began sharply increasing.[49] From 2007 to 2010, drug-related killings went from two or three thousand to between eleven and fifteen thousand. Mexico's government has also begun to track killings due to organized crime as of 2006, and they have only increased since. In 2006, organized crime killings hovered around 200-300 cases, but have increased up to about 1000-1600 in 2010.[50] The organized crime related killings are part of the general drug-related killings, but only represent a small percentage of total killings. The difference between the two is that drug-related killings represent homicides

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[44] *Ibid.*
[45] Hernandez 2010. p. 61
[46] *Ibid.*
[47] "Homicidios Dolosos." 2012.
[48] Viridiana Rios and David A. Shirk. "Drug Violence in Mexico: Data and Analysis Through 2010." Trans-Border Institute: Justice in Mexico. Feb 2011. Feb 2012.
[49] Rios and Shirk 2011.
[50] *Ibid.*

committed by any drug user, police officer, or any other party in relation to drugs. The organized crime related killings are specifically those committed by drug trafficking organizations. These numbers indicate that drug-related killings due to organized crime are increasing along with the total number of killings, but organized crime related killings only represent a small fraction of the total drug-related killings that have been increasing since about 2006.

Colombia

Colombian drug law is centered primarily around four pillars: "the prohibition of consumption; the fight against drug trafficking as organized crime through the use of criminal law; repressive administrative tools, such as crop eradication; and prevention and education."[51] Laws regarding production and trafficking were put into effect early, but prohibition for consumption was not drafted until much later. Laws in 1920, 1926, 1936, and 1946 carried fines and penalties for trafficking and production, but none actually prohibited consumption until 1964, when Decree 1669 was adopted.[52] Decree 1669 criminalized the consumption of any and all narcotic substances.[53] Several years later, Decree 522 was issued in 1971 and created punishments for trafficking and production of marijuana, cocaine, morphine, and "any drug that causes dependency," but the decree also decriminalized possession and private use.[54] The National Narcotics

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[51] Rodrigo Uprimny Yepes and Diana Esther Guzman. "Drug Policy and the Prison Situation in Colombia." Pien Metaal and Coletta Youngers, eds. *Systems Overload— Drug Laws and Prisons.* 2010. Pp. 39-49.
[52] Yepes and Guzman 2010. p. 40.
[53] Yepes and Guzman 2010. p. 41.
[54] *Ibid.*

Statute (ENE: Estatuto Nacional de Estupe—Facientes) was then adopted in 1986 and described as an "instrument of control and repression."[55] In 1993, the government passed Law 67, which ratified the 1988 Vienna Convention and finally demonstrated that Colombia was willing to help combat major traffickers.

Colombia is traditionally known for being violent and being one of the highest drug trafficking countries in the world. In terms of violence, however, Colombia's trends are almost opposite to those of Mexico. Between 1995 and 2002, Colombia had homicide counts that varied between 60 and 72 deaths per 100,000 people.[56] This amount dropped dramatically between 2002 and 2003, however, and has since been gradually declining from about 40 murders down to around 33 in 2010.[57]

The Netherlands

The bases for drug policy in the Netherlands were set in 1919 with the Opium Act and in 1912 with Article 9 of the Hague Opium Convention.[58] The Act restricted opium sales, use, and consumption to medicinal use only. An amendment in 1953 added marijuana to the list of restricted substances.[59] Then, in 1976 the Baan Commission developed by the Dutch government, recommended additions to the Opium Act. The primary aim of the additions is harm reduction, or a focus on alleviating the negative social, health, or

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[55] *Ibid.*
[56] Baron 2009.
[57] *Ibid.*
[58] Benjamin Dolin. "National Drug Policy: The Netherlands." *Senate Committee on Illegal Drugs: Parliament of Canada.* <http://www.parl.gc.ca/Content/SEN/Committee/371/ille/library/dolin1-e.htm#A.%20%20Historica> 2001.
[59] *Ibid.*

economic effects from drug use. The newest legislation offers a decriminalization on

marijuana for residents, but remains criminalized for non-residents. In terms of violence,

since 1975 the Netherlands has been fairly consistent. Violence was very low in 1975, at

0.69 homicides per 100,000 people.[60] It continued to grow, however, and between 1975

and 2005 fluctuated between 0.91 and 1.36. Homicides have since decreased and in 2010

were counted at 0.87 per 100,000.[61]

2.2 Independent Quantitative Variables

In short, the research design utilized in this study is centered on a comparative

analysis in which different variables are applied to each case to determine which have the

most statistical and qualitative significance. Specifically, the independent variables are:

level of prohibition enforcement, poverty, level of organized drug crime and drug

trafficking organizations, drug culture within and surrounding each country, and drug

policy. These variables each represent a form of influence on violence and a different

factor in exacerbating drug-related violence. Applying each of them to homicides, both

quantitatively and qualitatively, can point to what can be done in light of these variables

to ultimately reduce violence. As mentioned in Chapter 1, level of prohibition

enforcement is measured by looking at drug arrests made per 100,000 people in the

population. Poverty is calculated through country data on gross domestic product per

capita purchasing power parity. Level of organized crime and drug trafficking

organizations is determined through what kind of measures each government utilizes to

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[60] "Causes of Death: Main Primary Causes of Death, Sex, Age." 2012.
[61] *Ibid.*

combat major drug trafficking. Specifically, the more measures taken by the government to combat trafficking, the higher the threshold is to begin trafficking. Therefore, examining laws in relation to drug traffickers can be an indicator of how prevalent trafficking is. These variables are also examined qualitatively, because much of this information is either not reported or under-reported. Finally, drug culture is based on the acceptance and widespread illicit use of drugs, and thus can only be measured quantitatively through examining the onset age of drug use and the percentage of people who have ever tried each drug.

Level of Prohibition Enforcement

Prohibition enforcement implies first that there needs to be prohibition; this encompasses any sort of enforcement against drug use, production, and trafficking. Generally, enforcement can be measured in terms of governmental funds allocated for police forces, task forces, seizures, or any other form of eradication, but because this data is typically country-specific and either difficult to find or not available, focusing on drug arrests is a reliable method to gauge enforcement. Drug arrests generally consist of arrests made by the local law enforcement reported to the federal government as being drug-related. "Drug-related" can be thought of as involvement in drug consumption, production or trafficking.

The justification for this variable comes primarily out of two sources of literature: Ehrlich's "The Deterrent Effect of Capital Punishment: A Question of Life and Death"

and Becker's crime model discussed in the literature review.[62] [63] These models provide

two different explanations for low and high prohibition enforcement. Ehrlich believes

optimizing cost for enforcement is necessary because the higher the cost of enforcement,

the less likely that enforcement will effectively occur. The supportive example Becker

provides for Ehrilch's point about optimizing costs is that improved occupational ethics

in enforcement lowers the overall cost of enforcement. Improved occupational ethics

generally implies both that other forms of enforcement are being used outside of arrests

and seizures and that enforcement is free of corruption. Approaches outside of arrests

and seizures typically involve national strategies outside of demand and supply reduction.

Based on these models, drug arrests are indirectly indicative of enforcement cost in that

the higher the drug arrest rate is, the higher that police and task forces are paid and

incentivized to search out and actively locate drug offenders. Therefore, a correlation

between drug arrests and homicides can indicate both the cost of enforcement and the

effect that enforcement has on the resultant violence. Data currently does not allow for

studies to be conducted on variance in stringency of enforcement, but general trends have

indicated that higher enforcement usually does not lead to less people using drugs.[64]

Other available data that can be indicative of drug prohibition enforcement

includes dollar amounts that the United States spends on drug enforcement in Colombia

and Mexico, eradicated crop in hectares per country, seizures of finished product, and

number of drug laboratories destroyed. All of this information is suggestive of the

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[62] Ehrlich 1975.
[63] Becker 1968.
[64] Robert J. MacCoun and Peter Reuter. *Drug War Heresies: Learning From Other Vices, Times and Places.* Cambridge: Cambridge UP. 2001. pp. 30-31.

amount of effort both the United States and each government is willing to use in

combating illicit drug consumption, production, or trafficking. The amount that the

United States spends annually on drug enforcement in Colombia and Mexico is generally

altered with legislative and policy changes and can indicate the threat that the United

States feels the drug trade in each country poses. Total eradicated crop and laboratories

destroyed are typically carried out and reported by the federal government of each

country, and are thus most indicative of the drug enforcement efforts of each individual

government. Finally, seizures of finished drug product are a combination of the efforts of

federal governments and the Drug Enforcement Administration's (DEA) efforts. The

methods of reporting each amount depend primarily on the methods of each individual

government and are not reliably consistent. Many times the figures for eradicated crops,

seizures, and laboratories destroyed are estimates and are missing for years at a time, so it

is not yet possible to analyze this data statistically. All of this information is reported by

the International Narcotics Control Strategy Reports, which have been compiled roughly

since the 1960's in accordance with the Foreign Assistance Act of 1961.

Poverty

The most basic measurement for poverty is gross domestic product (GDP) per capita.

GDP per capita is sometimes taken as representative of a country's standard of living and

has been shown to correlate with individual economic well-being.[65] This is not typically

adjusted for inflation, so for the purposes of this study, focusing on GDP per capita

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[65] Yanne Goosens. "Alternative progress indicators to Gross Domestic Product (GDP) as a means towards sustainable development." Policy Department Economic and Scientific Policy: European Parliament, 2007. p. 16.

purchasing power parity (PPP) is a better option for country comparisons. PPP is

essentially the notion that "the monies of different countries should have the same

purchasing power and command the same basket of goods [when measured in the same

unit]."[66] This can be an indicator for poverty because it implies that the ratio of two

countries' purchasing parities should be the same as the ratio of their price levels.

Therefore, PPP creates a uniform method for evaluating different countries over time.

Values for PPP for most countries during a span of almost a century can be found at the

International Monetary Fund or through the World Bank. The biggest limitation in

evaluating poverty using PPP is that in general, the economies of most countries in the

world are always increasing. Therefore, measuring trends or individual points in time

across violence and homicide statistics are usually not entirely indicative of a strong

correlation. The two most helpful things that PPP can provide in this sense are small

changes or plateaus in usual growth and large-scale comparisons between countries. For

example, the PPP of the Netherlands has fluctuated annually between about 10,000 and

42,000 dollars 2009 United States dollars from 1980 to 2010, whereas Colombia has

gone from about 2,400 to 10,000 within the same time period. Between the two

countries, this indicates that Colombia has had more poverty and the quality of life is

generally lower.

Much of the literature on crime points to economic necessity as a reason for

committing crime.[67] Crime can be considered a utilitarian approach to a financial

problem. Illegal work is shown to almost always be more profitable than legal work;

[66] Kenneth A Reinert and Ramkishen S Rajan, Eds. *The Princeton Encyclopedia of the World Economy: Volume 1*. New Jersey: Princeton UP, 2009. p. 942.
[67] Reuter and Bushway 2008.

accordingly, in areas with high poverty there is a much higher chance and prevalence of criminal activity, including drug trafficking.[68] Because of this correlation, much of the research on illicit drugs has been done in "high-risk areas," which includes areas with high poverty.[69][70] Blumstein's 1995 work demonstrates that youth living in high-risk areas tend to lead to a higher number of homicides because of their unskilled violence. It is easier to get guns and other weapons in impoverished areas and youth have much less experience and accountability in these high-risk areas.[71] Poverty is shown to be correlated with high fertility, and subsequently many of the world's poorest countries have been shown to also have some of the world's highest population growth rates.[72] Therefore, areas with poverty also have high rates of youth and higher rates of violence. Considering this factor in areas like Colombia and Mexico takes into consideration the homicides that are potentially attributable to poor economic conditions and not as much directly related to illicit drug use or markets. Determining the level that poverty is correlated with violence in each country can help mitigate this impact.

Level of Organized Drug Crime and Drug Trafficking Organizations

Ideally, in terms of data, a complete list of cartels and drug trafficking organizations with their territories, power, scopes, and wealth would help determine the correlation that homicides have to drug trafficking organization (DTO) influence. The data currently

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[68] *Ibid.*
[69] Blumstein 1995.
[70] Buscaglia 2008.
[71] Blumstein 1995.
[72] "Population and Poverty: Are Smaller Families a Route to Prosperity?" Media and Communications Branch, UNFPA: United Nations Population Fund. <http://www.unfpa.org/public/home/factsheets/pid/3856> Nov 2011.

does not allow for this, primarily because reliable data on DTO operations rarely exists

over a consistent period of time. Many times, however, what affects the DTO-related

violence in a country is how well a DTO is tied in with the current presidency or

candidacy.[73] Snyder and Duran argue that governments of countries with high levels of

illicit trafficking and production can regulate the drug trade through their connections to

different DTOs. These connections are based on mutual symbiotic relationships in which

the leaders of the DTOs benefit by having certain political leaders or candidates elected

into office.

Some of the more reliable data that is indicative of these DTO-government

connections is a set of surveys conducted by the United States Department of State. They

begin in 1993 and are available in each annual International Narcotics Control Strategy

Report (INCSR). The surveys detail what each country's government is doing to combat

money laundering. This can show DTO-government relationships because high amounts

of money laundered in a given country have been shown to be correlated with high levels

of drug trafficking.[74] The surveys in the INSCR have annual sets of laws deemed

important to combating money laundering, and they are compared with each country's

government to see which laws were enacted that year. From year to year, the laws

selected by the Department of State change very little. From 1993 through 2010, the

laws that have been examined or deemed important in prohibiting or limiting money

laundering are based on whether each country's government does or has done the

following: criminalize drug money laundering, criminalize money laundering outside of

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[73] Snyder and Duran 2009.
[74] Mares 2009.

drugs, made banks responsible for recording large transactions, require banks to maintain records over time, require banks to report suspicious transactions, have a financial intelligence unit, have a system for identifying and forfeiting assets, have arrangements for asset sharing, cooperate with domestic law enforcement and international law enforcement, have an international transportation of currency, have a mutual legal assistance treaty with the United States, hold non-bank financial institutions, allow for disclosure protection, contain offshore financial centers, become party to the 1988 United Nations Convention and are compliant with the goals of the convention, criminalize the financing of terrorism, and prevent international financing or terrorism.

Collectively, I will measure these quantitatively by taking the average of each country's enacted laws or policies. For example, in 1993 Colombia's government had enacted five of the seven laws the United States Department of State deemed necessary to prohibiting money laundering. In the same year, Mexico had three of the same seven laws. After taking the number of enacted laws and dividing each by the total (seven), that gave an average of about 0.56 for Colombia and 0.44 for Mexico. These numbers are used for each year as indicators of how stringent each country's government was and is in preventing money laundering: the higher the average, the higher the intended enforcement. The main statistical issue with this measurement is that "money laundering laws" is a gross measurement. That is, Mexico could have enacted about 40 percent of the weakest laws reported by the Department of State—but it is nevertheless an indicator of overall enforcement effort.

Therefore, the money laundering surveys can be indicative of how much a government is interested in prohibiting money laundering, which can in turn be indicative

of how prevalent wealthy and powerful drug trafficking organizations are in a given country. If the stringency of prohibition against money laundering is low, it can mean that a government is not as interested in stopping money laundering, either because they believe it is not an issue or because they have internal reasons for wanting the money laundering to continue. The four countries that I have selected have been deemed by the United States Department of Justice as "high" or "major" priorities in terms of halting money laundering throughout the last twenty years. This is based on the amount of money each country is estimated to be laundering and how the flow of that money affects or enters the United States.[75] Based on this, the governments of all four have reasonable incentives to want to stop money laundering in their countries.

In the literature, DTOs have been discussed in terms of being state-sponsored, which then points to why federal government participation in money laundering is important to consider. Snyder and Duran specifically argue that a state-sponsored 'protection racket' can increase the peace and decrease violence in an area because the government works to ensure that these DTOs are at least partially regulated.[76] They also offer the idea that multiple overlapping DTOs cause more violence, whereas one 'super-cartel' can be more powerful but also more peaceful, because there is an absence of confrontation between cartels.[77] Additionally, Buscaglia argues that a more credible judicial system can impact how well DTOs may or may not operate.[78] A system that has a high level of prohibition enforcement as well as a high level of convictions and

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[75] International Narcotics Control Strategy Report, 1993.
[76] Snyder and Duran 2009.
[77] *Ibid.*
[78] Buscaglia 2008.

incarcerations is, in the end, more credible and represents a stronger deterrent than a system that is more lax. Therefore, if a country has a low average for enacted money laundering laws, it is more likely that the government has a higher rate of drug trafficking organizations and a lower level of credibility. Similar to Snyder and Duran, Buscaglia also mentions that through a strong control system, a state can maintain restrictions on different DTOs in exchange for information on other DTOs and other forms of compensation.

Aside from enacted legislation, how drug trafficking organizations differ in Colombia, Mexico, the Netherlands, and the United States in terms of power, wealth, territory, scope, and number can affect drug-related violence and overall homicides in each country. All four countries have slightly different models for how their DTOs operate. After a period of several different dominant drug cartels, Mexico now has several powerful and competing cartels.[79] Each are fighting with each other for power and struggling to maintain control of the central drug trade, escalating the violence and the fight for wealth.[80] Conversely, in addition to drug cartels and drug trafficking organizations, Colombia has guerilla and terrorist organizations that mainly do not focus on the drug trade but instead give support to mutually beneficial relationships with different DTOs.[81] Because of Colombia's varying and sometimes extreme geography,

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[79] Colleen W. Cook. "Mexico's Drug Cartels." *Congressional Research Service Report for Congress.* <http://www.fas.org/sgp/crs/row/RL34215.pdf> Oct 2007. Feb 2012.
[80] *Ibid.*
[81] "Farc, Bacrim y ELN: Radiografía del Conflicto." Semana.Com. <http://www.semana.com/multimedia-nacion/farc-bacrim-eln-radiografia-del-conflicto/4743.aspx> Feb 2012. Mar 2012.

DTOs typically do not overlap in territory.[82] The drug trade in Colombia was much

stronger a decade or two ago, until the decapitation of the Medellín Cartel. During the

peak of the Medellín Cartel, there were at least three other powerful cartels operating

either with or against Medellín.[83] This created further conflict and less control.

Currently, there is at least one principally powerful cartel in Colombia, known as the

Norte Del Valle Cartel, which monopolizes most of the drug trade in the country.[84]

The Netherlands and the United States are different in terms of how many DTOs

operate internally are the power that those DTOs share. Much of the drug trafficking in

the Netherlands is controlled by much smaller gangs, and only as a medium to pass

through the country. The Netherlands is known as a port for drug entry, but little of the

actual drug brought to its coast remains in the country.[85] Drug trafficking in the

Netherlands is also tied to immigration, as many of the groups that immigrated now use

their connections to produce product in their home countries and then transport it through

the Netherlands.[86] Like the Netherlands, much of the drug trafficking in the United

States is foreign-based and controlled by many smaller gangs throughout the country.[87]

Much of the literature that surrounds drug trafficking in the United States is discussed in

terms of foreign Colombian or Mexican DTOs that enter the country and begin selling

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[82] "The Colombian Cartels." Public Broadcasting Station: Frontline, Drug Wars.
<http://www.pbs.org/wgbh/pages/frontline/shows/drugs/business/inside/colombian.html>
Feb 2012.
[83] *Ibid.*
[84] *Ibid.*
[85] Edward Kleemans. "Crossing Borders: Organised Crime in the Netherlands."
Organised Crime in Europe. Vol. 4, 2. 2004. pp. 303-331.
[86] *Ibid.*
[87] "Situation Report: Cities in Which Mexican DTOs Operate Within the United States."
United States Department of Justice, National Drug Intelligence Center. Apr 2008.

and transporting illicit drugs.[88] Therefore, the way that drug trafficking operates is different from the United States and the Netherlands than it is for Mexico and Colombia. Having several more dominant cartels seems to be more violent than one controlling cartel, but differentiating between how the DTOs in the United States and the Netherlands contribute to violence is more difficult because they are smaller and more difficult to track.[89] This affects how violence and homicides can be correlated to DTO activity; if the organizations are smaller, it is easier for DTO-related violence to be passed off as individually attributable rather than due to DTO conflict.

Therefore, DTO-related activity can be measured in two different ways: quantitatively, through an average of enacted money laundering related laws, and qualitatively, through the differences in how the DTOs in each country exist and operate. The averages of money laundering laws can point to how high the thresholds are for individuals to begin trafficking—the more laws that have been enacted, the more difficult it is to begin trafficking and thus the less likely that DTOs are more prevalent. The averages can also point to levels of corruption in each government. Since each government has reasonable incentives for wanting to stop money laundering, corruption can be a major reason for refraining from enacting laws preventing successful money laundering. Additionally, qualitatively examining how different DTOs operate within each country can point to operational differences that may influence violence.

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[88] "Drug Trafficking in the United States." *U.S. Drug Enforcement Agency.* <http://www.policyalmanac.org/crime/archive/drug_trafficking.shtml> May 2004. Feb 2012.
[89] Snyder and Duran 2009.

Drug Culture and Use

The focus that the public places on drugs by is largely determined by how the

government or police force frames the drug problem.[90] After President Richard Nixon

declared a nationwide "war on drugs" in 1969, drug arrests shot up and the national

perception of drug use changed.[91] Based on this, drug culture can be defined as the

acceptability and perception of drug use by the majority of society. Perception of drugs

is important in the acceptability and social stigma surrounding drug use. This draws on

the theory of social deviance in explanations for drug use. Social deviance theory claims

that a reason for using drugs can be that an individual does not feel they can excel or

succeed through typical norms or pathways, so they choose drug use as a way of fitting in

and finding their own niches.[92] Typically, users that can be explained using social

deviance turn to drug use when it is not already socially acceptable. Rational choice

theory offers the juxtaposition to social deviance theory. Rational choice theory is based

on 1980's formulation of classic criminology, but it can be applied to drug use in this

case. Essentially, the theory states that the choice to use a drug will be dependent on the

expected reward and consequence.[93] [94] It has little to do with social acceptability,

although if acceptability is low then that can be factored in as a consequence. Both

theories, along with most other explanatory theories on drug use, consider the social

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[90] Mares 2009.
[91] "Timeline: America's War on Drugs." National Public Radio.
<http://www.npr.org/templates/story/story.php?storyId=9252490> Apr 2007. Jan 2012.
[92] Mares 2009.
[93] Eric See. "Student Study Guide for Ronald L. Akers and Christine S. Sellers'
'Criminological Theories: Introduction, Evaluation, and Applications.'" Fourth Edition.
Los Angeles: Roxbury Publishing Co, 2004.
[94] Mares 2009.

impacts of using drugs as an individual in different cultures and societies. Regardless of the direction, it is clear that societal structures have an influence on the decision to use drugs.

The data used in determining drug culture is not consistently available over a long period of time for all of the selected cases, so they will be analyzed qualitatively in my discussion. The National Institute of Health released a two-volume report entitled "Monitoring the Future: National Survey Results on Drug Use," which details onset use for each country by age 15 and 21 for cannabis and cocaine and is collected from 2001 through 2003.[95] Additionally, the United Nations Office of Drugs and Crime released some data on use in the 2011 World Drug Report, which contains figures for Colombia, Mexico, the Netherlands, and the United States on general use of different drugs throughout the population generally from 2005 through 2009. Together, the surveys from the National Institute of Health and the United Nations provide some indication for onset drug use and general drug use. Ideally, both surveys would include responses over the last three decades, but in lieu of that general sentiments use from the years given can still be drawn within the given time periods.

In general, examining both onset and general use throughout the population can be indicative of general acceptability of drug use among the population. The younger people are when they begin to use drugs, the more exposure that vulnerable populations, such as children and teenagers, will have to drugs and the more likely that general drug use will be widespread. Similarly, general drug use can also point to tolerance of drug

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[95] Lloyd D Johnston et al. "Monitoring the Future: National Survey Results on Drug Use, 1975-2010." Volume 1: Secondary School Students, 2010. *National Institute on Drug Abuse, National Institutes of Health.* Michigan UP: 2010.

use. Looking at the two and determining how extensive substance drug use is can point to violence either against drug use or as a result of widespread use.

Drug Policy

Drug policy in each country most significantly impacts drug arrests made, which can in turn affect violence. Policy goes hand-in-hand with each country's approach and strategy to understanding and combating drug use. Drug policy literature generally places legislation in five different categories: demand reduction, supply reduction, harm reduction, crime reduction, or civil rights.[96] Demand reduction is aimed at reducing the desire for drug use, supply reduction focuses on reducing the available drug supply, harm reduction works at mediating the harms associated with drug use, crime reduction targets resultant drug crime, and civil rights places individual liberties and rights as its most important goal.[97]

Colombia, Mexico, the Netherlands, and the United States have undergone changes in policy that reflect the drug strategy of the legislature. The United States's drug laws began as state laws designed to control drug use, then gradually evolved to controlling and restricting the sale of drugs, and then finally, to providing methods for helping drug addicts.[98] They eventually moved to becoming federal laws, and by the mid-1970's were centered on demand and supply reduction.[99] The United States continues to focus on the "war on drugs," and federal legislation ignores any suggestions

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[96] Mares 2009.
[97] *Ibid.*
[98] Caterina Gouvis Roman et al. *Illicit Drug Policies, Trafficking, and Use the World Over.* Lentham: Lexington Books, 2005. pp. 22.
[99] *Ibid.* pp. 30.

of decriminalization or legalization of illicit substances.[100] In contrast, legislation in the

Netherlands has been generally centered on harm reduction. Users or offenders are

usually treated with a form of rehabilitation and not with punitive measures.[101] The main

goal of the Netherlands' drug policy is public health, in contrast to the United States,

which seems to be the eradication of all illicit substance use. Colombia and Mexico have

together undergone similar evolutions in policy over the last thirty years. As drug use

increased in the United States throughout the 1970's, Mexico's close connection to

American drug use began to alert authorities of the need for updated drug legislation.[102]

Policies formulated around that time focused on harm reduction and included centers for

research and rehabilitation.[103] In the late 1990's, Mexico began to focus additionally on

crime reduction with the addition of sanctions for drug cartels and the integration of law

enforcement agencies into a Federal Preventative Police.[104] Colombian drug policy has

historically focused on supply reduction and the targeting of DTO involvement and

operations.[105] In the mid-1990's, Colombia moved towards focusing largely on demand

reduction and drug control measures.[106] Policy shifts can affect both tangible drug

changes, such as drug arrests and increased police enforcement, and it can create

intangible changes, such as variations in drug culture and general harm perception.

These can have a direct influence on how violence occurs and the type of violence that is

observed. Ideally, it would be beneficial to quantify different legislation and compare it

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[100] *Ibid.* pp. 32.
[101] *Ibid.* pp. 119.
[102] *Ibid.* pp. 52.
[103] *Ibid.*
[104] *Ibid.* pp. 54.
[105] *Ibid.* pp. 74.
[106] *Ibid.*

to changes in violence, but because of the shifts in correctional and punitive measures that take place between states and in different regions in each county, it is currently more helpful to examine policy qualitatively within a time period.

Chapter 3: Statistical Results

3.1 Methods

Using the measurements described for each independent variable, the regressions were evaluated within 1980 through 2010, according to what data was available. The independent variable, homicides per 100,000 people, is available from 1980 to present for all four countries. Similarly, purchasing power parity is available from 1980 to present. The next most complete variable is drug arrests per 100,000 people, which is available from 1985 to present for all four countries, with the exception of the Netherlands, which has some numbers missing throughout the 1990's. The averages for money laundering laws are available from 1993 through 2010. These four variables together were compared in each regression along with country comparisons. Running statistics over a period of time raises the problem of autocorrelation; that is, each value is correlated with the value from the year before. The typical methods of measuring accounting for autocorrelation assume that there is not any data missing throughout the entire time series. Because there are several holes in the data, none of these methods can help account for the missing numbers. Not accounting for this changes the standard errors, but it does not change the final estimates drastically.

- I used the statistical program R for the regression analysis. Most of the models are considered linear, and the basic format for running linear multiple regression analysis in R is lm (model, data). The main issue with this is that in the graphical models, it is clear that homicides related to each country over a period of time is a nonlinear graph. There is a $year^2$ term added onto the linear models to account for

this nonlinearity.

- The variables are abbreviated as such in the models: drug arrests are "arrests," money laundering laws are "laws," purchasing power parity is "gpp," the year^2 term mentioned above is listed as "year2," and homicides are listed as just "homicides."

- Additionally, there are three multilevel models that account for the clustering on each country. Essentially, these are still linear models but they account for the autocorrelation between years per country. The central linear models are Models 1 through 4, and the formulas for each model are:

- Model 1: lm(formula = homicides ~ country * year, data = dt)

- Model 2: lm(formula = homicides ~ country + year + laws + arrests + gpp + country:year, data = dt)

- Model 3: lm(formula = homicides ~ country + year + year2 + country:year, data = dt)

- Model 4: lm(formula = homicides ~ country + year + laws + arrests + gpp + year2 + country:year, data = dt).

The intercepts for these models are Colombia/United States, Mexico/United States, year, Colombia/United States x year, Mexico/United States x year, Netherlands/United States x year, laws, arrests, gpp (PPP), and year2. Each formula holds homicides as the independent variable and then the added terms are terms are held constant and then compared to each intercept. The multilevel models are Models 5 through 7, where the formulas for each are:

- Model 5: lmer(formula = homicides ~ year + (1 | country), data = dt)

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- Model 6: lmer(formula = homicides ~ year + (1 | country) + year2, data = dt)

- Model 7: lmer(formula = homicides ~ year + (1 | country) + year2 + laws + arrests + gpp, data = dt)

The intercepts for these models are year, country, residual, laws, arrests, and gpp. Aside from these models, I also utilized regressions that had the same formulas used in Models 1 through 4, but the intercepts are: Mexico/Colombia, Netherlands/Colombia, United States/Colombia, and then each of those three were taken by year. These models measure the differences between each set of countries and draw comparisons between the two. After analyzing the original four models and finding that Colombia had some statistical significance in its intercepts, another set of regression models specifically for Colombia gave some indication of why Colombia was found to be statistically significant in Models 1 through 4. The Models for Colombia are of the same form as Models 1, 2, and 3, but were specified for data in Colombia and compared to arrests, year, gpp, and laws.

3.2 Statistical Results

Before examining the regressions and statistical models, it is helpful to see a visual representation of homicides plotted over time for each country. Figure 1 shows the nonlinearity of the models discussed above. The vast difference of Colombia's homicide trend compared to Mexico, the Netherlands, and the United States creates some significant correlation when homicides are compared with the year or the year^2 intercepts. Again, this is primarily because of the statistical pull that Colombia has across the countries over time, and not as much because the year can be considered an accurate predictor of homicides across all four countries. This is especially true in considering the

wide statistical variance and change in each of the cases throughout the last thirty years.

The first set of regression models (Model 1, 2, 3, and 4) led to the next set of regression models, which included examining Colombia individually and describing the significance found in each intercept. Significance is denoted by p, which is essentially the probability of observing each of the values by chance. A smaller margin of chance indicates a higher likelihood that the values are actually correlated and have a greater significance.

Homicides Per Country (100,000)
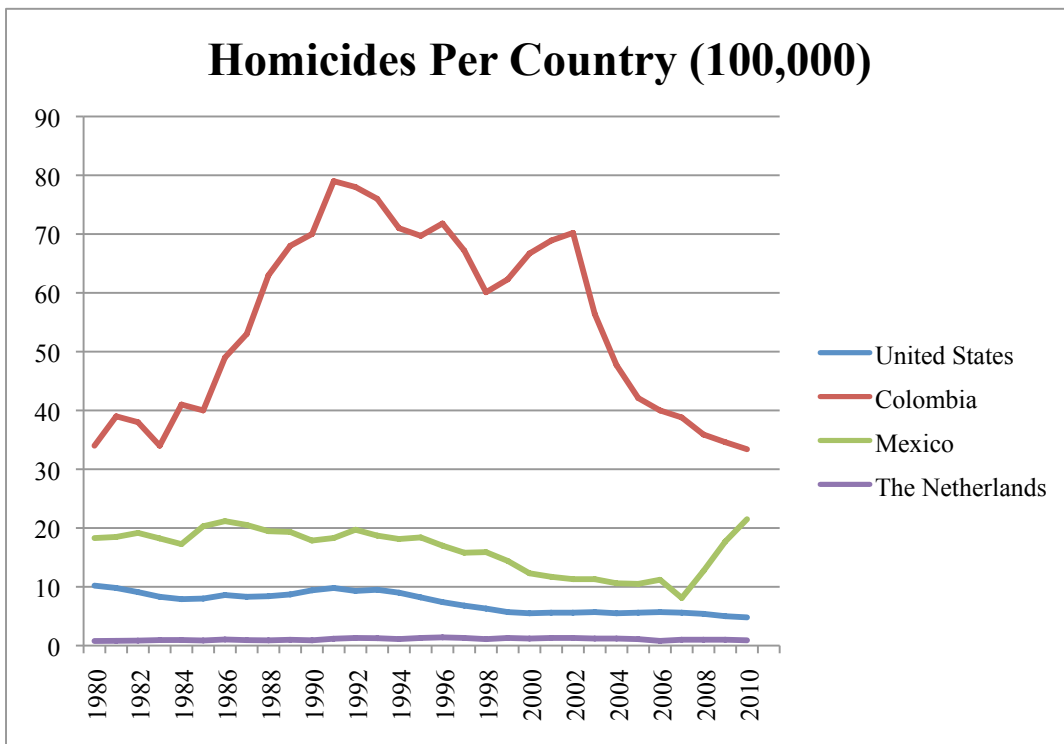
Figure 1: Homicides (per 100,000) over 30 years for Colombia, Mexico, the Netherlands, and the United States (1980-2010)

An asterisk (*) at the end of the coefficient denotes the strength of p, where one asterisk means $p < 0.05$, two means that $p < 0.01$, and three signifies that $p < 0.001$.

Keeping this in mind, examining Table 2 shows that there are about six values found to be statistically significant throughout the four models. In Model 2, after holding the year, laws, arrests, and PPP constant, Colombia compared with the United States has a coefficient of 5997.70, which is significant with a standard error of about 2108.86. This means that even after holding the aforementioned independent variables constant, Colombia consistently has about 6,000 more homicides than the United States.

Similarly, when examining the same intercept in Model 4, Colombia/United States still has a significant coefficient of 5134.18 with a standard error of 2356.28. Model 4 differs from Model 2 in that the nonlinearity of the homicide trends is accounted for in Model 4. Even with this accounted for, Colombia is still found to consistently have about 5,100 more homicides than the United States. Similarly, in returning to Model 2 for the intercept country: Colombia/United States x year, Colombia is found to have a significant -3.00 correlation with the United States with a standard error of 1.06. This suggests that in any given year, the homicides in Colombia are decreasing at a rate of three more per 100,000 per year than the homicides in the United States are. Since this is over a long period of time, the significant coefficients in both Model 2 and Model 4 for the Colombia/United States intercepts imply that homicides in Colombia are overall higher but per year are decreasing faster than homicides in the United States. As is expected based on the last three significant coefficients, Colombia/United States x year also shows a significant coefficient of -2.56 with a standard error of 1.19, implying that when accounted for the nonlinearity in Model 4, Colombia still has a decrease of about 2.5 homicides more than the United States per year.

Table 2

Regression Results: Homicides per 100,000 compared to laws related to money laundering (percentage), arrests per 100,000, and GDP per capita purchasing power parity (PPP) in United States dollars, for Colombia, Mexico, the Netherlands, and the United States, 1980-2010

Independent Variables	Model 1	Model 2	Model 3	Model 4
Intercept	341.78	-1656.00	-199936.93***	-94745.04
	(325.36)	(2357.94)	(36283.76)	(111825.92)
Country: Colombia/United States	-196.24	5997.70**	-196.24	5134.18*
	(460.13)	(1760.10)	(410.89)	(2356.28)
Country: Mexico/United States	210.85	1813.34	210.85	1086.53
	(460.13)	(1760.09)	(410.89)	(1969.83)
Country: Netherlands/United States	-355.11	-371.17	-355.11	-413.07
	(460.13)	(972.24)	(410.89)	(976.73)
Year	-0.17	0.86	200.62***	94.30
	(0.16)	(1.19)	(36.38)	(112.23)
Country: Colombia/United States x year	0.12	-3.00**	0.12	-2.56
	(0.23)	(1.06)	(0.21)	(1.19)
Country: Mexico/United States x year	-0.10	-0.92	-0.10	-0.55
	(0.23)	(0.89)	(0.21)	(0.99)
Country: Netherlands/United States x year	0.18	0.17	0.18	0.19
	(0.23)	(0.49)	(0.21)	(0.49)
Laws	—	-0.61	—	-2.57
		(6.42)		(6.86)
Arrests	—	-0.03	—	-0.03
		(0.02)		(0.02)
PPP	—	-0.001	—	-0.001
		(0.001)		(0.001)
Year2	—	—	-0.05***	-0.02
			(0.01)	(0.03)
N	124	58	124	58

Sources: Drug arrests, laws: International Narcotics Control Strategy Report, 1988-2010. Prepared by the Bureau of International Narcotics Matters, Dept. of State. S 1.2:N 16/3/; "Uniform Crime Reports." Federal Bureau of Investigation. Washington, DC: U.S. Government Printing Office. 1980-2010. Homicides: Juan D. Baron. "El Homicidio en Los Tiempos del Plan Colombia." Documentos De Trabajo Sobre Economia Regional. No. 115: Jul 2009; "Homicidios Dolosos." ICESI: Instituto Ciudadano de Estudios Sobre La Inseguridad. Feb 2012; "Crime in the United States." Federal Bureau of Investigation, U.S. Department of Justice. 2010. Feb 2012; "Causes of Death: Main Primary Causes of Death, Sex, Age." Statline: Centraal Bureau voor de Statistiek. Den Haag/Heerlen Sept 2012. Feb 2012.
PPP: International Monetary Fund, 2012. <www.imf.org>
Note: Standard errors are in parentheses.
Significance: *p=0.05, **p=0.01, ***p=0.001.

Model 3 holds the year and the year^2 terms constant and then applies year as an

independent variable. This year intercept in Model 3 is also shown to be statistically

significant. The coefficient is 200.62 with a standard error of 36.38. This means that

when the year is held constant and the nonlinearity of the homicide trends are accounted

for in all four countries, the year is still somewhat predictive, meaning that they all follow

a similar trend throughout the time period. The year2 coefficient in Model 3 is also

significant with a coefficient of -0.05 and a standard error of 0.01. Together, the year and

the year2 terms suggest that there is a curved annual trend over time for all four

countries. The terms do not have the same significance in Model 4 because the number

of cases (N) increases. The general trend that these coefficients point to can be seen in

Figure 1. As mentioned previously and visible in Figure 1, a lot of the significance for

these coefficients likely comes from the strong nonlinearity that is exhibited in

Colombia's homicide trend.

The country intercepts for Mexico and the Netherlands were not found to be

significant, however, some information can be drawn from the coefficients. Across all

four models, the coefficients for Mexico/United States are consistently positive, and for

Mexico/United States x year they are consistently negative. This means, similar to

Colombia, that in general Mexico has a higher number of homicides but is decreasing the

number by more per year. For the Netherlands/United States intercept, the coefficients

were consistently negative, and for the Netherlands/United States x year the coefficients

were small and positive. These suggest that the Netherlands consistently has a lower

number of homicides than the United States, and that the United States's homicides per

100,000 are increasing at a faster rate than those of the Netherlands. Again, because

neither of these are found to be significant, they cannot be drawn from as strong correlations.

Table 3 shows the regression results for Models 5, 6, and 7, which account for the nonlinearity in the homicide trends per country. Apart from accounting for autocorrelation, another main difference between these models and Models 1-4 is that the residual values are included. The residual values represent the difference between the predicted value and the actual value. Examining residual values can indicate that there is a positive upward trend over time. If the residuals are correlated, this can indicate that the model may not be a good fit for the variables. But, if the residuals are random, this usually means that it is a closer fit. In this case, the residuals are random and not correlated, so this is a good indicator that these models are good fits for the data. The overall implication from these models can be found in the significant year coefficient in Model 6 and the PPP coefficient in Model 8. The significant coefficient in Model 6 is 200.67 with a standard error of 36.25. This indicates that there is a positive upward trend for PPP over time for the homicides, even when accounting for autocorrelation in the models. Each of the PPP trends follow similar upward predictive patterns.

The PPP coefficient is the only significant independent variable and indicates that when all the other variables are held constant, it has an effect in predicting homicides across all four countries. This means that an increase in PPP is associated with a 0.001 increase in homicides per 100,000. This seems to be counterintuitive, considering that much of the literature points to poverty and high-risk areas as being more violent. The PPP could be shown as significant in this case because the PPP's for each country are constantly increasing, and the homicide rates for all four countries are decreasing

variably over the last thirty years, with Colombia having the most drastic increase from 1980 to about 1990. The PPP's of the Netherlands and the United States grow at a much faster rate than those of Colombia and Mexico.

Table 3
Regression results: Multilevel models with random effects for country. Homicides per 100,000 compared to laws related to money laundering (percentage), arrests per 100,000, and GDP per capita purchasing power parity (PPP) in United States dollars for Colombia, Mexico, the Netherlands, and the United States, 1980-2010

Independent Variables	Model 5	Model 6	Model 7
Intercept	256.66	-200022.06	-177948.35
	(162.26)	(36155.66)	(125728.76)
Year	-0.12	200.67***	179.48
	(0.08)	(36.25)	(125.55)
Ranef—Residual	65.26	52.23	20.88
	(8.08)	(7.23)	(4.57)
Year2	—	-0.05	-0.05
		(0.01)	(0.03)
Laws	—	—	9.42
			(7.74)
Arrests	—	—	-0.08
			(0.02)
PPP	—	—	0.001**
			(0.00)
N	124	124	58

Sources: Drug arrests, laws: International Narcotics Control Strategy Report, 1988-2010. Prepared by the Bureau of International Narcotics Matters, Dept. of State. S 1.2:N 16/3/; "Uniform Crime Reports." Federal Bureau of Investigation. Washington, DC: U.S. Government Printing Office. 1980-2010. Homicides: Juan D. Baron. "El Homicidio en Los Tiempos del Plan Colombia." Documentos De Trabajo Sobre Economia Regional. No. 115: Jul 2009; "Homicidios Dolosos." ICESI: Instituto Ciudadano de Estudios Sobre La Inseguridad. Feb 2012; "Crime in the United States." Federal Bureau of Investigation, U.S. Department of Justice. 2010. Feb 2012; "Causes of Death: Main Primary Causes of Death, Sex, Age." Statline: Centraal Bureau voor de Statistiek. Den Haag/Heerlen Sept 2012. Feb 2012.
PPP: International Monetary Fund, 2012. <www.imf.org>
Note: Standard errors are in parentheses.
Significance: *p=0.05, **p=0.01, ***p=0.001.

In basic terms, Models 1 through 6 demonstrate that even with all variables held constant, Colombia still has about 6,000 more homicides than the United States at any

given point. This indicates that there are other factors influencing the homicide trend in Colombia. Therefore, running regressions focusing just on Colombia as a subset can uncover more about what variables are correlated across time in Colombia. The linear models for the next set of regressions are of the same form as the models in Table 1, the main difference being that they are just for Colombia. Table 4 outlines Models 1a, 2a, and 3a, or, the three regression models for Colombia and the significant coefficients.

Table 4
Regression Results: Homicides per 100,000 compared to laws related to money laundering (percentage), arrests per 100,000, and GDP per capita purchasing power parity (PPP) in United States dollars for Colombia only, 1980-2010

Independent Variables	Model 1a	Model 2a	Model 3a
Intercept	-1278.93	-6198.64*	-680.31
	(887.46)	(2183.11)	(1391.70)
Arrests	-0.25***	-0.22***	-0.10**
	(0.06)	(0.05)	(0.03)
Year	0.68	3.17**	0.40
	(0.45)	(1.11)	(0.70)
PPP	—	-0.01*	-0.01*
		(0.01)	(0.00)
Laws	—	—	14.68
			(13.78)
N	23	23	15

Sources: Drug arrests, laws: International Narcotics Control Strategy Report, 1988-2010. Prepared by the Bureau of International Narcotics Matters, Dept. of State. S 1.2:N 16/3/.
Homicides: Juan D. Baron. "El Homicidio en Los Tiempos del Plan Colombia." Documentos De Trabajo Sobre Economia Regional. No. 115: Jul 2009.
PPP: International Monetary Fund, 2012. <www.imf.org>
Note: Standard errors are in parentheses.
Significance: *p=0.05, **p=0.01, ***p=0.001.

In Models 1a, 2a, and 3a, arrests are found to have statistically significant coefficients. Looking at Model 3a, in which all independent variables are held constant, arrests have a significant coefficient of -0.10 with a standard error of 0.03. This implies that in Colombia an increase in arrests per 100,000 is associated with a decrease of 0.10 homicides per 100,0000. Interestingly, PPP is also significant in both Models 2a and 3a.

This time, the coefficient for PPP in Model 3a is -0.01 with a standard error of 0.00.

Conversely to what Model 7 suggests in Table 3, this means that an increase in homicides

per 100,000 is associated with a decrease of 0.01 in purchasing power parity. This

conforms to the literature more than Model 7 does and also shows the statistical impact

that Colombia's PPP and homicides have on total PPP.

In looking at Colombia, it is important to assess how the overall decrease in

homicides is directly related to drug arrests. Figure 2 illustrates the relationship between

drug arrests related to homicides. Figure 2 visually represents what Models 1a, 2a, and

3a suggest; that an increase in arrests are associated with a decrease in homicides. This

indicates a correlation and not causation, but it is nonetheless significant.
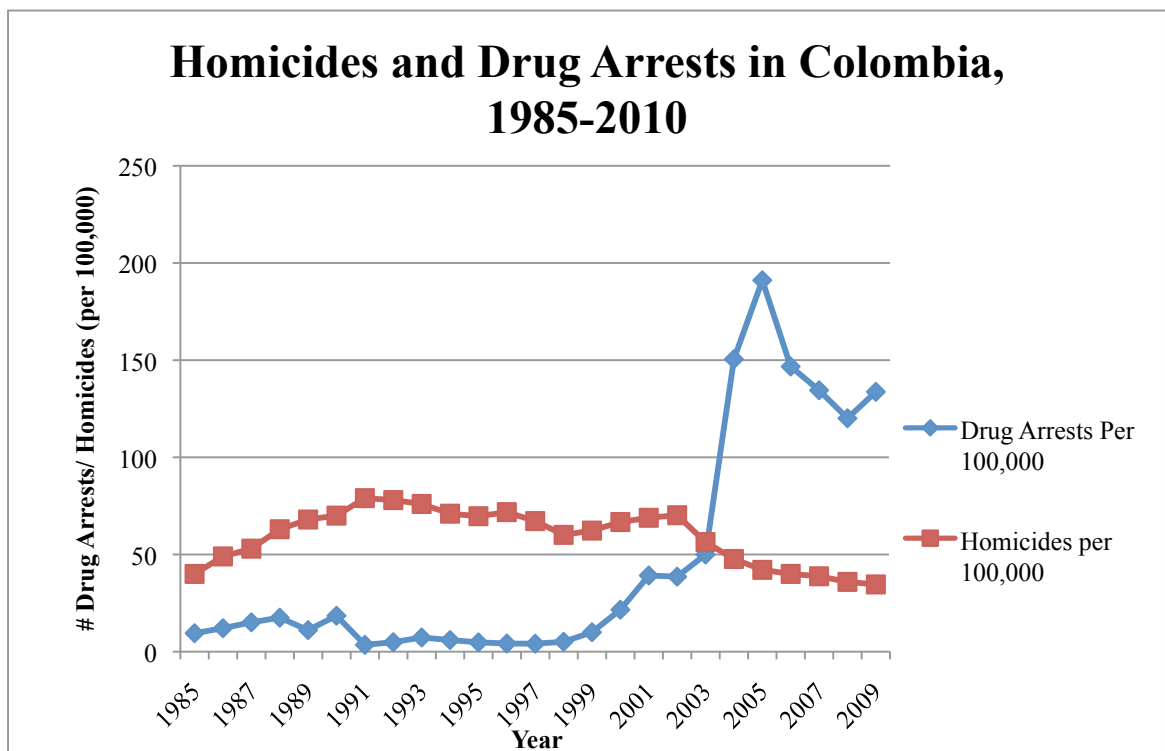
Figure 2: Homicides and Drug Arrests in Colombia, 1985-Present
Note: Drug arrests and homicides measured per 100,000.

It is important to add two major caveats to these results and the data as a whole. One issue to note is the statistical effect that Colombia's homicide trend has on the regressions. As mentioned previously, the high nonlinear rate of Colombia's homicides may influence some coefficients to show as being strongly correlated in Colombia when in reality there relationship is not quite as strong. It is valuable to keep this in mind in examining these same variables qualitatively.

As mentioned in Chapter 2, Section 2.2, the quantitative way of measuring these variables depends largely on what is available consistently over time. Drug activity and related violence is, in essence, illegal in all four cases and thus largely underreported or not available. A visual way of seeing this impact in the statistical models is by referencing the "N" underneath each of the models in Tables 2, 3, and 4. N represents how many years each model is able to use consistently for each data set over time. In each set of models, N decreases as more variables are held constant because the number of gaps in the data increases. These gaps change how statistical strength is shown and how the trends are correlated. Analyzing these gaps qualitatively can help highlight trends that the data currently does not have enough statistical strength to capture.

Chapter 4: Qualitative Discussion

As discussed briefly in the statistical results, Colombia was the only country that was found to have drug arrests per 100,000 correlated with homicides per 100,000. The Netherlands and Mexico did not show any significant trends in either money laundering related laws, PPP, or drug arrests. In Colombia, an increase in arrests is associated with a decrease in homicides, which implies that enforcement strategy is having a positive effect on decreasing violence. Therefore, a major question that arises from this is: what has Colombia changed or implemented to reduce homicides? As shown in the statistical results, arrests are correlated, but whether that impact is combined with other factors, based solely on enforcement, or attributable to methods in enforcement has yet to be answered. Arrests were not statistically significant in any of the other cases, which suggests that Colombia has implemented a strategy that is clearly helping to reduce violence. Mexico, the Netherlands, and the United States were not found to have success in combating homicides through drug arrests, money laundering laws or changes in PPP. How these four countries differ in their qualitative results is essential in determining what has an effect in combating violence. Qualitative variables to consider in analyzing this are strategies in drug policy, enforcement strategies outside of drug arrests, differences in drug trafficking organizations, factors for "high-risk" areas, and finally, drug use. Drug use includes both onset use and general use by the population.

4.1 Strategies in Drug Policy

Two overarching approaches, prohibition and legalization, together form the extremes for drug policy approaches. Policy changes and strategies depend on the focus of the legislation. In order to understand the intentions behind each policy shift, it is important to understand what each the goals of each strategy are. Decriminalization tends to be considered before a country considers legalization, so for my purposes I will discuss prohibition and decriminalization.

Under these two general approaches, David Mares outlines five principal analytic perspectives on drug policy in *Drug Wars and Coffeehouses*; each targets a different set of problems associated with illicit drugs.[107] They are: demand reduction, supply reduction, crime reduction, harm reduction, and civil rights.   Demand reduction is focused at decreasing the desire for drug use and the probability of addiction through nation-wide programs and policies. Supply reduction is aimed at eradicating crops, seizing drug-synthesizing laboratories and interdicting illicit imports. The economic idea behind supply reduction is that once the source of a drug is removed, prices will rise and much of the demand will decrease. Crime reduction aims at reducing the crimes associated with drug use. This can either be criminal activity committed because of consumption, trafficking, production and money laundering. Harm reduction differs from the previous three in that it focuses on the resultant harms from drug use; this strategy attempts to address health-related repercussions of drug use to protect the user and the health of the country as a whole. Finally, the civil rights strategy places

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[107] Mares 2009. pp. 29-31.

protection of individual liberty at its highest priority. This places more responsibility on

drug users to be accountable for their actions and choices.

Colombia, the United States, the Netherlands, and Mexico have each undergone a

different trajectory of policy and goal shifts. The United States has gone from a crime

reduction approach to a war on drugs, and the Netherlands has done the opposite,

beginning with a war on drugs and ending in harm reduction.[108] Colombia has varied

significantly in its drug strategy largely because it is faced with a much larger framework

of trafficking and continues to be one of the biggest trafficking countries in the world.[109]

Early Colombian drug legislation focused on demand reduction, then moved to supply

reduction, and is now working towards harm reduction. Mexico's strategy has varied

almost as much as Colombia's has, but has primarily focused on crime reduction.[110]

Almost any of these strategies can take place under either prohibition or

decriminalization, or anywhere in between. The key differences between prohibition and

decriminalization impact how these different strategies affect violence and drug use.

Prohibition vs. Decriminalization

Prohibition and decriminalization can occur under any of the above five strategies, and

can be seen in varying degrees of stringency in all four countries. While each strategy

focuses on a different facet of the entire drug trade, selecting a prohibition or

decriminalization approach directly affects the ultimate goal: ending drug use.

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[108] Mares 2009.
[109] "Colombia: Re-Criminalization Pending." *Drug Law Reform in Latin America.*
Transnational Institute. <http://www.druglawreform.info/en/country-information/colombia/item/203-colombia> Mar 2012.
[110] Roman 2005. pp. 52-54.

Prohibition approaches generally do not include civil rights strategies in making legislation. Aside from this exception, almost any drug strategy can be used in conjunction with either prohibition or decriminalization. As is true of any drug policy, there are both benefits and problems that result from adopting a prohibitionist, or a "war on drugs" strategy. Prohibition typically causes an increase in black market activity and high levels of corruption.[111] As an example, Colombia and Mexico's stages of prohibition have resulted in high levels of black market trafficking, which then nets incomes and profits worth millions of dollars for drug traffickers and creates extensive corruption among law enforcement and through police bribery.[112] Prohibition, however, can also send a "zero-tolerance" message to citizens. Maintaining a consistent prohibitionist approach can discourage potential drug users from attempting to find ways around changes in legislation or penalties.

Obviously, there is a greater cost associated with prohibition than with decriminalization, so the question remains: why not decriminalize? States in the United States that have decriminalized marijuana and reports from the Netherlands both claim that the change in legislation has had little to no effect on drug use.[113] In general, the effects of decriminalization on use seem to be minimal.[114] Still, even when considering these reports and instances, the question of whether the change in legislation in each country would lead to reduced drug use remains unanswered.[115]

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[111] MacCoun and Reuter 2001. pp. 112, 117.
[112] *Ibid.* p. 112
[113] *Ibid.*
[114] MacCoun and Reuter 2001. p. 95.
[115] *Ibid.* p. 74.

Strategies and Efficacy in Colombia, Mexico, the Netherlands, and the United States

In Colombia, Mexico, the Netherlands, and the United States, many presidencies have

brought forth different sets of policies and attitudes toward combating drug use.

Colombia's presidents from about 1978 to about 2002 largely focused on crime and

supply reduction. Much of the violence that surrounds trafficking in Colombia is not

solely committed by drug trafficking organizations, but it is also incited by guerrilla

organizations.[116] Therefore, many of the drug policies and procedures that have been

implemented in the last 30 years have focused on negotiations with these terrorist

organizations and cartels. Violence has been exacerbated at times when there were

multiple competing cartels and drug trafficking organizations, and has slightly

diminished during moments of negotiations. None seemed to truly be effective, and prior

to 1999 Colombia was known as a violent state with little credibility in its government.[117]

Government officials and police forces were rumored to have been bribed constantly, and

enforcement was selective and sporadic. Therefore, with low credibility and high

production, there was little deterrent for activities related to illicit drugs. After about

2001, Colombia worked with the United States to significantly reduce production. Plan

Colombia was a contract between the United States and Colombia that negotiated a

package of aid to be put directly into five major components.[118] Colombian President

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[116] "Farc, Bacrim y ELN: Radiografía del Conflicto." 2012.
[117] Juliana Sojo. "Ten Years of 'Plan Colombia': Bogotá Leases Military Real Estate to the Obama Administration." Council on Hemispheric Affairs. <http://www.coha.org/ten-years-of-plan-colombia-bogota-leases-military-real-estate-to-the-obama-administration/> 2009. Accessed Feb 2012.
[118] "Plan Colombia." Fact Sheet Released by the Bureau of Western Hemisphere Affairs. United States Department of State.

Pastrana and United States President Clinton settled on a package of $7.5 billion dollars, to be placed into improving government capacity and respect for human rights, expansions of counter-narcotic operations, alternative economic development, increased interdiction, and training for Colombian police.[119] The Plan had mixed reception at its onset and now, almost twelve years later, still has mixed reviews. The crop eradication portion of Plan Colombia has been deemed a failure because coca and opium crops have continued to fluctuate without a major decrease over the last ten years.[120] Coca and opium crops are the two major illicit crops grown in Columbia. Table 5 below shows the amount of crops eradicated, potentially harvestable acres, and seizures of drug product for coca and opium. As is evident by the trends in potentially harvestable product for both opium and coca, neither has significantly declined since 2001. In addition to the lack of a decline in potentially harvestable crop, reports indicate that as crops are being eradicated in Colombia, there is a higher demand and growth trend for them in neighboring countries.[121] This may be due in part to the general inelasticity of the demand for cocaine, which is characterized as a highly addictive substance.[122] There are also places where numbers appear to be missing or not reported. The unreliability of the numbers reported for crop eradication as well as the high amounts of coca and opium crops together helped fuel skepticism on the success of Plan Colombia.

<http://www.state.gov/www/regions/wha/colombia/fs_000328_plancolombia.html>.
Mar 2000. Accessed Feb 2012.
[119] *Ibid.*
[120] Sojo 2009.
[121] Sojo 2009.
[122] William Rhodes et al. "Illicit Drugs: Price Elasticity of Demand and Supply." *Drug Demand and Supply.* Cambridge: Abt Associates, Inc., 2000

What did succeed in Plan Colombia, however, were the improved efforts of law enforcement. As police officers were trained, ethics in pursuing and catching drug offenders were improved. Corruption decreased, and the involvement that the government previously had with drug trafficking organizations also declined. As a result, arrests increased and homicides decreased. As of December 2009, Article 29 of the Colombian Constitution was revised to include a vast amount of new legislation regarding the entire drug cycle, including consumption, trafficking, and production.[123] In the same month, Article 49 was also revised to read:

> The possession and consumption of narcotic or psychotropic substances is forbidden except under medical prescription. With a preventative and rehabilitating end, the law shall establish measures and administrative treatments of educational, prophylactic or therapeutic nature for persons who make use of such substances. Compliance with the above mentioned measures and treatments require informed consent on the part of the addict.[124]

Thus, Colombian drug policy is now moving towards harm reduction and providing rehabilitation for drug users.

Mexico has experienced a seemingly opposite trend in policy. Legislation enacted in the early 2000's allowed for individuals to carry small amounts of drugs for personal use. Prior legislation placed emphasis on curtailing the production and trafficking of drugs.[125] In 1999, President Zedillo created a national security plan that included a Federal Preventative Police committee comprised of several law enforcement divisions that was geared towards focusing on crime prevention.

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[123] "Colombia: Re-Criminalization Pending." 2012.
[124] *Ibid.*
[125] Roman 2005. pp. 54.

Table 5: Amounts of Opium and Coca in Colombia, 1995-2009

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
PHC: Opium (ha)	6540	6300	6600	6100	7500	51010	6540	4900	4400	2100	n/a	2300	1000	n/a	1100
PHC: Coca (ha)	50900	67200	79500	101800	122500	126200	169800	144450	113800	114100	144000	157200	167000	119000	116000
EC: Opium (ha)	3760	6028	6972	2901	8249	9254	2583	3371	2994	3863	2333	1929	375	361	148
EC: Coca (ha)	8750	5600	19000	n/a	43246	47371	84521	122695	132817	147546	167003	213724	219529	212496	220772
Seizures: Opium (mt)	0.078	0.036	0.12	0.18	n/a	0.002	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Seizures: Coca (mt)	41	41	44	84	31.73	69	80	124	145.1	166.9	222.8	178.3	191.3	223.8	205.85

Note: PHC is Potentially Harvestable Product, measured in hectares (ha). EC is Eradicated Crop, measured in hectares.
Seizures indicate amount seized by the government or police forces, measured in metric tons (mt).

Following this, President Fox focused his efforts on money laundering and drug trafficking.[126] It was not until 2006, however, that efforts in Mexico took a dramatic turn. On December 1st, 2006, President Calderón launched a full-out war on drug trafficking organizations and their leaders.[127] Calderón "also imposed a cap on salaries of high-ranking public servants and ordered a raise on the salaries of the Federal Police and federal armed forces."[128] If the cause for much of the corruption within law enforcement was due to low salaries and high temptation for corruption, then this raise in salaries should have theoretically increased police efficiency in enforcement. Unfortunately, Calderón did not utilize civilian police forces and instead focused on militarized forces in fighting drug crime and drug trafficking organizations.[129] This increased the cost of enforcement and directly exhibited what Becker demonstrates in his crime model; by raising the salaries of militarized forces, the cost for enforcement is raised, and thus the effectiveness of the enforcement is lowered.[130] Accordingly, violence escalated into what is now known as the biggest drug war in Mexican history. This enforcement strategy has placed Mexican citizens under serious harm and has exacerbated already-tense relationships between drug trafficking organizations as they compete for power and territory. Eradication has also had little effect; as in Colombia, attempts to eradicate crops have been generally unresponsive. Table 6 demonstrates the trends in crop

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[126] Roman 2005. pp. 54.
[127] "Operation Chihuahua." Borderland Beat: Reporting on the Mexican Drug War. <http://www.borderlandbeat.com/2010/07/operation-chihuahua.html>. Jul 2010. Accessed Mar 2012.
[128] *Ibid.*
[129] Erin Kelly. "Mexican Presidential Election Could Change Strategy of Drug Fight." Garnett Washington Bureau: Garnett Company. Mar 2012.
[130] Becker 1968.

eradication, potentially harvestable cultivation, and seizures in Mexico. The main crops

that Mexico grows are marijuana and opium, which together are less valuable than the

coca and opium crops that Colombia grows. Again, similar to Colombia, the numbers for

eradication, potentially harvestable crop, and seizures are not entirely credible—there are

values missing and they are roughly rounded. Still, there is an upward trend in crop

eradication for marijuana, however slight. Unfortunately, there is also a positive trend for

potentially harvestable crop, which indicates that more crops are being grown as

eradication efforts are increased.

The Netherlands, unlike Colombia, Mexico, or the United States, has a

Constitutional Monarchy, and thus has only had four changes in heads of state since the

early 1980's. The four Prime Ministers, although they shared three different parties

between them, have had consistent approaches in combating drug abuse. The

Netherlands adopted a harm reduction strategy as early as the 1970's and has maintained

it throughout all Prime Ministers. The Netherlands is still seen as the model for harm

reduction programs and has the most widely-adopted strategy of any other country.[131]

The 1995 Dutch government document *Drug Policy in the Netherlands* reads, "The

Dutch view is that the interests which have to be protected by the criminal law are

primarily health interests. In the Netherlands drug policy is therefore differentiated

according to the seriousness of the potential damage to health which may be caused by

the use or abuse of the drug in question."[132]

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[131] MacCoun and Reuter 2001. pp. 272.
[132] *The Drug Policy in the Netherlands.* Ministry of Foreign Affairs et al. 1995. pp. 5-6.

Table 6: Amounts of Opium and Marijuana in Mexico, 1995-2009

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
PHC: Opium (ha)	5050	5100	4000	5500	3600	1900	4400	2700	4800	3500	3300	5100	n/a	6900	15000
PHC: Marijuana (ha)	6900	6500	4800	4600	3700	3900	4100	7900	7500	5800	5600	8600	n/a	8900	12000
EC: Opium (ha)	8450	7900	8000	9500	7900	7600	19115	19158	20034	15926	21609	16890	11410	13189	11471
EC: Marijuana (ha)	11750	12200	10500	9500	19400	13000	28699	30775	36585	30852	30857	30162	23316	18663	14135
Seizures: Opium (mt)	0.17	0.13	0.15	0.22	0.19	0.34	0.15	0.8	0.27	0.48	0.31	0.19	0.47	0.28	0.13
Seizures: Marijuana (mt)	780	1015	1038	1062	1459	1619	1839	1633	2248	2208	1796	1902	2213	1685	1385

With health interests at the heart of its drug policy, the Netherlands has managed to maintain a remarkably low homicide rate.

The Netherlands is an example of a country where decriminalization of marijuana and lowering of penalties for other drugs did not actually have a major increase on consumption.[133] Although the original drug policy was drafted in the 1970's, after amphetamine-type stimulants (ATS) began to appear and increase in popularity, Dutch officials decided to re-draft legislation in the early 1990's. Ecstasy was widely researched and was not added to the list of banned substances under Dutch law until after its harms were known.[134] Along with the rise in ATS, the Dutch government decided to target the rising number of coffeehouses that sold illicit substances that had grown with the decriminalization of marijuana.[135] The rising number of coffeehouses resulted in an increase in the number of reported marijuana users, which was opposite of the effect the government had been trying to achieve. To address this, the government gave cities jurisdiction to limit the number of coffeehouses, and they lowered the amount of marijuana that could be legally sold and distributed.[136]

In limiting the amount, however, the government kept in mind one critical goal; they set the new legal amount low enough to decrease users, but high enough to avoid creating a black market for trafficking, production, and consumption.[137] Aside from these improvements, harm reduction has also consistently provided the Netherlands with the benefit of not having to worry about equity in enforcement. This lowers the overall

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[133] Mares 2009. pp. 141-132.
[134] Mares 2009. pp. 143.
[135] *Ibid.*
[136] *Ibid.*
[137] *Ibid.* pp. 144.

cost of actual enforcement and makes it much more effective. The majority of the money

spent by the government on drug offenses goes towards aiding addicts, rehabilitation,

needle exchange, and methadone programs.[138] Another positive effect from this is the

transparency and straightforwardness of the relationship between the Dutch government

and addicts living in the Netherlands.[139] These harm reduction programs coupled with

the careful thought the Dutch government has put into drafting policy have helped the

Netherlands become one of the most non-violent countries in the world.

The United States has undergone many policy changes, which were largely

incited by the "war on drugs" declaration made by President Nixon in the late 1960s.

This began a stringent crime prevention approach, where the United States government

was focused on prosecuting drug users and distributers.[140] Nixon also included funds for

treatment later in his presidency after methadone was discovered to reduce the harmful

effects of heroin addiction. In the 1980s, however, this direction changed and almost all

the money put towards controlling drug abuse was put towards consumption, trafficking,

production, and money laundering.[141]

Although the United States may have changed strategies throughout the last three

decades, the overall approach to combating drug use has always been the same. This

strict prohibitionist approach is unlikely to change as the United States has portrayed

itself as one of the leaders in modeling a prohibitionist war on drugs. Internationally, the

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[138] MacCoun and Reuter 2001. pp. 278.
[139] *Ibid.*
[140] Mares 2009. pp. 124.
[141] *Ibid.* pp. 133.

United States has threatened sanctions on states that do not aid in interdiction.[142] This

has been more difficult to do for countries that rely either very little or not at all on the

resources that the U.S. government provides. Both the Netherlands and Colombia are

examples of the results of this strategy; Colombia has been forced to eradicate coca

crops, while the Netherlands has paid little attention to the demands of the United States.

The United States required that Colombia, Peru, and Bolivia begin eradicating coca being

grown in their countries in exchange for continued financial support.[143] All three

countries began programs with the United States's support. The Netherlands, conversely,

has been able to ignore prohibitionist approaches and develop its own policy. The

Netherlands does not rely on aid from the United States and generally has little reason to

adapt policy changes to conform to those of the United States. Moving away from this

international prohibitionist reputation would lose the United States credibility and

authority in the war on drugs. The United States continues to move towards maintaining

a stringent prohibitionist approach internally, with the amount of money spent on federal

drug control increasing almost annually. Just between 1998 and 2002, the amount spent

on drug control increased from $8.2 million to $11.5 million dollars.[144]

Outside of federal legislation, most of the drug law that affects different strategies

is enacted by state and local governments. Since the early 2000's, both local

governments and voters have demonstrated an interest in moving towards decriminalizing

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[142] Mares 2009.
[143] Ted Galen Carpenter. *Bad Neighbor Policy: Washington's Futile War on Drugs in Latin America.* New York: Palgrave MacMillan, 2003. Print. pp. 23-27.
[144] Roman 2005. pp. 32.

marijuana and legalizing its use for medical purposes.[145] Along with this, there have been

some moves towards harm reduction among states. California and Wisconsin have

spearheaded this approach and passed measures that allow first or second time nonviolent

offenders to choose rehabilitation services instead of going to prison. As of now, the

changes in these measures have not had enough time to take full effect in terms of

violence and are still unrecognized federally.

4.2 Penalties Related to Drug Policy

There is sometimes a disparity between drug policy and penalties; that is, how the

actual enforcement changes for each state can vary depending on the required minimal

punitive consequences. Consistent and reasonable consequences for violating drug

policy have been shown to bolster a state's credibility. Table 7 outlines the penalties for

drug violations in several categories as of 2009, including: maximum doses for personal

consumption, different punitive measures for small-scale versus large scale dealing,

distributing, trafficking, and cultivating illicit drug crop and product. The strategies that

each country has implemented are somewhat indicative of the resultant penalties. The

Netherlands has the least stringent punishments and allots dismissal for personal

possession of less than 5 grams of any substance. The United States and Colombia have

the strictest measures, requiring at least one to five years of jail time for any small-scale

possession. Mexico lies between them and the Netherlands; federal law allows up to five

grams of possession for personal use, but requires between ten and twenty-five years of

prison for large-scale dealing involving supply, transport, and production.

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[145] *Ibid.*

Table 7: Penalties per Country Per Drug Offense (as of 2009)

	Netherlands	United States	Mexico	Colombia
Max Dose for Personal Consumption, Hard drug	<0.5g, < 1 unit	none	0.0015mg-2g	none
Max Dose for Personal Consumption, Soft drug	5g	none	5g	none
Small-scale possession	6 months-4 years (depending on amount)	1- 3 years (depending on repeat offense)	10 months-3 years	5-12 years + add'l fine
Small-scale dealing, commerce or supply	1-2 years	< 5 years	3-6 years	5-12 years + add'l fine
Small-scale dealing, supply, transport, production, trafficking	1 month-4 years, depending on amount	< 20 years	4-8 years	5-12 years + add'l fine
Large-scale possession	18 months-4 years	1- 3 years (depending on repeat offense)	4-7 years	10-30 years + add'l fine
Large-scale dealing, commerce or supply	1-2 years	5-40 years	5-15 years	10-30 years + add'l fine
Large-scale dealing, supply, transport, production, trafficking	1-12 years (depending on more/less than 1 kg)	10 years-life	10-25 years	10-30 years + add'l fine
Planting, growing, harvesting	Marijuana plants: 5-1000 plants, 2-6 months +add'l fine, >1000 plants, 6months-2 years	Same as sale	1-6 years (when low education & extreme economic need) otherwise, 2-8 years	8-18 years or 5-18 years, depending on amount. +add'l fine
Encouraging illicit use	none	none	none	4-12 years + add'l fine

Note: "Hard drug" refers to any substance aside from marijuana. "Soft drug" refers only to marijuana.
Sources: Colombia and Mexico: Hernandez 2010, Yepes and Guzman 2010. Netherlands: Dolin 2001. United States: "Federal Trafficking Penalties." United States Drug Enforcement Administration. <http://www.justice.gov/dea/agency/penalties.htm>. 2012.

A central point to take away from the variations in penalties, aside from the

numerical differences, is the strategies involved in differentiating between harshness of

penalties. The United States distinguishes between repeat offenders in determining jail time, while the Netherlands seems to primarily distinguish between physical amounts of each substance. Mexico separates large-scale and small-scale dealing and then has each additional activity add a heavier penalty. Mexico also has two differences in its penalties that are unique among the four countries: it does not list any fines as part of the required penalties, and it acknowledges economic need in the sentences for cultivating plants. Both these measures consider the severe economic disadvantage and lack of education that many of the low-level production farmers face. Mexico clearly recognizes the poverty and low education that contribute to the pull many traffickers feel to commit illicit crime. This change in penalty does not make it less likely that someone in a low-income situation would become involved with drug trafficking; rather, from the outside it seems that with gentler penalties more people in low economic classes would want to commit crime. However, it is more likely that through this penalty the Mexican government is attempting to draw distinctions between people who commit crime because of economic necessity and people who commit crime for any other reason. Many times, those who commit crimes out of needing to provide for themselves or their families are the least violent and criminal.

Colombia stratifies penalties based on both amount and small-scale compared to large-scale trafficking. It also adds an article prohibiting encouragement of illicit drug use, and the consequences are nearly as stringent as the ones for any kind of small-scale trafficking, consumption, or production.   Together, these not only illustrate the strategies that each country implements but they also add focuses that target some of the central drug problems facing each country.

The United States clearly is most interested in incarcerating repeat offenders, or people who continue to violate the law. This is directly prohibitionist—there are lower-level measures for first or second time offenders, but after a third strike, there is a mandatory minimum sentence that includes life in prison without parole.

The Netherlands's penalties seem associated with their harm reduction approach. It depends entirely on amount, but the Netherlands also offers rehabilitation programs and other alternatives to prison sentences, so the chances that an addict will be able to have access to care are high. Colombia's penalties are focused on a deterrent and crime reduction strategy. With high sentences and additional fines for each level of possession, production, trafficking, and money laundering, the thinking behind these penalties suggests that the government may be hoping that both small and large-scale criminals will be deterred by some of these consequences.

4.3 Drug Trafficking Organizations

The types of drug trafficking organizations (DTOs) in each country varies immensely. Colombia and Mexico share similar structures, and the United States and the Netherlands are closer in how their DTOs operate internally. Colombia has had four major DTOs operate at different time periods within the last thirty years. The Medellín Cartel operated from 1976 to 1993, at which point it was decapitated with the killing of its leader, drug lord Pablo Escobar.[146] The Cali Cartel operated from 1977 to 1998 and the North Coast Cartel operated from the 1990's until 2003.[147] The only major DTO that

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[146] "The Colombian Cartels." 2012.
[147] *Ibid.*

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is still known to operate within Colombia is the Norte Del Valle Cartel, which began

largely as a result of the disbandment of the Cali Cartel. Accordingly, it has been in

operation since 1998. The leader of the Norte Del Valle Cartel is rumored to make

around $1.8 billion dollars annually, making it one of the most wealthy and fiscally

powerful DTOs of all time. The geography of Colombia plays an important part in how

DTOs interact, because Colombia's terrain prevents a lot of competition for territory,

since much of it is uncultivated and uninhabitable.

Conversely, Mexico's DTOs are known for competing constantly for territory and

jurisdiction. However, like Colombia, there are a few that have been known to either be

in power at some point or currently have control. Past drug trafficking organizations

include the Beltran-Layva Organization, which operated from 2008-2010; La Familia

Michoacana, which operated from 2006-2010, and the Guadalajara Cartel, which was in

power from 1980-1989.[148] [149] Other DTOs that are still active are the Tijuana/Arellano-

Felix Organization and the Sinaloa cartel, both which began in 1989; the Juarez/Vicente

Carrillo Fuentes Organization and the Gulf drug trafficking organization, both which

began in 1970; Los Zetas, which started trafficking in 1999; and finally, the Knights

Templar Cartel, which began in 2011 partly as a result of the disbanding of La Familia

Michoacana in 2010.[150] These organizations operate near each other and many times

share territory, which leads to violence and brutality. A lot of fault has been placed on

President Calderón for his insistence on sending police forces to search out drug

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[148] Cook 2007.
[149] June S. Beittel. "Mexico's Drug Trafficking Organizations: Source and Scope of the Rising Violence." Congressional Research Service. Jan 2011.
[150] Beittel 2011.

trafficking organizations.[151] This approach has led to a high level of corruption, bribery, and violence, even among innocents. Much of this violence is also due to the "disorganization effect" discussed earlier, or the idea that high levels of drug tension and violence creates an aura of violence and thus influences unrelated third parties to act violently.

The United States and the Netherlands do not typically have single or even multiple cartels based within them that are discussed as being singular threats. For the United States, this is largely because much of the drug trafficking that occurs internally is low-level, gang-related, and as a result of the high-level trafficking that occurs in Mexico and Colombia.[152] Indeed, literature on DTOs in the United States details where prominent Mexican DTOs have bases in the United States and where they primarily operate.[153] Similarly, there has been no effective way of determining the number of drug trafficking organizations in the Netherlands. Even through studies that have been commissioned by the Dutch government, the numbers have varied wildly and have little basis in fact.[154]

Based on general differences in homicides and DTO-related activity, there is a clear difference between how DTOs operate in different countries and homicides per country. Mexico and Colombia have large, powerful DTOs that operate in large scale trafficking, while the United States and the Netherlands have much smaller scale gangs

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[151] "Operation Chihuahua." 2010.
[152] "Situation Report: Cities in Which Mexican DTOs Operate Within the United States." 2008.
[153] "National Drug Threat Assessment 2010." National Drug Intelligence Center: U.S. Department of Justice. <http://www.justice.gov/ndic/pubs38/38661/app-a.htm> Feb 2010.
[154] MacCoun and Reuter 2009.

and low-level trafficking. The United States and Netherlands together have a much lower

homicide rate than do either Colombia or Mexico, and the methods that DTOs operate in

each set vary tremendously. Another factor influencing this can be in how the

government of each treat DTOs. Although the percentages for money laundering laws

were not statistically significant in the regressions, there are differences in stringency in

the Netherlands and the United States that are different from those in Colombia and

Mexico as related to prohibiting money laundering. Figure 3 highlights the trends in each

country from 1993 to present:

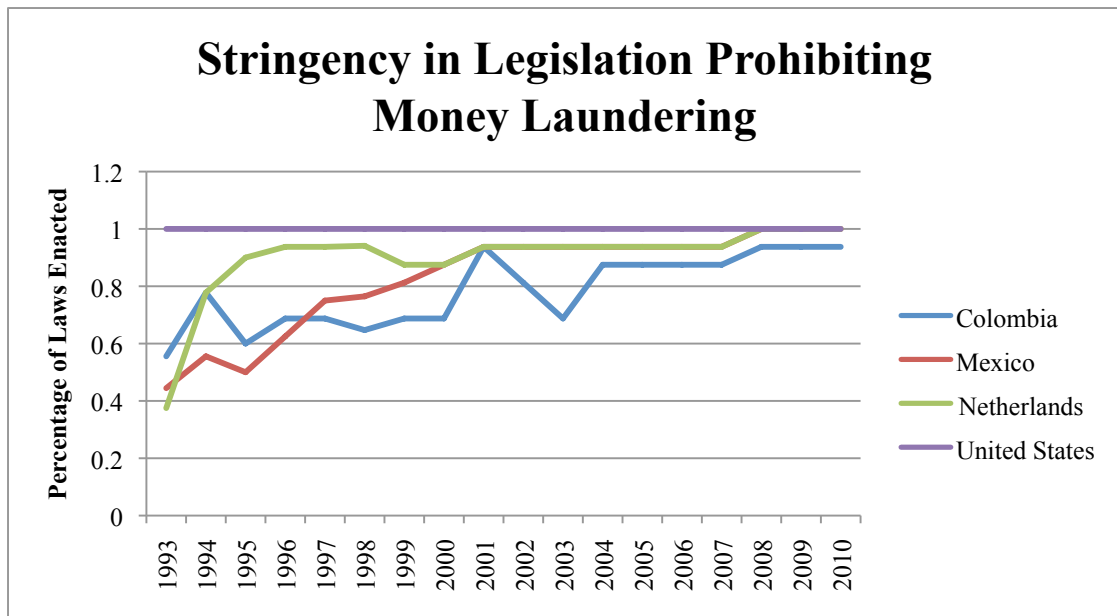**Figure 3: Stringency in Legislation Prohibiting Money Laundering for Colombia, Mexico, the Netherlands, and the United States**
Note: Laws selected taken from the International Narcotics Control Strategy Reports, 1993-2010.

While this information only outlines 1993 to 2010, the information is still indicative of

the general enforcement that each government is interested in promoting regarding DTO

activity. The Netherlands and the United States have been the most stringent and Mexico and Colombia have fluctuated more. Enacting these laws can raise the barriers of entry into drug trafficking; if the legislation is strict and it is difficult to find methods of evading law enforcement, then this can be an effective deterrent. Gaps in legislation preventing money laundering can indicate corruption in the government, internal DTO-governmental ties, or simply an oversight. Regardless of the intent, the more lenient that these strategies and stances are, the more likely that DTOs are able to operate successfully.

4.4 High Risk Areas and Young Populations

A "high-risk area" is typically an area of low poverty, high unemployment, and young populations. Purchasing power parity per capita was used to measure poverty, which is essentially gross domestic product per capita, adjusted for inflation. Figure 4 on the following page illustrates the growth trends that each country follows. Not only are the PPP's of both the Netherlands and the United States higher than those of both Colombia and Mexico, but also the growth of both is much faster. The World Bank developed a worldwide poverty line that is defined as living on roughly one to two dollars per day and helps place these PPPs in context.[155] Even with gradual growth, both countries have fallen below or near the worldwide poverty line consistently from 1980 through 2010. Neither the United States nor the Netherlands has been near the world poverty line throughout this same time period.

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[155] "Poverty Gap at \$2 a Day (PPP) (%)." The World Bank. <http://data.worldbank.org/indicator/SI.POV.GAP2> 2011.

GDP Per Capita Purchasing Power Parity, 1980-2010
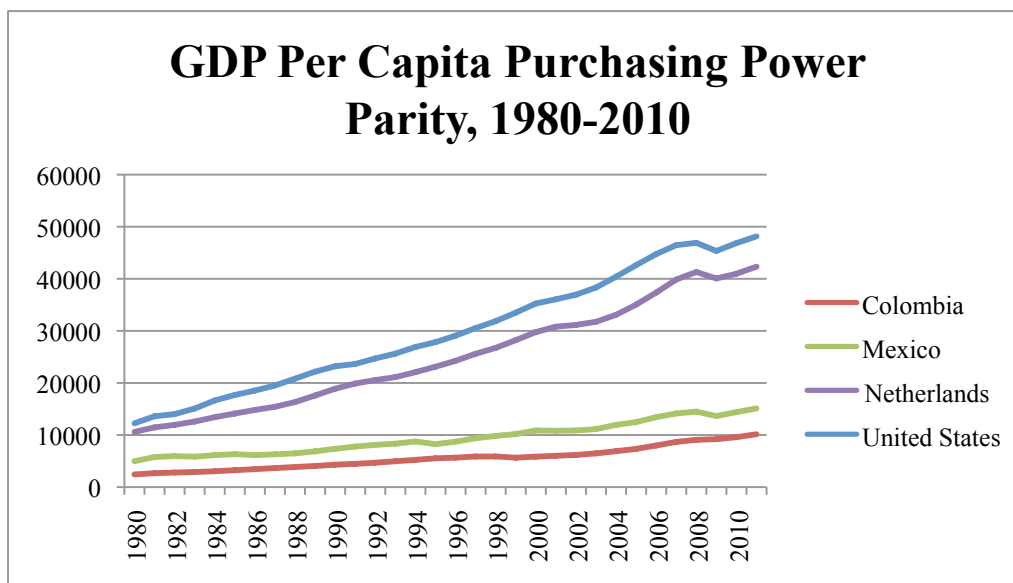
Figure 4: GDP Per Capita PPP, 1980-2010 for Colombia, Mexico, the Netherlands, and the United States
Source: The World Bank. <http://www.worldbank.org>

Considering the type of poverty that each country has is essential in determining individual utility for committing crime. The likelihood that an individual will commit a crime depends largely on economic situation, and if the general population is in the lower class or poverty, crime is much more likely to occur.

As noted earlier, Colombia and Mexico's stages of prohibition have resulted in high levels of black market trafficking. This creates incomes and profits worth millions of dollars for drug traffickers and creates extensive corruption among law enforcement and through police bribery.[156] This has not been the case for stages of prohibition in the United States or the Netherlands; this may be due to the poverty that both Colombia and Mexico face.

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[156] *Ibid.* p. 112

Young populations are also an issue that has been directly linked to poverty. A country that faces poverty is more likely to have younger populations because they have fewer women in the workforce, higher levels of agriculture work, low levels of education and general lowered access to contraceptives.[157] Young populations have been shown to have a strong effect on crime because of their unskilled nature. Physical altercations are more likely to lead to homicides in countries with young populations, easier access to weapons, and poverty.

4.5 Drug Use

Discussing drug use requires first considering demand, supply, and use, which include three forms of influence: availability, deterrence of punishment, and social effects.[158] Elasticity of demand and availability seem to be aligned with addiction; that is, the more addictive the illicit substance, the less elastic the demand.[159] This suggests that when prices are lower, the likelihood of trying any illicit substance is higher. Conversely, when prices are high, use of less addictive substances decreases and more addictive substances will remain roughly the same. This is why interdiction and supply reduction are usually emphasized by prohibition approaches; without supply, demand will tend to go down over a long period of time.[160]

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[157] "Population and Poverty: Are Smaller Families a Route to Prosperity?" 2011.
[158] *Ibid*. p. 76.
[159] Rhodes et al. 2000.
[160] *Ibid.*

As mentioned previously, Isaac Ehrlich discusses deterrence as being one of the measures that can prevent crime from being committed.[161] The two most-often discussed components that factor into an effective deterrent include the severity of punishments and the credibility of the institution.[162] [163] [164] If the punishment is severe enough to deter anyone from attempting a crime, then in some ways it is successful. If, however, the institution or state does not have a reputation for quick trials, consistent convictions, and heavier sanctions for repeat offenders, the benefit from committing crime becomes higher than the deterrent of legal repercussions.[165] [166]

Finally, social control encompasses much of what was discussed in Chapter 2, Section 2.2, under "drug culture." Essentially, the social and moral implications of drug use can have a different effect per person; similarly, different modes and rationales change for drug use change within and between each society and culture. There are social controls and norms that can influence how and when people choose to use illegal drugs. Along with this, informal sanctions are sometimes placed by a culture on people that choose to engage in such use. It depends largely on the different stigmas associated with drug use, and how those change throughout time.[167] Together, drug availability, social impacts, and deterrence can alter and influence drug use. Therefore, in considering how drug penalties will change use, it is important to consider these three central factors.

Drug use is generally the first topic that is considered in assessing drug violence.

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[161] Ehrlich 1975.
[162] *Ibid.*
[163] Buscaglia 2008.
[164] MacCoun and Reuter 2001.
[165] *Ibid.*
[166] Bushway and Reuter 2008.
[167] MacCoun and Reuter 2001.

It is widely underreported or not reported at all, and thus data on drug use is difficult to

track and sporadic over the last thirty years. The United Nations Office of Drugs and

Crime collects changes in data use, but the reports begin in 1997 and early data is scarce.

Table 8 below highlights the drug use for each country for different drugs from 2005 to

2009.

Table 8: Opiate, cocaine, ATS, and cannabis use as a percent of the population for Colombia, Mexico, the Netherlands, and the United States, 2005-2009

	Opiates	Cocaine	ATS	Cannabis
United States	0.6-1	<1	>1	>8
Netherlands	0.4-0.5	0.6-1	0.2-0.5	0-5
Colombia	0.0-0.1	0.6-1	0.4-0.5	2-5
Mexico	0.0-0.1	0.2-0.3	0.2-03	2-5

Source: United Nations World Drug Report, 2011. New York: United Nations Office of Drugs and Crime.

Even when considering the differences in violence in the four countries between 2005

and 2009, general use for every drug is much higher in the United States and in the

Netherlands, indicating that violence has little to do with widespread drug use. Cannabis

use is the most widespread in all four countries, and in the United States is highest by at

least a full three percent. Opiates are used the least, with less than one percent of each

population reporting use. This can demonstrate a certain "drug culture" surrounding these

countries. The more widespread that drug use is, the higher that general acceptability of

drugs is. Another indicator of this can be onset drug use, which is outlined in Table 9 on

the following page. Again, the United States and the Netherlands both have a lower age

for onset illicit drug use. By age 21, more than half of the population in the United States

has tried marijuana. The next highest value for this is held by the Netherlands, but is still

almost twenty percent behind the United States at 34.6 percent.

Table 9: Percent of respondents that indicated age of onset use for cannabis and cocaine, by ages 15 or 21 for Colombia, Mexico, the United States, and the Netherlands, 2001-2003

	Unweighted N	Cannabis	Cannabis	Cocaine	Cocaine
		By 15	By 21	By 15	By 21
United States	5692	20.2	54	2.5	16.3
Netherlands	1094	7	34.6	0	1
Colombia	4426	2.9	10.2	0.8	3.1
Mexico	5782	2.2	8	0.6	4.1

Source: Lloyd D Johnston et al. "Monitoring the Future: National Survey Results on Drug Use, 1975-2010." Volume 1: Secondary School Students, 2010. *National Institute on Drug Abuse, National Institutes of Health.* Michigan UP: 2010.

These numbers, however, cannot be generalized quite as much as the numbers for 2005 to 2009 for general use in Table 8. This is for two reasons: one, they are taken in a smaller time span, and two, both Mexico and Colombia were experiencing political changes at this time. Both countries were near transitioning presidencies and policies were being altered. Therefore, while the percentages for the United States and the Netherlands can likely be representative of trends that span longer periods of time. The percentages for Colombia and Mexico can be considered, but they may be different than they would be normally. Even with this in mind, both the percentages for onset use and for general use point to lower usage and possibly a resultant lower acceptability of drug use in the more violent countries. This is not to say that higher drug use directly lowers violence. But, higher drug use, especially for drugs generally classified as less harmful, can create higher tolerance for drug use. Higher tolerance for drug use and users can

create less hostility and thus lower violence. This may not lower violence among drug

trafficking organizations, but it can help in lowering violence among users and the

general population.

Chapter 5: Conclusion

5.1 Limitations of Findings

The biggest obstacles to drawing any kind of policy implications are the illegality of the drug trade and resultant scarcity of reliable data. Without data and statistical support for different policy changes, making any kind of legislative change is a major risk. One of the biggest limitations for these findings is that Colombia and Mexico are already violent countries. Both have been ranked within the top twenty most violent countries in the world within the last three decades. That is, within the examined time period, the homicides per 100,000 for Colombia and Mexico already began and fluctuated at a much higher level than the homicides of the United States or the Netherlands. There are infinitely many factors that can influence these changes, and drug violence can sometimes only be a result of this.

There are many limitations to the methods used, as well. The measurement for money laundering laws is a gross measurement, and is based on the speculation of governmental corruption with large-scale drug trafficking organizations. How these drug trafficking organizations are known to operate depends on information that comes from many different sources, is taken over short periods of time, and was mostly gathered in non-consecutive pieces. The drug arrests per country are measured by multiple different sources and many times are missing pieces over a significant period of time. The numbers for drug usage and onset use are self-reported, which includes the possibility that respondents misreport information. Typically, it is safe to assume that people will misreport information about the same amount throughout time, but because the surveys

were only conducted from 2001 to 2003 and from 2005 through 2009, a consistent trend cannot be drawn. Inter-country comparisons are still possible, but both Colombia and Mexico were undergoing political changes from 2001 to 2003, which also could have changed responses throughout that time.

Even in the statistical results, the number of cases, or "N" decreases with the addition of more variables per model. This is because R only takes into account the years in which all the data is available, which becomes lower and lower with increasing amounts of missing data. Also, Colombia's strong nonlinear trend for homicides has a distinct statistical effect on the models and the results.

In my statistical analysis, I avoided data that had major flaws or missing pieces, which severely cut down on the amount of information that could be analyzed quantitatively. Ideally, comprehensive data would be available for drug trafficking organizations, drug use, drug arrests, drug policy, poverty, and unemployment from 1980 through 2010, but with the current information that is available, this is not possible. In the future if this data becomes available or is collected consistently, analyzing these variables statistically will likely point to more significant correlations.

5.2 Final Remarks

Together, these quantitative and qualitative variables help highlight some of the reasons for drug-related violence. My hypothesis was that drug use and the high presence of drugs in each country is not the reason for drugs; rather, other factors surrounding the drug trade cause more violence than the drugs themselves do. This relies

both on definitions for violence and major drug countries.

(i)   As shown in the qualitative discussion, drug use is likely not the
         reason for violence; Colombia and Mexico were shown to have lower
         drug usages in the population than the United States and the
         Netherlands were, but had the higher homicide rates. Drug use in
         general and drug use among youth is highest in the United States and
         in the Netherlands, which suggests that acceptance of use is higher in
         both countries. Even when considering the slim time periods that the
         reports cover, they can point to general trends in usages between
         countries throughout those periods of time.

(ii)   Harm reduction seems to be the strategy that is most-often tied with
         periods of lower violence. The Netherlands has implemented a harm-
         reduction strategy since the 1970's and has consistently had low levels
         of violence. The United States and Colombia recently began moving
         towards harm reduction programs through rehabilitation options for
         drug offenders, and both share some of the lowest homicide rates they
         have had in the last three decades. Mexico has yet to move toward a
         significant harm reduction strategy.

(iii)   Ethical police enforcement is also playing a role in reducing violence.
         Statistically, Colombia's drug arrests were found to be significant in
         reducing homicides. This is largely because of the major increase in

drug arrests after the implementation of Plan Colombia and the
subsequent decrease in homicides. The major thing that changed with
Plan Colombia in terms of enforcement was that police officers were
trained ethically. They were taught to avoid corruption and were able
to make drug arrests at a higher rate. The governments of both the
United States and the Netherlands have expressed their interest in
maintaining ethical enforcement.[168] [169] Mexico has been critiqued as
needing ethical enforcement for police, especially after the shift in
combating drug trafficking organizations in 2006. President Calderón
increased the salaries of police officers and utilized militarized police
forces in dealing with DTOs. This increased the cost of enforcement
to where it was no longer effective and more violent than it had been
previously. These four cases point to the importance for police ethics
and nonviolent approaches in drug arrests and seizures in DTOs.

(iv)   In the literature, there have been many suggestions for
decriminalization as opposed to prohibition in literature; although the
analyses shows that this may not immediately be the best option.
After the Netherlands decriminalized marijuana use in the 1970's, the
homicide rate did eventually almost double. Prior to 1975 it was at

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[168] International Narcotics Control Strategy Reports, 1988-2010. Prepared by the Bureau
of International Narcotics Matters, Dept. of State. S 1.2:N 16/3/ .
[169] Stephen J. Gaffigan and Phyllis P. McDonald. "Police Integrity: Public Service With
Honor." United States Department of Justice: NCJ 16381. Jan 1997.

about 0.69 homicides per 100,000, and after it hovered between 0.91

and 1.36. As of 2010, the Netherlands had a lower homicide rate of

0.87 homicides per 100,000. These are still dramatically low rates of

violence, but they did increase nevertheless. Drug decriminalization

has been shown in the Netherlands to not dramatically affect use;

however, drug use is also largely uncorrelated with violence, as is

shown by the rates exhibited by the Colombia, Mexico, the

Netherlands, and the United States. A major theory as to why this

worked in the Netherlands suggests that the decriminalized amount is

enough to decrease users, but still high enough to avoid creating a

black market.[170] This may be especially important in countries with

high poverty, such as Colombia and Mexico. As Mexico's penalties

suggest, many of the reasons why people in low-income areas become

involved in the drug trade is because of the high profit and income.

Therefore, in decriminalizing substances in these countries it can be

useful to separate amounts based on the markets they could potentially

stimulate.

(v)   Acceptability of use seems to be highest in the United States and in the

Netherlands, albeit within a short time period. The combination of this

acceptance and the generally better economic well-being and growth

of both countries suggest that the amounts that could potentially be

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[170] MacCoun and Reuter 2009.

decriminalized are higher than the amounts that might work in either

Colombia or Mexico. Considering that use may be less accepted and

that a lower amount could stimulate a black-market economy in both

Colombia and Mexico, either decriminalizing a small amount of illicit

drugs based on the table with penalties (Table 7) or finding a different

solution may lower violence and homicides.

(vi) Finally, drug trafficking organizations clearly play a role in drug-

related violence, but how these two variables change is still partially

unanswered. High levels of drug trafficking have been tied with high

levels of governmental corruption; this can be seen qualitatively by the

money-related laws enacted by the legislature of each country.

Although these were not found to be statistically significant in the

regression results, the lack of this correlation can be partially attributed

to the small N for the time period (1993-2010). While correlations

cannot be drawn from these, it is clear from Figure 3 that Colombia

and Mexico generally fluctuate more in enforcing money laundering

than do the United States and the Netherlands. An ideal way to

measure money laundering would be to obtain key characteristics of

each cartel to quantify and then measure statistically, but because of

the vastly different structures that DTOs share in each country, there is

currently not enough data to do so. The DTOs in the United States and

the Netherlands are numerous and operate under much smaller scale

trafficking than do the DTOs in Colombia and Mexico. Generally,

however, the larger-scale DTOs tend to have higher levels of power

and wealth, and when there are multiple competing DTOs as in

Colombia and Mexico, there is a much higher rate of violence.

Ultimately, in considering policy implications for drug consumption, production,

and trafficking, it is essential to take into account these variables. Harm reduction and

ethical enforcement have been shown to consistently help in diminishing violence and

reducing the influence that drug trafficking organizations can have. High-risk areas are

already at a disadvantage because they have predispositions for violence and young

populations, which exacerbate violence. Determining what factors influence violence

between these four countries can eventually point to an internationally effective drug

policy that diminishes the resultant harms and violence associated with the drug trade.

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