NAVAL POSTGRADUATE SCHOOL

MONTEREY, CALIFORNIA

THESIS

OUT FROM PROHIBITION'S SHADOW: ALTERNATIVE DRUG POLICY AND MEXICAN STABILITY

by

Ryan Evans

June 2018

Thesis Advisor: Rodrigo Nieto-Gomez
Co-Advisor: Robert E. Looney

Approved for public release. Distribution is unlimited.

THIS PAGE INTENTIONALLY LEFT BLANK

REPORT DOCUMENTATION PAGE	*Form Approved OMB No. 0704-0188*

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instruction, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188) Washington, DC 20503.

1. AGENCY USE ONLY *(Leave blank)*	2. REPORT DATE June 2018	3. REPORT TYPE AND DATES COVERED Master's thesis

4. TITLE AND SUBTITLE OUT FROM PROHIBITION'S SHADOW: ALTERNATIVE DRUG POLICY AND MEXICAN STABILITY	5. FUNDING NUMBERS
6. AUTHOR(S) Ryan Evans	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Naval Postgraduate School Monterey, CA 93943-5000	8. PERFORMING ORGANIZATION REPORT NUMBER
9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES) N/A	10. SPONSORING / MONITORING AGENCY REPORT NUMBER

11. SUPPLEMENTARY NOTES The views expressed in this thesis are those of the author and do not reflect the official policy or position of the Department of Defense or the U.S. Government.

12a. DISTRIBUTION / AVAILABILITY STATEMENT Approved for public release. Distribution is unlimited.	12b. DISTRIBUTION CODE A

13. ABSTRACT (maximum 200 words)

The purpose of this thesis is twofold: to determine the success of alternative drug policy and to provide a foundation for better assessment of drug policy success in promoting stability. Mexico has the world's most lucrative drug trafficking corridor. Decades of militarized prohibitionist drug eradication and interdiction have destabilized Mexico and have actually contributed to its favorable drug trafficking environment. However, alternative drug policies may offer a shift from this vicious circle. In light of this, this thesis pursues this question: How do North American alternative drug control policies affect Mexican stability?

The problem is complex. I focus particularly on the effects of marijuana legalization and drug decriminalization on Mexican stability. I use an incentives-based systems approach to the actors involved and incorporate the factors of geopolitics, political decentralization, free-market capitalism, and complex interdependence to develop a foundation for a more comprehensive analysis. I find that the Sinaloa cartel has been the most affected by legalization, and that legalization has potentially made organized crime less profitable in general. Alternative drug policies do indeed affect Mexican stability, but the effects vary significantly. The United States and Mexico should focus efforts on developing a model for more comprehensive analysis on complexities of the illicit environment.

14. SUBJECT TERMS stability, regional stability, Mexico, complex interdependence, interdependence, stigmergy, deviant innovation, border security, drugs, narcotics, counternarcotics, cartel, drug trafficking organization, DTO, illicit trade, legalization, marijuana, heroin, cocaine, trafficking, cultivation, interdiction, eradication, Merida Initiative, Beyond Merida, harm reduction, decriminalization, development, dependencia, dependency theory, globalization, corruption, decentralization, Latin America	15. NUMBER OF PAGES 227
	16. PRICE CODE

17. SECURITY CLASSIFICATION OF REPORT	18. SECURITY CLASSIFICATION OF THIS PAGE	19. SECURITY CLASSIFICATION OF ABSTRACT	20. LIMITATION OF ABSTRACT
Unclassified	Unclassified	Unclassified	UU

NSN 7540-01-280-5500

Standard Form 298 (Rev. 2-89)
Prescribed by ANSI Std. 239-18

THIS PAGE INTENTIONALLY LEFT BLANK

Approved for public release. Distribution is unlimited.

OUT FROM PROHIBITION'S SHADOW: ALTERNATIVE DRUG POLICY AND MEXICAN STABILITY

Ryan Evans
Lieutenant, United States Navy
BS, University of California - San Diego, 2003

Submitted in partial fulfillment of the
requirements for the degree of

MASTER OF ARTS IN SECURITY STUDIES
(WESTERN HEMISPHERE)

from the

NAVAL POSTGRADUATE SCHOOL
June 2018

Approved by: Rodrigo Nieto-Gomez
Advisor

Robert E. Looney
Co-Advisor

Mohammed M. Hafez
Chair, Department of National Security Affairs

THIS PAGE INTENTIONALLY LEFT BLANK

ABSTRACT

The purpose of this thesis is twofold: to determine the success of alternative drug policy and to provide a foundation for better assessment of drug policy success in promoting stability. Mexico has the world's most lucrative drug trafficking corridor. Decades of militarized prohibitionist drug eradication and interdiction have destabilized Mexico and have actually contributed to its favorable drug trafficking environment. However, alternative drug policies may offer a shift from this vicious circle. In light of this, this thesis pursues this question: How do North American alternative drug control policies affect Mexican stability?

The problem is complex. I focus particularly on the effects of marijuana legalization and drug decriminalization on Mexican stability. I use an incentives-based systems approach to the actors involved and incorporate the factors of geopolitics, political decentralization, free-market capitalism, and complex interdependence to develop a foundation for a more comprehensive analysis. I find that the Sinaloa cartel has been the most affected by legalization, and that legalization has potentially made organized crime less profitable in general. Alternative drug policies do indeed affect Mexican stability, but the effects vary significantly. The United States and Mexico should focus efforts on developing a model for more comprehensive analysis on complexities of the illicit environment.

THIS PAGE INTENTIONALLY LEFT BLANK

TABLE OF CONTENTS

I. THE POLICY-STABILITY CONTEXT 1
- A. RESEARCH QUESTION 1
- B. PROBLEM STATEMENT 1
  - 1. Mexico's Competitive Advantage as a Corridor 1
  - 2. The Effects of Militarized Policy 2
  - 3. Implementation of Alternative Policies 3
  - 4. Backtracking on Alternative Approach 6
  - 5. Continued Instability 7
  - 6. Objective and Scope of this Study 9
- C. LITERATURE REVIEW: STABILITY 10
  - 1. Defining "Stability" 11
  - 2. OECD Framework for Stability 11
  - 3. The Role of Incentives in Creating Stability 14
  - 4. Application to Organized Crime 15
  - 5. Qualitative Effects of Organized Crime on Stability 16
  - 6. Quantitative Effects of Organized Crime: A Survey of Stability Indices 18
- D. LITERATURE REVIEW: DEVIANT INNOVATION 22
  - 1. Stigmergy 23
  - 2. Types of Adversarial Subsystems 25
  - 3. The OODA Loop 26
- E. LITERATURE REVIEW: COMPLEX INTERDEPENDENCE 28
  - 1. Sensitivity and Vulnerability Interdependence 28
  - 2. Implications for Studies on Power 30
- F. THESIS OVERVIEW 36

II. PROHIBITION POLICY IN MEXICO'S EVOLVING ENVIRONMENT 39
- A. INTRODUCTION 39
- B. TERRITORIAL DISPERSION OF CARTEL INFLUENCE: A FAILED STATE? 39
- C. ECONOMIC ENVIRONMENT: FREE MARKET CAPITALISM 42
- D. PROHIBITION POLICY IN THE ECONOMIC ENVIRONMENT 45
  - 1. International Pressure and Increased Militarization 45
  - 2. The Futility of Eradication and Interdiction 46

3. Socioeconomic Effects of Eradication 47
E. POLITICAL ENVIRONMENT: CENTRALIZED VERSES DECENTRALIZED GOVERNANCE.....48
1. Centralization under the PRI 49
2. Additional Considerations: Stable Authoritarianism vs. Fragile Democracy 53
F. PROHIBITION POLICY IN THE POLITICAL ENVIRONMENT.....54
1. Operation Condor.....54
2. Mano Dura.....56
3. Concluding Thoughts on Political Economic Environment: DTO Behavior 57
G. STABILITY DYNAMICS OF MEXICO'S DRUG WAR 57
1. Direct versus Indirect Drug Crimes.....58
2. Diversification of DTO Activities 59
3. Corruption.....62
H. SUMMARY AND CONCLUDING THOUGHTS.....63

III. THE DRUG POLICY BEHAVIOR NEXUS 65
A. DRUG POLICY BEHAVIOR MODEL 65
1. Uncertainty in Likelihood of Policy Reform 67
2. Shifts in DTO Behavior 68
3. Shifts in Drug Enforcement Behavior.....70
4. Effect of Behaviors on Government Revenue 72
B. MARIJUANA LEGALIZATION.....72
1. What Legalization Looks Like in North America 72
2. Possible DTO and Drug Enforcement Responses to Legalization 74
C. DECRIMINALIZATION OF DRUGS.....77
1. What Decriminalization Is and Is Not 78
2. What Decriminalization Looks Like in North America.....79
3. Possible DTO and Drug Enforcement Responses to Decriminalization.....86
D. SUMMARY AND CONCLUDING THOUGHTS.....89

IV. QUANTITATIVE VERIFICATION OF BEHAVIORAL TRENDS 91
A. INTRODUCTION.....91
B. LEGALIZATION-BEHAVIOR NEXUS: QUANTITATIVE ANALYSIS 91
1. Verification of Behavioral Trend (1.1): DTO Market Diversification Resulting from Legalization Policy 92

2. Verification of Behavioral Trend (1.2): DTO Industry Diversification Resulting from Legalization Policy 102
3. Verification of Behavioral Trend (1.3): Increased Investment in Legal Business Resulting from Legalization Policy 117
C. DECRIMINALIZATION-BEHAVIOR NEXUS: QUANTITATIVE ANALYSIS 119
1. Verification of Behavioral Trend (2.1): Shift in Prioritization of Incarceration versus Treatment as a Penalty for Drug Use 121
2. Verification of Behavioral Trend (2.2): Shift in Enforcement of Individual Drug Offenses versus Drug Trafficking 123
3. Verification of Behavioral Trend (2.3): DTO Market Diversification Resulting from Decriminalization Policy.....125
4. Verification of Behavioral Trend (2.4): DTO Industry Diversification Resulting from Decriminalization Policy.....126
D. SUMMARY OF QUANTITATIVE FINDINGS ON BEHAVIORAL TRENDS 128

V. QUANTITATIVE INDICATORS OF MEXICAN STABILITY 131
A. INTRODUCTION.....131
1. Purpose and Context of This Chapter 131
2. Developing Stability Indicators 132
B. INSTABILITY DUE TO LEGALIZATION.....136
1. Instability Related to Behavioral Trend (1.1): DTO Market Diversification Resulting from Legalization Policy 137
2. Instability Related to Behavioral Trend (1.2): DTO Industry Diversification Resulting from Legalization Policy 143
3. Instability Related to Behavioral Trend (1.3): Investment in Legal Business Resulting from Legalization Policy.....146
C. INSTABILITY DUE TO DECRIMINALIZATION 147
1. Instability Related to Behavioral Trend (2.1) Shift in Prioritization of Incarceration versus Treatment as a Penalty for Drug Use 149
2. Instability Related to Behavioral Trend (2.2): Shift in Enforcement of Individual Drug Offenses versus Drug Trafficking.....151
3. Instability Related to Behavioral Trend (2.3): DTO Market Diversification Resulting from Decriminalization Policy 156

4. Instability Related to Behavioral Trend (2.4): DTO Industry Diversification Resulting from Decriminalization Policy 157
D. CONCLUDING THOUGHTS ON INSTABILITY CAUSED BY ALTERNATIVE DRUG POLICIES 160

VI. CONCLUSIONS AND RECOMMENDATIONS.....163
A. INTRODUCTION.....163
B. WHAT THIS STUDY HAS DETERMINED 163
1. Legalization Policy Findings 164
2. Decriminalization Policy Findings.....167
C. WHAT THIS THESIS HAS CONTRIBUTED TO THE ALTERNATIVE POLICY PROBLEM SET: THE POLICY-BEHAVIOR MODEL FRAMEWORK.....170
D. OPPORTUNITIES FOR EXPANSION AND REFINEMENT OF THIS STUDY 172
E. IMPLICATIONS FOR ALTERNATIVE DRUG POLICIES IN THE UNITED STATES AND MEXICO.....176
1. Historical Triggers of U.S. Counternarcotics Policies.....176
2. Policy Reactions to the Current "Opioid Crisis" 177
3. Additional Drug Policy "Unknowns" Potentially Addressed by Net Stability Analysis 178
F. FINAL THOUGHTS 179

APPENDIX. DTO REVENUE SOURCE VALUES BY DRUG 183

LIST OF REFERENCES.....191

INITIAL DISTRIBUTION LIST 207

LIST OF FIGURES

Figure 1. State-Society Equilibrium 14

Figure 2. Divergent Depictions of DTO Influence 41

Figure 3. Cartel Influence and Significant Terrain, 2010 42

Figure 4. Geographical Coherence between Subnational PRI Losses and Intercartel Violence 52

Figure 5. Drug Policy Behavior Model 66

Figure 6. Timeline of U.S. State Marijuana Legalization Laws 97

Figure 7. DTO Revenues by Drug, Relative to 1996 Revenues, 1995–2002 97

Figure 8. DTO Revenues by Drug, Relative to 2012 Revenues, 2007–2016 98

Figure 9. DTO Revenue Trends, by Drug, in Millions of Nominal MXN, 1995–2016 99

Figure 10. Drug Trafficking Routes Through Mexico 101

Figure 11. Average Annual Eradication of Marijuana by Mexican Municipality, 1990–2010 108

Figure 12. Average Annual Eradication of Poppy by Mexican Municipality, 1990–2010 109

Figure 13. Most U.S. Border Seizures of Marijuana and Cocaine, 2013–2016 110

Figure 14. States Most Likely to be Affected by Alternative Drug Policy 111

Figure 15. Comparison of Kidnapping Rates by Mexican State, 2014–2016 112

Figure 16. Most Substantial Shifts in Kidnapping Rates by Mexican State, 2014–2016 113

Figure 17. Comparison of Business Extortion Rates by Mexican State, 2013 versus 2015 114

Figure 18. Shifts in Business Extortion Rates per 100,000 Population by Mexican State, 2013–2015 115

Figure 19. Comparison of the Change in Extortion and Kidnapping in the Five Decriminalized States to the Mexican Average, 2014–2016.....127

Figure 20. Comparison of Organized Crime-Driven Political Instability by Mexican State, 2014 versus 2016 138

Figure 21. Mexican States with the Most Substantial Shifts in Organized Crime-Driven Political Instability, 2014–2016.....140

Figure 22. Correlation of Business Losses Due to Organized Crime and Number of Extortions, 2013–2015 145

Figure 23. Perception of State Corruption in Decriminalized States, Relative to Mexican Average, 2014 versus 2016.....150

Figure 24. Political Instability of Decriminalized States Relative to the Mexican Average, 2014 versus 2016.....152

Figure 25. Impunity in Decriminalized States Relative to Mexican Average, 2014 versus 2016 155

Figure 26. Correlation of Shifts in Rates of Business Loss and Extortion in Decriminalized States Relative to Mexican Average, 2013–2015 158

LIST OF TABLES

Table 1. The Matrix of Harm Caused by Organized Crime.....17

Table 2. Summary of Findings, Survey of Indices 20

Table 3. Positive Peace Index General Pillars and Indicators.....22

Table 4. Asymmetrical Interdependence and Its Uses.....31

Table 5. Impact of Mexico's Market Reforms on Drug Trade 44

Table 6. Initial versus Amended Drug Possession Penalties under Mexican Decriminalization.....82

Table 7. Maximum Non-Prison Drug Allowances, Mexico versus Portugal 83

Table 8. Behavioral Trends Caused by Legalization, Their Indicators, and Indicator Sources 92

Table 9. Characteristic DTO Activities by Cartel.....104

Table 10. Notes on Table 9 105

Table 11. Decriminalization-Behavioral Shift Indicators 120

Table 12. Comparison of Prison Overcrowding in Decriminalized States with the Mexican Average, 2012–2016 121

Table 13. Comparison of Prison Budgets of "Decriminalized" States Per Capita in MXN, 2012–2016.....124

Table 14. Primary Cartels Involved in Cartel-on-Cartel Violence in Drug Court States.....126

Table 15. Mexico Positive Peace Indicators Relating to Political Instability.....134

Table 16. Verified Behaviors and Instability Indicators for Legalization Policy 136

Table 17. Verified Behaviors and Instability Indicators of Decriminalization Policy 148

Table 18. Outcomes and Implications of Legalization Policy Analysis 166

Table 19. Outcomes and Implications of Decriminalization Policy Analysis 169

THIS PAGE INTENTIONALLY LEFT BLANK

LIST OF ACRONYMS AND ABBREVIATIONS

BLO	Beltran Leyva Organization
CDT	Commissions for the Dissuasion of Drug Addiction (Portugal)
CIA	Central Intelligence Agency
CJNG	Jalisco Cartel New Generation
DEA	U.S. Drug Enforcement Administration
DFS	Mexican Secret Service
DTO	drug trafficking organization
ENVE	Encuesta Nacional de Victimización de Empresas (National Survey of Business Victimization)
EVP	Economic Value of Peace
FARC	Revolutionary Forces of Colombia
FY	fiscal year
IEP	Institute for Economics and Peace
INEGI	Instituto Nacional de Estadística y Geografía (National Institute of Statistics and Geography, Mexico)
MNC	multinational corporation
MNX	Mexican pesos
MPI	Mexico Peace Index
MPPI	Mexico Positive Peace Index
NAFTA	North American Free Trade Agreement
NDCS	National Drug Control Strategy
OCPSI	Organized Crime Political Stability Index
OECD	Organization for Economic Cooperation and Development
ONDCP	U.S. Office of National Drug Control Policy
OODA	observe, orient, decide, and act
PAN	National Action Party (Mexico)
PRI	Institutional Revolutionary Party
SESNSP	Secretariado Ejecutivo Del Sistema Nacional de Seguridad Pública (National System of Public Security, Mexico)
THC	tetrahydrocannabinol

UN	United Nations
WJP	World Justice Project

ACKNOWLEDGMENTS

My first acknowledgement goes to my advisors, “Mi Profesor” Rodrigo Nieto-Gomez and Dr. Robert Looney, for allowing me to glean from your incredible knowledge and progressive thinking. I am equally indebted to my “second reader,” Marianne Taflinger, who was amazing at filling the gap and giving me the essential, brazen feedback. I would also like to thank Dr. Naazneen Barma for “having my back” and helping me solidify the foundations of this work, as well as La Loca for making this happen. To my wife, Anne-Marie, for stepping up and taking care of the real business and enabling me to embark on this (very lengthy) enlightening endeavor—and with a bun in the oven to boot. You are incredible. To my sons, Carter and Luke, for all of the “good” distractions that ended up in wrestling matches. I missed you. To Chris Cherry for all the early morning surf “sanity” sessions. Puerto Escondido awaits! To Richard Wilkerson for going to “eleven,” every day, every practice, every song, especially the Zeppelin ones. “Rock on” to you as well, Sir. I would also like to thank my father, Bill, for piquing my interest in this topic and its underlying dynamics. And finally, yes, thank you to God (and the U.S. Navy) for allowing me to “live the dream” in my native California for 18 months and allowing me to work this mission set downrange.

THIS PAGE INTENTIONALLY LEFT BLANK

I. THE POLICY-STABILITY CONTEXT

A. RESEARCH QUESTION

This thesis answers the question: How do North American alternative drug control policies affect Mexican stability?

B. PROBLEM STATEMENT

Alternative drug policies in North America are a recent departure from decades of "prohibitionist" policies. Prohibitionist drug control policies have a long history in the United States and Mexico. The militarization of drug control measures began with the Nixon administration's declaration of the "war on drugs" in 1971[1] and reached a culminating point during the administration of Mexican President Felipe Calderon (2006–2012). Prohibitionist policies have primarily correlated with supply control strategies of crop destruction, illicit drug seizures, and criminal sanctions in Mexico and the United States.[2] While prohibitionist policies have temporarily caused shifts in drug preference or the origin of supply in the best cases, the policies have often caused instability in the areas of Mexico associated with the cultivation, trafficking, and ports of entry into the United States.[3]

1. Mexico's Competitive Advantage as a Corridor

Mexico has been a target of U.S. supply control policies for a number of reasons. First, Mexico is suited geographically, politically, and economically as an ideal drug trafficking corridor. Mexico is neighbor to the world's largest drug consumer, the United

[1] Chris Barber, "Public Enemy Number One: A Pragmatic Approach to America's Drug Problem," Richard Nixon Foundation, June 29, 2016, https://www.nixonfoundation.org/2016/06/26404/.

[2] David Nutt, *Drugs without the Hot Air* (Cambridge, England: UIT Cambridge Ltd, 2012), 267–268.

[3] Michele Coscia and Viridiana Rios, *Knowing Where and How Criminal Organizations Operate Using Web Content* (Cambridge, MA: Harvard University, 2012), Subsection 6.1, https://scholar.harvard.edu/vrios/publications/knowing-where-and-how-criminal-organizations-operate-using-google.

States,[4] and is also the United States' third largest commercial trading partner.[5] Drug trafficking organizations (DTOs) are thus able to exploit the network of existing physical and commercial trade infrastructure to facilitate the lucrative drug market.[6] Also, Mexico is in a geographically advantageously position for trafficking because opioids and marijuana are cultivated domestically Mexico and trafficked into the United States.[7] Additionally, the political climate of corruption in Mexico has historically facilitated drug flows; cocaine stemming from the Andes is trafficked primarily through Mexico to the United States.[8] The second reason, overlapping with the first, is that Mexico and the United States are economically and politically interdependent, meaning that what affects one country affects the other.[9] Therefore, rising instability in Mexico is a concern to the United States, and U.S. reactive drug control measures also hold a level of sway over domestic politics and stability in Mexico.

2. The Effects of Militarized Policy

Instability related to drug trafficking in Mexico reached a culminating point after implementing the heavy handed, or *mano dura*, approach of the *Merida Initiative*. Presidents George W. Bush and Felipe Calderón enacted the Merida Initiative in 2008 to increase the functional capability of Mexico to wage its militarized war on drugs.[10] While a high point in terms of Mexico-U.S. bilateral cooperation on drug policy, the plan has

---

[4] Jennifer Warner, "U.S. Leads the World in Illegal Drug Use," *CBS News WEBMD*, July 1, 2008, http://www.cbsnews.com/news/us-leads-the-world-in-illegal-drug-use/.

[5] U.S. Census Bureau, "Top Five U.S. Trading Partners in Goods in 2016," United States Census Bureau, accessed February 26, 2018, https://www.census.gov/newsroom/press-releases/2017/cb17-tps08.html.

[6] Peter Watt and Roberto Zepeda, *Drug War Mexico: Politics, Neoliberalism and Violence in the New Narcoeconomy* (New York: Zed Books, 2012), 6.

[7] Roderic Ai Camp, *Mexico: What Everyone Needs to Know*, 2nd ed. (New York: Oxford University Press, 2017), 12.

[8] Watt and Zepeda, *Drug War Mexico*, 72.

[9] Laurie Freeman, *State of Siege: Drug-Related Violence and Corruption in Mexico- Unintended Consequences of the War on Drugs* (Washington, DC: Washington Office on Latin America, 2006), 2, https://www.wola.org/sites/default/files/downloadable/Mexico/past/state_of_siege_06.06.pdf.

[10] Laura Starr and Donna Delle, "Does the Merida Initiative Represent a New Direction for U.S.-Mexico Relations, or Does It Simply Refocus the Issue Elsewhere?" Council on Hemispheric Affairs, December 14, 2007, http://www.coha.org/does-the-merida-initiative-represent-a-new-direction-for-us-mexico-relations-or-does-it-simply-refocus-the-issue-elsewhere/.

failed to stop drug trafficking, and it has even exacerbated its destabilizing side effects.[11] The more tactically capable the Mexican security forces have become in enforcing the war on drugs, the more cartels have adapted and innovated in their own tactics and structure to continue profiting from criminal activities, and the more pervasive the resulting instability has been.[12] Drug related killings in Mexico surged in 2008 to 5,153, a 130 percent increase from the 2,280 killings reported in 2007.[13] The increased role of the Mexican military in drug enforcement crackdowns also led to the human rights violations of the population at the hand of Mexican state.[14] The ability of drug cartels to adapt and innovate ahead of the law also reveals widespread vulnerabilities within Mexican governance and justice.[15]

3. Implementation of Alternative Policies

The failures of the Merida Initiative corresponded with the initiation of alternative drug policies of legalization, decriminalization, and political, social, and economic development by the United States and Mexico starting in 2008. The progressive policies represented a shift in strategic thinking on the War on Drugs emphasizing a whole-of-government approach to a whole-of-society drug problem. The alternative policies have contrasted with the "war and punishment" approach to traffickers and consumers respectively under traditional policies. Bilaterally, Mexico and the United States established an updated version of Merida in 2011: Merida 2.0, also known as Beyond Merida. The updated plan increased political institution building and community

[11] Donald E. Klingner, "The 'Perfect Storm': Drug Trafficking in the Mexico-U.S. Trans-Border Region as an Unrecognized Opportunity to Strengthen Public Administration," in *Using the "Narcotrafico" Threat to Build Public Administration Capacity between the US and Mexico*, ed. David H Rosenbloom and Roberto Moreno Espinosa (Boca Raton, FL: Taylor and Francis Group: CRC Press, 2014), 4.

[12] Rodrigo Nieto-Gomez, "Stigmergy at the Edge: Adversarial Stigmergy in the War on Drugs," *Cognitive Systems Research* 38, no. C (June 2016): 31–40, https://doi.org/10.1016/j.cogsys.2015.12.005.

[13] Craig A. Deare, "Security Implications of Drug Legalization in the U.S. and Mexico," in *The State and Security in Mexico*, ed. Brian J. Bow and Arturo Santa Cruz. New York: Taylor & Francis, 2013), 109.

[14] Klingner, "The 'Perfect Storm,'" 5.

[15] Klingner, "The 'Perfect Storm,'" 5.

development as priorities.[16] On the U.S. side, the initiative is implemented jointly by the U.S. Agency for International Development and the Department of State's U.S. Bureau of International Narcotics and Law Enforcement Affairs.[17] It remains one of the United States' top two bilateral development priorities in Mexico for fiscal years 2014 to 2018.[18]

In addition to bilateral cooperation under the Merida Initiative, Mexico and the United States have also initiated their own alternative policy shifts. For Mexico's part, President Calderón proposed judicial reforms to strengthen the rule of law through the judiciary process; Mexican Congress passed them in 2008 and slated for implementation by 2016.[19] In 2009, Calderon "[decriminalized] the possession of amounts of illicit drugs deemed for personal use."[20] Mexico has also established drug courts in several states, separating drug offenses from regular crimes so as to better facilitate treatment.[21] To incorporate citizen security groups have that formed against DTO influence, the Mexican government recently officialized a "citizen-based rural police force" with some positive results.[22] During a visit to Washington in 2011, Calderón highlighted U.S. demand, rather

---

[16] Eric L. Olson and Christopher E. Wilson, "Beyond Merida: The Evolving Approach to Security Cooperation" (Working Paper Series on U.S.-Mexico Security Cooperation, University of San Diego Trans-Border Institute, 2010), 4, https://www.wilsoncenter.org/sites/default/files/beyond_merida.pdf.

[17] U.S. Agency for International Development, *Mexico Country Development Cooperation Strategy, FY 2014–FY 2018* (Washington, DC: U.S. Agency for International Development, 2014), 19, https://www.usaid.gov/sites/default/files/documents/1869/Mexico%20CDCS%202014%202018.pdf.

[18] "USAID: Mexico Country Development Cooperation Strategy, FY 2014–FY 2018," 1.

[19] David A. Shirk, *Judicial Reform in Mexico: Change & Challenges in the Justice Sector* (San Diego, CA: University of San Diego Trans-Border Institute, 2010), 205, https://www.wilsoncenter.org/sites/default/files/Chapter%207-%20Justice%20Reform%20in%20Mexico,%20Change%20and%20Challenges%20in%20the%20Judicial%20Sector.pdf.

[20] Luis Astorga and David A. Shirk, "Drug Trafficking Organizations and Counter- Drug Strategies in the U.S.-Mexican Context (San Diego: Center for U.S.-Mexican Studies; Washington DC: Mexico Institute of the Woodrow; Tijuana, Mexico: El Colegio de la Frontera Norte; Mexico City: El Colegio de México, 2010), 35, https://escholarship.org/uc/item/8j647429.

[21] Executive Office of the President, *National Drug Control Strategy FY 2017 Budget and Performance Summary* (Washington, DC: Executive Office of the President, 2016), https://obamawhitehouse.archives.gov/sites/default/files/ondcp/policy-and-research/fy2017_budget_summary-final.pdf, 249.

[22] Chris Kyle, *Violence and Insecurity in Guerrero* (Building Resilient Communities in Mexico: Civic Responses to Crime and Violence briefing paper series) (Washington, DC: Wilson Center Mexico Institute, 2015), 7, https://www.wilsoncenter.org/sites/default/files/Violence%20and%20Insecurity%20in%20Guerrero.pdf.

than Mexican supply of drugs as cause of the instability, publicly stating that "if the U.S. could not reduce its appetite for drugs, it should then 'look for other solutions, including market alternatives.'"[23] Mexican President Enrique Peña Nieto (2012–2018) has recently moved forward on Mexican legalization policy. He legalized medical marijuana in June 2017[24] and expects to legalize recreational product in 2018 amid widely contested public opinion on the topic.[25]

The United States has also initiated its own reforms. Although marijuana remains officially illegal with "no medical benefits" at the federal level,[26] several U.S. states have legalized recreational marijuana. Colorado and Washington were the first to legalize recreational marijuana retail and consumption in October 2012. By 2014, legalization had already affected drug flows, as United States and Mexican consumers preferred the superior quality of regulated product grown in the United States to that supplied from Mexico.[27] As of 2018, eight additional states and the District of Columbia have also legalized recreational marijuana.[28] Taking steps toward decriminalization, the United States has also steadily increased its priority on drug addiction treatment relative to punitive corrections since 2013 with treatment exceeding corrections for the first time in 2014.[29]

---

[23] Brian J. Bow and Arturo Santa Cruz, eds., "Conclusions- Multiple Challenges, Multiple Regions, Multiple Perspectives," in *The State and Security in Mexico* (New York: Taylor & Francis, 2013), 197.

[24] Amanda Erickson, "Mexico Just Legalized Medical Marijuana," *Washington Post*, June 21, 2017, https://www.washingtonpost.com/news/worldviews/wp/2017/06/21/mexico-just-legalized-medical-marijuana/.

[25] Diana Beth Solomon, "Mexico to Legalize Marijuana-Based Product Sales Next Year," Reuters, December 20, 2017, https://www.reuters.com/article/us-mexico-marijuana/mexico-to-legalize-marijuana-based-product-sales-next-year-idUSKBN1EF022.

[26] Rodrigo Nieto-Gomez, "Rethinking Alternatives in the War on Drugs," YouTube video, 18.22, May 15, 2015, posted by TEDx Talks, https://www.youtube.com/watch?v=aYFZdg2ZOpg.

[27] John Burnett, "Legal Pot in the U.S. May Be Undercutting Mexican Marijuana." NPR, December 1, 2014, https://www.npr.org/sections/parallels/2014/12/01/367802425/legal-pot-in-the-u-s-may-be-undercutting-mexican-marijuana.

[28] "State Marijuana Laws in 2018 Map," Governing, accessed January 29, 2018, http://www.governing.com/gov-data/state-marijuana-laws-map-medical-recreational.html.

[29] Executive Office of the President. *National Drug Control Strategy FY 2017*, 7. Most of this increased treatment budget has gone toward medication assisted treatment.

4. Backtracking on Alternative Approach

Despite steps toward alternative drug policies, both countries remain committed to militarized policies that have historically exacerbated instability. Mexico has opted for a hybrid approach between traditional and alternative policies. While Mexico pursues legalization, decriminalization, and development of the judicial and security sectors, the Peña-Nieto administration has also expanded on Calderon's militarized policies.[30] From 2012 to 2017, the Mexican military expanded operations in six Mexican states to operations in 27 states, fueling increased human rights allegations.[31] The expansion of militarized policies has been causing a splintering of cartels into smaller, more violent DTOs, which are all vying for control, and this increases the dispersion of instability and harm among certain populations.[32] In 2018, President Peña-Nieto is expected to approve legislation initiated by Mexican Congress for an "interior security law," which would give the president the prerogative to deploy the military anywhere in Mexico to conduct a domestic policing function without congressional approval.[33] The question of whether Mexico can concurrently pursue developmental reforms and a militarized security presence remains to be seen.

While Mexico currently pursues alternative policy reform alongside militarized policy, the United States is currently backtracking on its alternative measures. The U.S. Office of National Drug Control Policy (ONDCP) 2016 *National Drug Control Strategy* has linked the recent uptick in U.S. heroin abuse to the increased supply of Mexican

[30] Nathaniel Janowitz, "Mexico Will Never Win Its War on Drugs—But It's Going to Keep Fighting Anyway," *Vice News*, August 19, 2016, https://news.vice.com/article/mexico-will-never-win-its-war-on-drugs-but-its-going-to-keep-fighting-anyway.

[31] Elisabeth Malkin, "Mexico Strengthens Military's Role in Drug War, Outraging Critics," *The New York Times*, December 15, 2017, https://www.nytimes.com/2017/12/15/world/americas/mexico-strengthens-militarys-role-in-drug-war-outraging-critics.html.

[32] David Agren, "Mexico Maelstrom: How the Drug Violence Got so Bad," *The Guardian*, December 26, 2017, http://www.theguardian.com/world/2017/dec/26/mexico-maelstrom-how-the-drug-violence-got-so-bad.

[33] Malkin, "Mexico Strengthens Military's Role."

heroin[34] rather than the addiction patterns associated with non-medical use of pain medication (i.e., the "opioid crisis").[35] The strategy recommends the traditional strategy of supply chain disruption for reducing consumption in the United States,[36] effectively deemphasizing U.S. demand market as a cause of regional instability. This also implies a reduced emphasis on decriminalized treatment as a potential alleviator of U.S. consumption. With regard to development strategies, most of the Obama administration's funding for Beyond Merida has been allocated to U.S. domestic border control agencies rather than border security and development aid for Mexico, as Beyond Merida prescribes.[37] With regard to legalization, the administration of President Donald Trump has threatened to "de-legalize" marijuana in the very states that have recently legalized it for recreation.[38]

5. Continued Instability

Although the United States and Mexico have incorporated certain alternative policy aspects, regional instability is still prolific. For instance, in Mexico in 2016, cartels or counter-cartel militia groups assassinated dozens of political candidates and local officials.[39] The Fragile States Index deemed Mexico the "most worsened country of 2017."[40] DTO violence has spurred the formation of local militias, which actually increased

---

[34] Office of National Drug Control Policy, *National Drug Control Strategy 2016* (Washington, DC: Executive Office of the President of the United States, 2017), https://obamawhitehouse.archives.gov/sites/default/files/ondcp/policy-and-research/2016_ndcs_final_report.pdf. Henceforth ONDCP *National Drug Control Strategy 2016*.

According to a 2017 *Washington Post* article, Mexico supplies more than 90 percent of U.S. heroin. See Joshua Partlow, "In Mexico, the Price of America's Hunger for Heroin," *Washington Post*, May 30, 2017, https://www.washingtonpost.com/graphics/2017/world/violence-is-soaring-in-the-mexican-towns-that-feed-americas-heroin-habit/?utm_term=.8802044cb6e1.

[35] ONDCP *National Drug Control Strategy 2016*, 64.

[36] ONDCP, 5.

[37] Olson and Wilson, "Beyond Merida," 93.

[38] Charlie Savage and Jack Healy, "Trump Administration Takes Step That Could Threaten Marijuana Legalization Movement," *New York Times*, January 4, 2018, https://www.nytimes.com/2018/01/04/us/politics/marijuana-legalization-justice-department-prosecutions.html.

[39] George Lehner, "'So Far from God, So Close to the United States.' Mexico Most Worsened in 2017," Fragile States Index, May 14, 2017, http://fundforpeace.org/fsi/2017/05/14/so-far-from-god-so-close-to-the-united-states-mexico-most-worsened-in-2017/.

[40] Lehner, "'So Far from God.'"

instability in rural regions.[41] Moreover, *The Guardian* declares that Mexico, with eight journalists murdered by cartels in 2017, was also the world's most dangerous country for journalists after Syria.[42] The rule of law in Mexico has also suffered as key judicial reforms, proposed by Felipe Calderón in 2008, have thus far exhibited questionable positive impact in decreasing impunity of criminals.[43] Meanwhile on U.S. soil, Mexican drug cartels continue to expand their territory and illicit narcotics operations, which exacerbates an increasingly urgent public health issue.[44]

Although there has been much publicity about the war on drugs, the effectiveness of alternative drug control policies in promoting regional stability in North America remains unclear for three reasons: a short-term policy trial period, lack of historical precedent, and the complexity of the problem. First, while the United States and Mexico pay lip service to alternative policies, their investment in the implementation of these policies has been short-term and limited in scope. Fundamental institutional and societal changes may take decades to manifest, and the short "trial time" and partial commitment to policies may not constitute a concentrated enough application of alternative policies to adequately gauge their effectiveness.

Second, alternative policies are cutting edge and therefore have limited historical examples to draw from as a precedent or proof of concept for policymakers. While there is much literature related to the demand, consumption, and health effects of illicit drugs, there is only a relatively small amount on the effects of drug policy on DTO behavior,[45] drug enforcement measures, and their broader effects on Mexican stability. Third, regional instability is a "wicked problem" (also referred to as a "vicious circle" by some scholars), in which the confluence of interrelated political, social, and economic factors makes causal explanations between policies and their effects on stability difficult. While prohibitionist

---

[41] Partlow, Joshua. "In Mexico, the Price of America's Hunger for Heroin."

[42] Agren, "Mexico Maelstrom."

[43] Ai Camp, *Mexico: What Everyone Needs to Know*, 41.

[44] U.S. Drug Enforcement Administration, *2017 National Drug Threat Assessment* (Washington, DC: U.S. Drug Enforcement Administration, 2017), https://www.dea.gov/docs/DIR-040-17_2017-NDTA.pdf.

[45] Deare, "Security Implications," 101.

narcotics policy has historically correlated with instability, the level and scale of the correlation is not always apparent in the context of a complex political, social, and economic environment.

6. Objective and Scope of this Study

This thesis aims to address the gaps in understanding of the effects of alternative drug policies through the development of an original, moldable, and scalable framework of analysis. While there is no shortage of literature highlighting the effects of alternative drug policy, few sources provide in-depth quantitative backing in support of their qualitative analyses and claims. This thesis provides quantitative verification of drug policy effects wherever possible. While I address common triggers of policy change in my conclusion, it is important to note that my study places its emphasis primarily on *policy effects and their dynamics within a complex environment* rather than on the issue of *why policy has changed*. My effects-based study focuses specifically on the policies of marijuana legalization in the United States and decriminalization policy in Mexico.

Although the United States and Mexico have only partially implemented alternative policies, I base my study on the assumption that a study of the outcomes in North America during the last decade will be sufficient to provide insight on policy effects. Where regional evidence from North America lacks—the case in Mexican decriminalization policy particularly does—I draw on historical case studies of related policies to create a theoretical analysis. Initiated in 2001, Portugal's decriminalization provides a relevant case study by which to inform the progress of Mexican policy. While I do not focus specifically on development-based alternative policy, Mexico's political and economic development underscore the illicit environment in which alternative policies are applied.

While I make no pretensions of providing a "solution" to the wicked problem of the war on drugs, I do strive to provide a lens of reality, clarity, and practicality by framing the dynamics of the problem. In the lack of historical precedent, a pertinent framework has the potential to provide insight on the most effective way forward in applying alternative policies. In other words, contributing to a foundation from which to develop a needed "proof of concept" of alternative policies is the goal of my research. The strengths of my

approach include the discussion of policy within a larger systemic context, quantitative verification of policy effects, the recentness of the information base, and the relevance of the topic in the current U.S.-Mexico bilateral relationship as well in a global context.

I spend minimal space rehashing the widely publicized facts of the war on drugs, but rather I utilize existing content as a platform to provide emergent insight on the problem. Regionally, the discussion of alternative narcotics policy sits at the crossroads of current domestic debates over drug legalization and treatment in the United States and a general uncertainty about the future of U.S.-Mexico relations and includes policy debates over trade and immigration. Internationally, narcotics policy pertaining to world's largest drug trafficking corridor carries high relevance to the future of narcotics policy worldwide.

C. LITERATURE REVIEW: STABILITY

In international politics, stability is commonly associated with the equilibrium of the political, economic, security, and social systems of a particular state. Stability is of particular concern to international actors because, where instability exists, a state is vulnerable to violent conflict, humanitarian crises, or ungoverned spaces—all of which may have regional implications.[46] Therefore, I advance the viewpoint that stability is the desired outcome of national security policy applied internationally. In this Literature Review section, I explore existing scholarly frameworks of state building to determine which factors and dynamics affect the stability-instability equilibrium of a state. Essentially, this section is a theoretical exploration into the causes of stability. Then I focus on the dynamics of organized crime as both an effect and an amplifier of instability. The qualitative dynamics and effects of organized crime provide insight into which quantitative indices may best measure its effects. I survey several respected quantitative indices to extract the indicators most relevant to the effects of alternative drug policies on stability in North America.

[46] Organisation for Economic Co-operation and Development, "Subchapter: Causal Factors in State Fragility or Resilience," in *Concepts and Dilemmas of State Building in Fragile Situations: From Fragility to Resilience* (Paris: Organisation for Economic Co-operation and Development, 2008), 18, http://www.oecd.org/development/governance-peace/conflictandfragility/docs/41100930.pdf. Hereafter OECD, "Subchapter: Causal Factors."

1. Defining "Stability"

Academics commonly associate stability with systemic equilibrium. Sven Ove Hansson and Gert Helgesson identify two primary types of stability as it relates to equilibrium: *constancy*—a system's resistance to change in the midst of a disturbance—and *resilience*—the ability of a system to return to equilibrium after a disturbance.[47] Of the two terms, resilience is commonly used as a measure, or predictor, of stability in the context of international politics. The link between stability and resilience is well-documented in academic literature across disciplines. In a study on state failure, Monty G. Marshall comments that strategies for sustainability in state systems should be focused "on [building and] maintaining resilience."[48] In a study on ecology, Crawford S. Holling defines resilience as "a measure of the persistence of systems and of their ability to absorb change and disturbance and still maintain the same relationships between populations or state variables."[49] The Organization for Economic Cooperation and Development (OECD) holds resilience as the primary factor "in the social contract that creates stability in a state."[50] Empirically, resilience is a systemic characteristic while stability refers to the state of a system at any given point in time.

2. OECD Framework for Stability

The OECD provides a useful framework of the state fragility-resiliency equilibrium in its 2008 report *Concepts and Dilemmas of State Building in Fragile Situations*. Underscoring the framework is the idea that state systems are fragile, or unresilient, due to a disequilibrium between a) the *expectations* of society on the responsibilities of the state, and b) the *will* and *capacity* of the state to provide protection and/or public services to

---

[47] Sven Ove Hansson and Gert Helgesson, "What Is Stability?," *Synthese*, 136 no. 2 (2003): 223. 219–235.

[48] Monty G. Marshall, *Fragility, Instability, and the Failure of States: Assessing Sources of Systemic Risk* (New York: Carnegie Corporation of New York, 2008), 20, https://cfrd8-files.cfr.org/sites/default/files/report_pdf/CPA_WorkingPaper_1.pdf. Marshall cites Susan E. Rice and Stewart Patrick, *Index of State Weakness in the Developing World* (Washington, DC: Brookings Institute, 2008) in this statement.

[49] Crawford S. Holling, "Resilience and Stability of Ecological Systems," *Annual Review of Ecology and Systematics* 4 (1973): 14.

[50] OECD, "Subchapter: Causal Factors," 18.

society.[51] According to the OECD, stability is achieved through the development of formal and informal governance structures promoting accountability and addressing inequalities and inequities in society.[52] An open and inclusive political process of negotiation between state and society addressing public grievance and legitimizing *de facto* systems can reconcile the disequilibrium caused by internal and external shocks[53] with regard to both societal expectation on one hand and state will and capacity on the other.

The OECD framework of state-society equilibrium is supported by academic literature. Brian Bow and Arturo Santa Cruz reinforce the importance of the state-society relations in assessing Mexico's security situation, stating, "…in diagnosing Mexico's security challenges and uncovering their implications, the relation between state and society is central, constructed and contested, and inseparably tied to rival concepts of the relevant regional context."[54] Mark Shaw and Walter Kemp of the International Peace Institute also cite the OECD framework in their description of a fragile states. They claim that fragile states have a "'weak capacity to carry out basic functions of governing a population and its territory' and the inability 'to develop mutually constructive and reinforcing relations with society.'"[55]

Not all scholars ascribe to the positive correlation between stability and resilience, however. Hyman Minsky's *financial-instability hypothesis* effectively states, "economic stability breeds instability."[56] He explains financial stability leads to exuberance in investor behavior that results in their exploitation of a financial system for personal gain, leading to

---

[51] OECD.

[52] OECD, 8.

[53] Organisation for Economic Co-operation and Development, *Concepts and Dilemmas of State Building in Fragile Situations: From Fragility to Resilience* (Paris: Organisation for Economic Co-operation and Development, 2008), 7, http://www.oecd.org/development/governance-peace/conflictandfragility/docs/41100930.pdf. Hereafter OECD, *Concepts and Dilemmas*.

[54] Brian J. Bow and Arturo C. Santa Cruz, "The State and Security in Mexico: Crisis and Transformation in Regional Perspective," in *The State and Security in Mexico: Crisis and Transformation in Regional Perspective* (New York: Routledge, 2013), 1–24.

[55] Mark Shaw and Walter Kemp, *Spotting the Spoilers: A Guide to Analyzing Organized Crime in Fragile States* (New York: International Peace Institute, 2012), 4, https://www.ipinst.org/wp-content/uploads/2012/03/pdfs_ipi_epub-spottingspoilers.pdf.

[56] "Minsky's Moment," *The Economist*, July 30, 2016, https://www.economist.com/news/economics-brief/21702740-second-article-our-series-seminal-economic-ideas-looks-hyman-minskys.

fragility and eventual collapse. From the ecological standpoint, C. S. Holling describes a scenario in which actors in an unstable system must exhibit resilience to survive in the midst of uncertainty; in effect, he is saying that "instability breeds resilience."[57] This is akin to stigmergic systems, as discussed in the Literature Review section on deviant innovation. Holling expounds that stable systems are vulnerable to external shocks causing the "loss of the structural integrity of the system."[58] At the state level, Holling's scenario could equate to a long-established authoritarian welfare system dependent on a single commodity export that collapses under unforeseen export market fluctuations. In sum, Holling and Minsky's hypotheses claim that resilience and stability are inversely related and therefore must be distinguished from each other. While I assert that their claims do not discount the OECD process, they do have value in clarifying the dynamics of organized crime within the state system, which I will explore later in this section.

Figure 1 provides a visualization of the OECD process of statebuilding. State *legitimacy* is an additional complex factor, functioning as a measure of the level of trust between the state and society (i.e., the strength of the social contract). The stronger the social contract, the more effective the political process in reestablishing the state-society balance in the wake of external shocks to the state's systems.

[57] Holling, "Resilience and Stability of Ecological Systems," 181.

[58] Holling, 21.

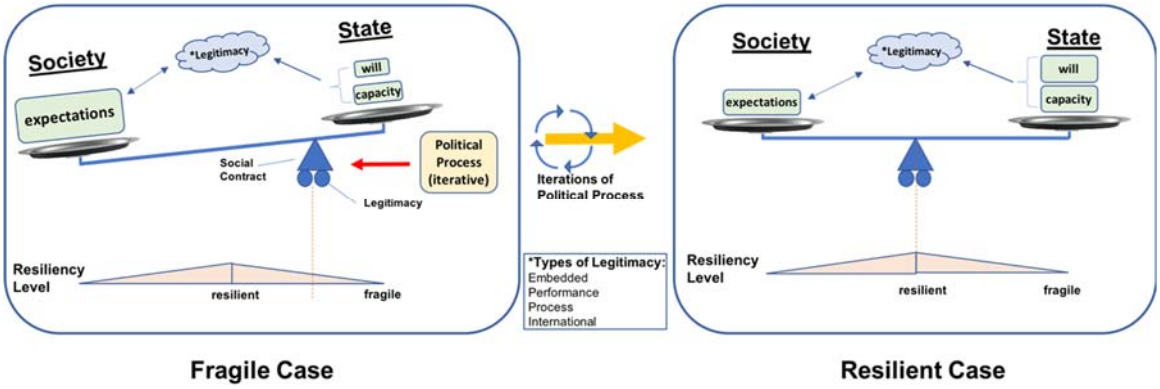


Figure 1. State-Society Equilibrium[59]

In the case of a fragile state-society equilibrium, a state lacking the will or capacity to provide for its society lacks legitimacy and is subject to pursue legitimacy through coercive or corrupt means.[60] As shown on Figure 1, shifts in popular expectations can also exacerbate fragility. If the population's expected relationship with the state expects differs from the one the state delivers, the political situation tends toward fragility and must be resolved through the political process to maintain equilibrium.[61]

3. The Role of Incentives in Creating Stability

Although the OECD framework for state-society equilibrium involves both the will and capacity of the state, I argue that state *will* and *capacity* are both a function of *incentives.* The link between will and incentives is self-explanatory, as the two are nearly synonymous. I also argue that state *capacity* is a matter of incentives. A state's decision to move in the direction of development (i.e., its decision to dedicate its own resources to capacity building or utilize international aid for building quality institutions rather than for hedging its own benefits), depends on its incentives. While the OECD offers a number of recommendations for good governance to promote resilience, it concedes that the feasibility of its recommendations depends on the incentives of the actors involved. The

[59] Adapted from OECD, "Subchapter: Causal Factors."

[60] OECD, *Concepts and Dilemmas*, 18.

[61] OECD, *Concepts and Dilemmas*, 18.

OECD cites taxation, in the vein of Mancur Olson's *Stationary Bandit*,[62] as a key institution for aligning the incentives for economic development between government and society, resulting in a social contract.[63] On the converse, international aid may disrupt the establishment of a social contract because the state receives its needed funding externally, and therefore, it depends less on public tax dollars. Therefore, I argue that Minsky's previously mentioned *financial-instability hypothesis* of elite exploitation of a stable system actually describes an inherently unstable system; elites would not have the incentive or would not be allowed to exploit the system at the level envisioned by Minsky in a stable system of state-society equilibrium.

4. Application to Organized Crime

The central role of "incentives" in governing state-society equilibrium can also be applied to the relationship between the state and organized crime groups. Viridiana Rios points out that the destabilizing outcomes of organized crime depend on the dynamics of informal relationships between organized crime groups and the state. Particularly, DTO violence increases with higher levels of government decentralization.[64] Within Mexico's current system of decentralized governance in which government corruptibility is no longer a given, Rios asserts that DTO survival depends on the competitive ability of DTOs to corrupt the government.[65] Higher-priced, more competitive bribes tempt the state into corruption, thereby reducing incentives to provide protections and public services to the population. DTO innovation and competition in response to the unstable environment of variable corruptibility reinforces Holling's hypothesis (mentioned previously) that

[62] In his 1993 article, Olson describes the underlying incentives by which groups of "bandits" capable of robbing the population for their own gain decide to cooperate in forming a centralized government (i.e., a collective "stationary bandit" that institutes taxation as a legal form of "robbery"). Through taxation, the best interest of the central government is to facilitate the economic growth of the population in order to generate increased tax revenue. This is a scenario where incentives of both the state and population align, and development results. Mancur Olson, "Dictatorship, Democracy, and Development," *The American Political Science Review* 87, no. 3 (1993): 567–576.

[63] OECD, *Concepts and Dilemmas*, 43.

[64] Viridiana Rios Contreras, *How Government Structure Encourages Criminal Violence: The Causes of Mexico's Drug War* (Cambridge, MA: Harvard University, 2012), 19.

[65] Rios Contreras, *How Government Structure Encourages*, 13.

instability leads to resilience. In sum, the type of governance system affects DTO behavior vis-a-vis the state, which in turn affects state incentives.

5. Qualitative Effects of Organized Crime on Stability

The discussion of the dynamics of the causes and effects of instability provides a foundation for analyzing the effects of organized crime on instability. Organized crime is both a consequence and a cause of instability. In a 2012 study, Shaw and Kemp apply the elements of the OECD framework to a study on the effects of organized crime. Their study is based on the assertion that fragile states are especially vulnerable to organized crime, which exacerbates the stability of the security, justice, and development sectors.[66] The OECD also highlights organized crime as consequence of a fragile states; in addition, it claims that organized crime also exploits and exacerbates the weakness of the state in a type of vicious circle of instability.[67] Shaw and Kemp provide a "harm matrix" as a visualization of the effects of organized crime. Their matrix identifies common indicators of the political/structural, economic, physical, social, and environmental harm caused by organized crime on the local, regional, and international scales, as shown in Table 1.

[66] Shaw and Kemp, *Spotting the Spoilers*, 6.

[67] OECD, "Concepts and Dilemmas of State Building in Fragile Situations: From Fragility to Resilience," 42.

Table 1. The Matrix of Harm Caused by Organized Crime[68]

	Individual/Local	Community/Regional	Country/International
Political and Structural Harm	• lack of trust in state structures • withdrawal from community life • key local institutions undermined, e.g., schools, local courts	• dysfunctional and corrupt city and regional government • inability to provide even basic services	• damage to overarching political system • damage to country's reputation
Economic Harm	• increased prices • less choice • security fears when engaging in local business activities • brain drain	• economic decline of local communities and increased costs for local businesses • distorted development and increased property prices • lack of investment	• obstacles to economic development • foreign investment withdrawn as future prospects seem less viable
Physical Harm	• direct physical and emotional harm to individuals • injuries and death	• overall impact of violence and the spread of abuse and disease within communities	• increased economic and healthcare costs for families and central government
Social Harm	• Loss of personal property with economic effects • Provision of public services by crime organizations	• popular acceptance of corruption as a "fact of life" • Increased drug consumption/ addiction • traditional family structure threatened	• glamorization of crime lords • harm highly concentrated on particular sectors or interest groups
Environmental Harm	• degeneration of a locality • local resources plundered by external groups	• loss of community resources for future development	• long-term environ- mental damage • reduced earning capacity from natural resources in the long term

The types of harm identified by Shaw and Kemp are overlapping, and while not all readily quantifiable, they provide a broad framework for conceptualizing trends in organized crime over time. Although Table 1 does not refer specifically to "drug trafficking," it is still applicable to the broader problem set of "organized crime" among Mexican cartels, which have historically adapted to a dynamic law enforcement landscape by shifting between different types of organized crime.[69] Therefore, identifying the harm caused by "organized crime" as a whole, rather than a specific *type* of organized crime, is

[68] Source: Shaw and Kemp, *Spotting* the Spoilers, 46.

[69] U.S. Agency for International Development, *FY 2015 Annual Performance Report; FY 2017 Annual Performance Plan* (Washington, DC: U.S. Agency for International Development, 2016), 84, https://www.state.gov/documents/organization/259539.pdf.

useful for a dynamic assessment of its harmful and destabilizing effects. The harm indicators presented by Shaw and Kemp are also useful moving from theoretical concepts of stability to quantitative indicators, which I explore in the following section.

6. Quantitative Effects of Organized Crime: A Survey of Stability Indices

To facilitate quantitative analysis, I narrow the physical, political, economic, social, and environmental types harm caused by organized crime at the local level (depicted in Table 1) into two primary types of instability at the country level: political and economic. Physical harm is the most outwardly evident, as evidenced in the results of recent polling on public opinion that show that Mexican concerns of insecurity have now surpassed concerns of economic well-being.[70] Physical, social, and political harms all go hand-in-hand at the local level because popular trust of state institutions is degraded when the state is unable or unwilling to fulfill its function as a protector.[71] This essentially equates to political instability at the country level.

Economic harm, from extortion of local businesses to the widespread informal drug economy that is not taxable by the government, equates to economic instability at the country level. In the past, U.S. concerns with drug trafficking have manifested in security crackdowns on ports of entry, threatening bilateral flow of trade between Mexico and the United States.[72] Social harm caused by organized crime is also relevant with regard to levels of human capital, which also effects economic instability. For example, the glamorization of drug lords inspires dreams of illicit riches among Mexico's youth and also replaces the traditional family structure with the "family" of the gang or cartel structure.

[70] Deare, "Security Implications," 109.

[71] OECD, *Concepts and Dilemma*, 39. Chapter II explores the link between social harm and instability in greater depth.

[72] Richard B. Craig, "Operation Intercept: The International Politics of Pressure," *The Review of Politics* 42, no. 4 (October 1980): 567.

While there is environmental harm in certain cases such as DTO robbery of oil pipelines,[73] I do not prioritize it in my analysis of drug policy.

Quantitative indicators should fit three basic criteria to be applicable to the effects of drug trafficking on instability in Mexico. First, they should provide data that specifically aligns with the both the immediate and broader effects of organized crime in Mexico. There are a number of quantitative indices that provide insight to physical, political, economic, and social instability, yet not all of their indicators apply to drug trafficking in Mexico. Therefore, I have explored several indices to determine the specific indicators that most closely relate to the desired data sets. Second, indicators should provide data at the subnational level. As implied previously, subnational indices are preferred because "Mexico's state governments have a certain amount of latitude in their governance structures, such that policy responses to violence may differ significantly from state to state."[74] Third, there should be data, to the maximum extent possible, for the period of concern. This equates to 1996–2018 in the case of marijuana legalization in some U.S. states, and 2009–2018 for Mexican decriminalization policy.

Table 2 summarizes my survey of different indices according to the above-mentioned criteria.

[73] "Crime's New Geography: Why Murder in Mexico Is Rising Again," *The Economist*, May 11, 2017, https://www.economist.com/news/americas/21721973-gangs-get-smaller-and-diversify-why-murder-mexico-rising-again.

[74] Institute for Economics and Peace, *Mexico Peace Index 2016* (Mexico City: Institute for Economics and Peace, 2017), 9, http://economicsandpeace.org/wp-content/uploads/2016/04/Mexico-Peace-Index-2016_English.pdf.

Table 2. Summary of Findings, Survey of Indices

INDEX	Type of Stability Addressed	Applicability to Organized Crime in Mexico?	Subnational Indicators?	Desired Timeframe
Millennium Challenge Corporation Sustainable Development Goal (SDG) #16	Physical Stability	Limited Data on Mexico	NO	NO
Institute for Economics and Peace (IEP) *Mexico Peace Index* (MPI)	Physical Stability	Strong	YES	YES
IEP *Mexico Positive Peace Index* (MPPI)	Political Economic Social	Strong	YES	YES
IEP *Economic Value of Peace (EVP)*	Economic	Strong	YES	YES
World Justice Project *Rule of Law Index*	Political	Strong	NO (Available Mid-2018)	YES
World Justice Project *Resource Hub*	Political Social	Varies	YES	YES
Fund for Peace *Fragile States Index*	Physical Political Economic Social	Strong	NO	YES
World Bank *Worldwide Governance Indicators*	Political	Strong	NO	YES

While most indicators cover the desired timeframe and have strong correlation to organized crime, Table 2 indicates that only the Institute for Economics and Peace (IEP) and the World Justice Project (WJP) currently offer subnational data for Mexico. The IEP's *Mexico Peace Index 2016* report provides four indices, all providing data at the Mexican subnational level: the Mexico Peace Index (MPI), which focuses primarily on physical stability; the Mexico Positive Peace Index (MPPI), which provides data on political instability; and the Economic Value of Peace (EVP), which details the effects of violence on economic stability.[75]

In its four different indices, the IEP addresses all types of instability at the subnational level. However, only the MPI does so for the entire period of 2006–2016. The MPPI, the EVP, and the Index for Impunity in Mexico only cover 2014–2016 and therefore do not provide data on long-term trends; nonetheless, they are useful in contributing to the

[75] Institute for Economics and Peace, *Mexico Peace Index 2016*.

current picture of instability in Mexico, especially since the implementation of recreational marijuana legalization in Washington and Colorado in 2013. An additional potential advantage of the IEP with regard to Mexican data is that one of its four global headquarters is located in Mexico City.

The IEP provides subnational indices that are the best-suited for organized crime in Mexico. The MPI applies primarily to physical instability. The index draws from indicators of homicide, weapons crime, violent crime, detention without a sentence, and organized crime. Organized crime includes "extortions, drug-trade related crimes, and kidnappings per 100,000 people."[76] Drug-related crimes include "production, transport, trafficking, trade, supply, or possession of drugs or other 'crimes against public health,' as they are termed in Mexican law."[77]

Where data in IEP indexes does not align closely enough to my problem set, I utilize IEP source data. The majority of IEP's source data stems from two particular Mexican surveys. These surveys include the Instituto Nacional de Estadística y Geografía (INEGI; National Institute of Statistics and Geography) and the executive secretary of the National Public Security System (SESNSP). They supply specific data for Chapter IV's analysis of behavioral effects and Chapter V's analysis of instability. The Mexican surveys allow for the tailoring of data for the specific problem sets of this study that aligns more closely than IEP indexes in some cases.

The IEP's MPPI provides eight pillars of positive peace that most commonly characterize countries undergoing transitions to peace. Positive peace is defined as "the *attitudes*, *institutions*, and *structures* that create and sustain peaceful societies."[78] The eight pillars and their indicator topics are shown in Table 3.

---

[76] Institute for Economics and Peace, *Mexico Peace Index 2017* (Mexico City: Institute for Economics and Peace, 2017), http://visionofhumanity.org/app/uploads/2017/04/Mexico-Peace-Index-2017_English.pdf.

[77] Institute for Economics and Peace, *Mexico Peace Index 2017*, 10.

[78] Institute for Economics and Peace, 3.

Table 3. Positive Peace Index General Pillars and Indicators[79]

WELL-FUNCTIONING GOVERNMENT	SOUND BUSINESS ENVIRONMENT	LOW LEVELS OF CORRUPTION	HIGH LEVELS OF HUMAN CAPITAL	FREE FLOW OF INFORMATION	GOOD RELATIONS WITH NEIGHBOURS	EQUITABLE DISTRIBUTION OF RESOURCES	ACCEPTANCE OF THE RIGHTS OF OTHERS
Democratic political culture	Business environment	Factionalized elites	Secondary school enrolment	Freedom of the Press Index overall score	Hostility to foreigners	Inequality-adjusted life expectancy	Empowerment Index
Government effectiveness	Economic freedom overall score	Perceptions of corruption score	Global Innovation Index	Mobile phone subscription rate	Number of visitors	Social mobility	Group grievance rating
Rule of law	GDP per capita	Control of corruption	Youth Development Index overall score	World Press Freedom Index overall score	Regional integration	Poverty gap	Gender inequality

The WJP Rule of Law Index provides the gamut of relevant indices on political order and structure useful in supplementing other measurements of political stability. The WJP assesses that four universal principles comprise the rule of law: 1) accountability, 2) just laws, 3) open government, and 4) accessible and impartial dispute resolution. The pillars of the WJP's Rule of Law Index are constraints of government powers, absence of corruption, open government, fundamental rights, order and security, regulatory enforcement, civil justice, and criminal justice.[80] WJP reports that it is releasing its first subnational index for Mexico in the first half of 2018.[81] However, the WJP online Resource Hub provides links to key Mexican rule of law organizations, rule of law information, and model programs at the national and subnational levels that provide subnational data for some cities and states.[82]

D. LITERATURE REVIEW: DEVIANT INNOVATION

One of the primary general detractors of government policy effectiveness is the ability of a population to circumvent policy through rapid innovation and adaptation,

[79] Adapted from Institute for Economics and Peace, *Positive Peace Report 2017* (Mexico City: Institute for Economics and Peace, 2017), 93, http://visionofhumanity.org/app/uploads/2017/10/Positive-Peace-Report-2017.pdf.

[80] "WJP Rule of Law Index 2017–2018," accessed March 4, 2018, http://data.worldjusticeproject.org/#/groups/MEX.

[81] "The Rule of Law in Mexico," World Justice Project, accessed March 4, 2018, https://worldjusticeproject.org/our-work/wjp-rule-law-index/special-reports/rule-law-mexico.

[82] "Resource Hub," World Justice Project, accessed March 5, 2018, https://worldjusticeproject.org/resource-hub.

rendering policy useless by the time policymakers adjust and implement it. The adaptation of the DTOs in response to changes in narcotics policy is commonly referred to as *deviant innovation*. The U.S. Office of the Secretary of Defense stated in 2013, "Deviant innovators have one essential business requirement: to be one step ahead of the governmental deployment of interdiction technologies to remain a profitable operation while being ready to hack new inventions as soon as they are deployed."[83] *Deviant innovation* happens automatically in response to shifts in policy implementation, with the level and speed of innovation depending on the level of payoff for the innovator. While the phenomenon of innovation has been explored in many studies on organizational change, I review and analyze two primary innovation theories applicable to *deviant innovation*. The first is *stigmergy*, originally a study in the way insects self-organize into working structures by reacting to environmental stimuli. The second is the observe, orient, decide, and act (OODA) loop, which describes the core elements common to successful individual and organizational adaptation in a competitive environment.[84]

1. Stigmergy

Professor Francis Heylighen provides a theoretical overview of *stigmergy*, and he defines the term as "…an indirect coordination in which the trace left by an action in a medium stimulates a subsequent action."[85] Additionally, he describes a process of *self-organization* by which global order arises out of local actions.[86] Heylighen's self-organization process involves four components: *agent*, *action*, *medium*, *trace*, and *coordination*. The process starts when an agent performs a particular action. The action stimulates a change to a *medium*, which is "…that part of the world that undergoes changes

[83] Gary Ackerman, ed. *The "New" Face of Transnational Crime Organizations (TCOs): A Geopolitical Perspective and Implications to U.S. National Security* (Washington, DC: Office of the Secretary of Defense, 2013), 11, http://hdl.handle.net/10945/30346.

[84] Taylor Pearson, "The Ultimate Guide to the OODA Loop," Taylor Pearson, https://taylorpearson.me/ooda-loop/.

[85] Francis Heylighen, *Stigmergy as a Universal Coordination Mechanism: Components, Varieties and Applications* (Brussels, Belgium: University of Brussels, 2015), 1.

[86] Heylighen, *Stigmergy as a Universal Coordination Mechanism*, 15.

through the actions, and whose states are sensed as conditions for further actions."[87] The change in the medium leaves a *trace*, which is a "…perceivable change made in the medium by an action, which may trigger a subsequent action."[88] Agents then conduct coordination based on the trace they receive. Essentially, the intended or unintended results of any action communicate signals (traces), perceived subconsciously, to other agents, and this automatically influences collective behavior. The collective automatically organizes according to traces without requiring control, planning, simultaneous presence, communication, or mutual awareness.[89]

In the article "Stigmergy at the Edge: Adversarial Stigmergy in the War on Drugs," Dr. Rodrigo Nieto-Gomez applies the pioneering work of several scholars on theoretical concepts of stigmergy to the case of adversarial stigmergy between *government agents* and *criminal agents* in the war on drugs. The survival of criminal agents depends on their *resilience*, for which Nieto-Gomez offers Andrew Zoli's definition: "The capacity of a system, enterprise or a person to maintain its core purpose and integrity in the face of dramatically changed circumstances"[90] Nieto-Gomez explains that rather than discouraging drug trafficking, U.S. homeland security efforts in deterrence, interdiction, and eradication serve to make criminals aware of existing vulnerabilities within their own illicit supply chain and highlight where criminals need innovation.[91] As policy shifts increase risk within DTO operations, the most resilient and innovative DTOs will maintain stability of operations, enjoying the most profit amidst the "new rules of the game."[92] The innovation takes place in many forms, including new technologies, new cultivation areas and trafficking corridors, diversification into new forms of crime, ascension of new drug lords within organizations, and offensive operations against rival cartels.

---

[87] Heylighen, 8.

[88] Heylighen, 8.

[89] Heylighen, 1.

[90] Rodrigo Nieto-Gomez, "Stigmergy at the Edge," 2.

[91] Nieto-Gomez, 4.

[92] Nieto-Gomez, 4.

Nieto-Gomez states that the stigmergic algorithm of *signal-response* is especially pertinent to the way cartels operate for a number of reasons. First, cartels are outside the bounds of regulation and taxation and can therefore take advantage of a bureaucracy-free, readily-financed environment for which to innovate.[93] Second, cartels must rely more on stigmergic traces or signals in place of facts or figures because black markets are less predictable than regular markets.[94] Additionally, as mentioned above, there is an aggressive risk/reward ratio for those who innovate and discern new market parameters more quickly than a competitor.[95] Nieto-Gomez states that as cartels innovate in response to stigmergic signals, their simply stated objective in the trafficking of illicit narcotics is to

> optimize the transport of a series of stable banned chemical products to minimize risk, from a territory where they are produced and manufactured but have little market value, to another one where they are highly appreciated by a consumer market, avoiding the deadly predatory opposition of law enforcement agents, military and other adversarial forces (i.e., multiple competing cartels).[96]

2. Types of Adversarial Subsystems

With regard to the formation of counternarcotics policy, Nieto-Gomez describes three critical *adversarial subsystems* common to DTOs taken into account by U.S. policymakers.[97] The first is the kingpin-centered bureaucracy that defines cartels' hierarchical structure. "Kingpin" counternarcotics strategies assume that removing a drug lord (the "kingpin") disrupts a whole adversarial subsystem, thus disrupting an entire trafficking network. The second subsystem is the "very decentralized multimodal supply chain that physically transports drugs and other illegal commodities from the producing territories to the consumer's location."[98] This subsystem consists of many independent supply chain segments running in parallel and are extremely adaptable to law enforcement

[93] Nieto-Gomez, 15.

[94] Nieto-Gomez, 8.

[95] Nieto-Gomez, 8.

[96] Nieto-Gomez, 11.

[97] Nieto-Gomez, 17–18.

[98] Nieto-Gomez, 18.

tactics and initiatives. A kingpin strategy has minimal effect on this subsystem, and there are few effective analytical tools that are useful for understanding this subsystem. The third subsystem is the informal support network of agents who, knowingly or unknowingly, willingly or unwillingly, support cartel operations. Examples include business owners who pay extortive "rents" to cartels, banks who move money without inquiring its origin, or migrants who cross the border with backpacks full of illicit product.

3. The OODA Loop

An additional frame of reference useful for describing the innovation of DTOs is the *OODA loop*. The concept was developed by Lieutenant Colonel John Boyd, a U.S. Air Force fighter pilot in World War II, Korea, and Vietnam. Whereas stigmergy describes a "subconscious" explanation of adaptation, the OODA loop describes "conscious" adaptation. Taylor Pearson offers an overview of Boyd's OODA loop, emphasizing its key concepts.[99] Pearson describes the OODA loop as "…a model of individual and organizational learning and adaptation…"[100] The core idea of the loop is that reality is always changing, so one must constantly adapt his or her beliefs about reality to avoid falling out of sync. In the OODA loop, *observation* serves as a type of feedback loop to identify falsities or biases in one's own judgment in order to accurately *orient* oneself to the realities of a current environment. Improved orientation enhances the decision-making ability of individuals or groups, which then *act* on their decision. The agent who is able to complete the OODA cycle more quickly than a competitor will be more resilient and will therefore be more successful within a dynamic environment.

The OODA loop has both similarities and differences with respect to stigmergy. Both are similar in that changes in one's environment stimulate changes in behavior. In contrast to an agent's active observation and conscious behavior change described in the OODA loop, however, stigmergic reorientation happens passively in a type of automatic chain reaction requiring no planning or control. In the theory of stigmergy, human beings cannot possibly be completely aware of all pertinent information prior to making decisions,

[99] Pearson, "The Ultimate Guide."

[100] Pearson, "The Ultimate Guide to the OODA."

nor aware of all potential consequences of their actions. Therefore, their decisions cannot possibly be based on conscious analysis alone; they are inevitably influenced, to some extent, by stigmergic signals. Nor can humans possibly guarantee that others will perceive all their actions in the intended fashion. Therefore, actions can change mediums the actor never intended, generating stigmergic organization. While stigmergy occurs below the radar of conscious intent, I argue that humans do incorporate a level of reason into any decision. In sum, I argue that both the active observation of the OODA loop and the passive observation of stigmergy must be incorporated into analysis of the innovation of cartels.

One key tangential takeaway from both innovation theories pertains to conditions surrounding the drug market. In the cases of the OODA loop and stigmergic cycles, the high risk-reward environment speeds the innovation of Mexican DTOs. The existence of the high risk-reward domestic environment also has implications for drug trade on the international scale. Mexico's comparative advantage as a trafficking corridor is globally unmatched, due to a fortuitous combination of political, social, geographical, and economic factors.[101] Mexico's lucrative position guarantees a high payoff for the DTOs who innovate most effectively. Mexico's position in the global drug trade also indicates that deviant innovation is *global*, much like the "invisible hand" of global capitalism. Since traffickers bypass many of the restrictions imposed on multinational corporations, they are relatively unrestricted in deciding where to establish operations. Illicit flows shift automatically, in a stigmergic fashion, in response to a changing risk or changing reward. This contributes to the "balloon effect" in which cracking down on the supply of drugs does not stop drugs from getting to market.[102] Rather, the crackdown shifts supply to a different, less risky source (i.e., the supply balloons up elsewhere).

Mexico's political, social, economic, and geographic environment provides the ideal conditions thriving deviant innovation. The proliferation of illicit cultivation, trafficking, and consumption of drugs in response to prohibitionist policies gives testament to the ability and motivation of DTOs to innovate. The result has been a cat-and-mouse

[101] Peter Watt and Roberto Zepeda, "Introduction," in *Drug War Mexico* (New York: Zed Books, 2012).

[102] ONDCP *National Drug Control Strategy 2016*, 74–75.

struggle that has produced more sophisticated criminals and a more flexible and redundant illicit crime structure, which has in turn exacerbated instability. Therefore, effective counternarcotics strategy requires more study on how the unintended signals of policy have enabled DTO innovation.

E. LITERATURE REVIEW: COMPLEX INTERDEPENDENCE

Counternarcotics policy shifts within the United States and Mexico over the last half century have not occurred in domestic vacuums. The geographical proximity of the United States and Mexico has resulted in a relationship of *complex interdependence* between the two countries and has influenced each's counternarcotics policies. Robert O. Keohane and Joseph S. Nye coined the theory of complex interdependence in the late 1970s as a more adaptable alternative to the polarized frameworks of realism and neoliberalism in explaining power relationships between states.[103] The complex interdependence framework describes the dynamics relative *power* between two countries measured in the amount of economic, political, social, or military influence that nation states wield over each other within the existing global system. Keohane and Nye's framework has served as a baseline for scholarly study of reciprocal nation-state influence. Due to the centrality of Keohane and Nye, I analyze their framework and its scholarly critiques as a theoretical basis of complex interdependence. Then, I analyze dependency theory, or *dependencia*—Latin America's traditional worldview of regional nation-state power dynamics—against complex interdependence. My analysis provides two primary benefits with regard to this thesis: (1) a basic framework for explaining how international factors, in addition to domestic factors, affect regional instability, and (2) insight into the prospects for future alternative counternarcotics policy collaboration between the United States and Mexico.

1. Sensitivity and Vulnerability Interdependence

Keohane and Nye identify the general concept of *interdependence* between nation states as an economic, military, or social interconnectedness resulting in effects that people

[103] Waheed Rana, "Theory of Complex Interdependence: A Comparative Analysis of Realist and Neoliberal Thoughts," *International Journal of Business and Social Science* 6, no. 2 (February 2015): 290. 290–297.

care about, in essence, "interconnectedness with costly effects."[104] *Interconnectedness* simply refers to intentional or unintentional interactions between countries, whereas countries are said to be *interdependent* once interactions become costly enough to warrant the attention of government or society.[105] The authors provide the example of interdependence in which carbon emissions from the United States and China are not directed at other countries, yet they cause a climate change that imposes economic, political, or social costs on other countries, inciting a social backlash.[106] The level of social backlash caused by the effects of climate change is indicative of a country's *sensitivity interdependence*, essentially the resulting tension in the current state of a society or government[107] as a result of interconnectedness.

On the other hand, *vulnerability interdependence* refers to the costs associated with policy change that occurs in reaction to sensitivity. Keohane and Nye identify three factors that determine the level of vulnerability: (1) the availability of alternative policy options, (2) the level of associated economic, political, social, or military costliness of the policy change, and (3) "an actor's liability to suffer costs imposed by external events even after policies have been altered."[108] Additionally, Keohane and Nye state, "Vulnerability interdependence…can be measured only by the costliness of making effective adjustments to a changed environment over a period of time."[109] Therefore, a country with few alternative policy options, lacking the institutional framework, collective action, or funding by which to employ alternative policies, or failing to reduce negative effects through policy change is considered to be vulnerable. Keohane and Nye present a helpful case study of

---

[104] Robert O. Keohane and Joseph S. Nye, *Power and Interdependence*, 4th ed. (New York: Longman, 2012), 232.

[105] Keohane and Nye, *Power and Interdependence*, 8.

[106] Keohane and Nye, 232.

[107] The "current state of a society or government means "before policy reform takes place in reaction to the tension" (i.e., the virgin, existent state of a country's political, economic, and social systems). Keohane and Nye, *Power and Interdependence*.

[108] Keohane and Nye, *Power and Interdependence*, 233.

[109] Keohane and Nye, 233.

sensitivity and vulnerability over time in the "Power and Interdependence" subsection of chapter 1 of their book *Power and Interdependence*.[110]

2. Implications for Studies on Power

Keohane and Nye's concept of complex interdependence carries important implications for relative power and influence between countries. They define power as "the ability of an actor to get others to do something they otherwise would not do (and at an acceptable cost to the actor)."[111] Additionally, they maintain that vulnerability is more closely correlated with power than sensitivity because, while sensitivity equates to domestic pressure for policy reform, policy decisions must be based on an analysis of both actual and potential vulnerabilities at both the domestic and international levels.[112] Sensitivity is also a less accurate measure of power because sensitivity levels are less stable than vulnerability levels; popular opinion ebbs and flow as policy changes.[113]

Keohane and Nye's original framework incorporates tenets of both realism and interdependence in the explanation of power dynamics. While recognizing the relevance of a country's material resources in relative power, they also incorporate the non-material element of "power measured in terms of influence over outcomes," which they term *asymmetrical interdependence*.[114] Moreover, the authors cite two key "rules" within asymmetrical interdependence: (1) "A less dependent actor in a relationship often has a significant political resource" and (2) "Political bargaining is usually a means of translating potential into effects…" because "…there is rarely a one-to-one relationship between power measured by any type of resources and power measured by effects on outcomes"[115] While they place more focus on non-material elements of power, they do incorporate a realist perspective in stating "military power dominates economic power in the sense that

[110] Keohane and Nye, 10–12.

[111] Keohane and Nye, 10.

[112] Keohane and Nye, 14.

[113] Keohane and Nye, 13.

[114] Keohane and Nye, 16.

[115] Keohane and Nye, 10.

economic means alone are likely to be ineffective against the serious use of military force."[116] Additionally, Keohane and Nye assert that in choosing an instrument of national power, countries normally tend toward more dominant, yet highly costly, policies offering no superior guarantee of effectiveness, such as military intervention.[117]

Synthesizing their analysis of relative power between countries, Keohane and Nye offer three sources of asymmetrical independence ranked in terms of power dominance and the contemporary use of each source, as visualized in Table 4. In each case, nation-states utilize their power in shifting from *interdependence* to *dependence*.

Table 4. Asymmetrical Interdependence and Its Uses[118]

Source of independence	Dominance ranking	Cost ranking	Contemporary use
Military (costs of using military force)	1	1	Used in extreme situations or against weak foes when costs may be slight.
Nonmilitary vulnerability (costs of pursuing alternative policies)	2	2	Used when normative constraints are low, and international rules are not considered binding (including nonmilitary relations between adversaries, and situations of extremely high conflict between close partners and allies).
Nonmilitary sensitivity (costs of change under existing policies)	3	3	A power resource in the short run or when normative constraints are high and international rules are binding. Limited, since if high costs are imposed, disadvantaged actors may formulate new policies.

As Table 4 demonstrates, the more dominant sources of asymmetrical independence are also the costliest. It is also important to note that the "contemporary use" column also reveals the underlying conditions that determine which source a state uses.

[116] Keohane and Nye, 14.

[117] Keohane and Nye, 14.

[118] Source: Keohane and Nye, *Power and Interdependence*, 15.

These underlying conditions include the independent variables of (1) cost, (2) normative constraints, (3) level of constraint imposed by international rules, (4) state of relations between actors, and (5) the strength of the adversary. The majority of these independent variables play a significant role in the counter narcotics policy relations between the United States and Mexico.

David A. Baldwin argues that complex interdependence can be simplified to terms of cost-benefit analysis.[119] He argues that Keohane and Nye place overemphasis on the negative side effects of interdependence, as if countries are cooperating "against their will" and are therefore always vying for *independence*. Baldwin asserts, rather, that states actively choose interdependence for their own associated benefits, and therefore the value lost in "breaking a relationship" should be taken into account within complex interdependence.[120] I argue, however, that cost-benefit analysis is inherent within complex Keohane and Nye's theory because, as shown in Table 4, countries have a choice of which source of power to utilize based on the benefit they desire. Baldwin is also limiting the scope of complex interdependence to "conscious interactions between states," effectively ignoring exogenous factors such as climate change, etc.[121] Baldwin is correct, however, in that Keohane and Nye's framework is based on negative side effects of interactions. I credit this to the idea that the external constraints (influence) on a country's actions become more apparent when attempting to rectify an undesirable situation than during the status quo.

An important critique of Keohane and Nye is made from the vantage point of Latin America's dependency theorists, or *dependistas*. *Dependencia* is an economics-based, structuralist theory born in Latin America in the late 1960s that pins the cause of Latin America's economic, political, and social vulnerabilities on the structure of the capitalist system.[122] According to the dependistas, Latin American countries are trapped in a cycle

---

[119] David A. Baldwin, "Interdependence and Power: A Conceptual Analysis," *International Organization* 34, no. 4 (Autumn 1980): 482–483.

[120] Baldwin, "Interdependence and Power."

[121] Baldwin.

[122] Jeffrey D. Wilson, "Dependency Theory in International Relations," in *Encyclopedia of Power*, ed. Keith Dowding (Thousand Oaks, CA: Sage Publications, 2011), 173–174, http://dx.doi.org/10.4135/9781412994088.n98.

of underdevelopment in which they produce exportable commodities that feed the economies and development of more advanced states (e.g., the United States), while missing out on opportunities for their own development. They view the cycle as essentially a continuation of the extractive colonialism imposed on Latin America during the European conquest.[123]

Jeffrey D. Wilson explains the how political asymmetry between countries in dependencia develops through a dual class system of elites versus working classes. Latin American elites develop "transnational class alliances with international capitalists," through which they harness the power associated with the capitalist system to dominate the dependent commodity-producing middle and lower classes, influence "political, legal, and cultural institutions," and contribute to "dual [domestic] economies."[124] As the transnational capitalists (e.g., multinational corporations [MNCs])[125] exert influence over their "peripheral elites" in Latin American countries, they relegate the dependent classes of developing countries to a "structure of foreign rule."[126] Dependistas claim, therefore, that Latin America exists in a system of political asymmetry wherein "sovereign" countries are "subject to control by a capitalist core" of non-state actors.[127] From the viewpoint of dependencia, international development aid is suspect to anterior motives "conditioned by, and [occurring] as a reflection of the development and expansion of capitalist metropoles."[128]

Kal J. Holsti contrasts dependencia and complex interdependence to test the applicability of each framework. He points out that, while dependencia has many shortcomings, it does offer an explanation for the causes of vulnerability whereas he claims Keohane and Nye concentrate only on the dependent variables or consequences, of

---

[123] Wilson, "Dependency Theory."

[124] Wilson, "Dependency Theory."

[125] Kal J. Holsti, "A New International Politics? Diplomacy in Complex Interdependence," *International Organization* 32, no. 2 (Spring 1978): 526.

[126] Wilson, "Dependency Theory."

[127] Wilson, "Dependency Theory."

[128] Wilson.

vulnerability.[129] Holsti finds, however, that the framework of interdependence is sufficiently applicable to account for the politically asymmetrical outcomes visualized by dependencia. On the other hand, he claims that dependencia is too limited in its path-dependent explanations to account for asymmetrical interdependence because reciprocal influence still exists even when there is a disparity of economic resources between two actors.[130] In sum, the interdependence framework is capable of accounting for the claims of dependistas, while dependencia is too narrow in potential outcomes to apply across a range of cases.

While I agree that interdependence is more applicable than dependencia to a broad range of cases, I also argue that the two theories can be mutually beneficial. Dependencia reveals specific areas where interdependence would benefit from more focus, while openness to the theory of interdependence within the Latin American worldview could be beneficial for development. While interdependence prioritizes the state as the primary actor in international power relationships, dependencia emphasizes the importance of both foreign and domestic non-state actors. However, it does not do so clearly enough to motivate a change in the interdependence framework. C. Richard Bath and Dilmus D. James highlight that even though dependencia theory claims that the upper class is oppressing the lower class, it fails to provide proof.[131] Raymond C. Duvall goes even further with regard to the non-specificity of dependencia when he claims that dependencia is not an empirically-based theory at all but rather a general frame of reference that could benefit from more specificity.[132] I argue that in developing empirical evidence of oppression, the dependista position would carry more influence in limiting the incorporation of non-state actors and the domestic contours of economic, political, and social sensitivity within interdependence theory.

---

[129] Holsti, "A New International Politics?," 520.

[130] Holsti, 526.

[131] C. Richard Bath and Dilmus D. James, "Dependency Analysis of Latin America: Some Criticisms, Some Suggestions," *Latin American Research Review* 11, no. 3 (1976): 19, http://www.jstor.org/stable/2502502.

[132] Raymond D. Duvall, "Dependence and Dependencia Theory: Notes toward Precision of Concept and Argument," *International Organization* 32, no. 1 (Winter 1978): 57.

Shifts in the dependencia worldview could also increase Latin America's awareness of how to leverage its international position for its own development. Bath and James point out that U.S. policy is not as monolithic as envisioned by dependencia.[133] They claim that dependencia is an "either-or," "do-or-die," "completely dependent versus completely independent" mentality overshadowing "the degree to which internal Latin American decisions can lead to greater independence."[134] A more realistic look at United States foreign policy case studies by Latin Americans would demonstrate the vagueness and limitations of dependencia. There are interdependencies beyond the economic sector that matter to the United States, and therefore, Latin American countries can leverage them.

Whereas dependencia is overly narrow in its perceived causes of underdevelopment, interdependence uses the nation state as the primary actor and therefore fails to account for the full range of actors involved. Interdependence does account for domestic actors in the sense that sensitivity in the population places pressure on the governments for policy reform at the federal level. However, it does not account for non-state actors such as MNCs that may influence policy. Interdependence also views the population as a monolithic entity and does not account for the class struggles or sectoral battles within industry that may take opposing stances on policy. Drawing from Holsti's critique, interdependence adequately accounts for the domestic costs *resulting* from policy change, but it lacks detail on the role of domestic politics in *causing* policy change.

In conclusion, a framework best suited to account for the complexities of international power relationships between countries must account for (1) the ability of materially disadvantaged countries to wield influence over more powerful countries and (2) the influence of non-state and subnational state actors (e.g., MNCs, sectoral economic interest groups, socioeconomic classes, and regional and local governments). Incorporating both of these ideas would involve a hybrid of both complex interdependence and dependencia. This thesis applies "hybrid" concepts throughout. The vicious circle of narcotics-driven destabilization in Mexico cannot be accounted for without an

[133] Bath and James, "Dependency Analysis of Latin America," 20.

[134] Bath and James, 30.

understanding of U.S. sensitivities to Mexican physical, economic, political, and social instabilities. On the other hand, an analysis of the reciprocal U.S.-Mexico relationship only at the nation-state level would also be inadequate. Mexico's political and economic contours vary significantly by region and subnational jurisdiction, and therefore I must incorporate a subnational analysis and reasonably include non-state actors.

F. THESIS OVERVIEW

The purpose of this thesis is twofold. The first is providing insight into whether alternative drug policies of marijuana legalization in certain U.S. states and decriminalization in Mexico have been "successful" in the stabilization of Mexico. I pursue this objective by analyzing policy effects on the behaviors of the actors involved and examining the correlation between these behaviors and Mexican stability trends. The second purpose is the development of a scalable and moldable framework as a foundation for further analysis of the effects of alternative drug policy on North American stability.

This chapter has provided theoretical frameworks for stability, DTO behavior, the dynamics of international power relationships, and why they are pertinent to counternarcotics policy. Chapter II applies these frameworks to Mexico specifically. It describes the interrelationship of past prohibition policy, DTO and drug enforcement behaviors, and resulting instability in the context of Mexico's evolving geopolitical and political economic environments. Chapter III identifies the possible behavioral shifts of DTOs and drug enforcement authorities caused by the alternative policies of legalization and decriminalization. It incorporates its findings on policy-behavior dynamics into the context of the dynamic web of policy-behavior interactions identified in Chapter II in development of a drug policy-behavior model for analysis.

Chapters IV and V are the quantitative portion of my analysis. Chapter IV quantitatively examines the alternative policy-related behaviors identified in Chapter III. In turn, this also provides a basis for Chapter V's quantitative instability analysis. Chapter V analyzes the correlation between alternative policy-driven behaviors and instability through the use of quantitative indicators. Finally, Chapter VI, the concluding chapter, offers implications for this research, particularly the need for a regionally-aligned "net

stability assessment" as a metric for policy success. It also details the limitations of this study and offers recommendations for its utilization, expansion, and refinement.

THIS PAGE INTENTIONALLY LEFT BLANK

II. PROHIBITION POLICY IN MEXICO'S EVOLVING ENVIRONMENT

A. INTRODUCTION

In this chapter, I conduct a qualitative analysis of the evolution of drug policy-related behavior and instability in Mexico. This chapter essentially narrows the theoretical stability framework discussed in Chapter I's "stability" literature review to the context of Mexico. I begin by describing how Mexico's political and economic environments have shaped the incentives and actions of DTOs and drug enforcement authorities. Then, I analyze how traditional prohibition policies have affected the behavior of Mexican DTOs and drug enforcement authorities in the context of these environments. I focus primarily on Mexican stability outcomes but also touch on the ways in which Mexican instability influences U.S. policy.

Although capturing the complete scope of Mexico's policy-behavior-instability interactions would be impossible, this chapter's analysis of certain aspects serves an important purpose in my overall study. The analysis of the historical dynamics of Mexico's policy-behavior relationships populates a foundational web of interactions that forms the policy-behavior model depicted in Chapter III, which also incorporates alternative policy's effects on behavior into this chapter's foundational web. The policy-behavior model serves as a basis for the quantitative analyses of behavior and instability conducted in Chapters IV and V.

B. TERRITORIAL DISPERSION OF CARTEL INFLUENCE: A FAILED STATE?

Prior to analyzing Mexico's drug crime, one must understand the territorial extent of DTO influence in Mexico. A significant quantity of literature questions whether, due to DTO influence, Mexico is a failed state. The U.S. government's characterization of DTOs as insurgencies vying for state control has likened Mexican DTOs to the Revolutionary Forces of Colombia (FARC), a narco-insurgency group. This characterization influenced

the adaptation of Plan Colombia, a bi-lateral counterinsurgency campaign against the FARC, to Mexico in the form of the bilateral Merida Initiative."[135]

Whereas news outlets, entertainment sources, and official reports depict Mexico as a country under the control of an oligarchy of DTOs, in actuality, DTO interests are specific and defined territorially.[136] The nature of their relationships with each state government in Mexico are also variable. Although Mexican cartels may exhibit a more extensive monopoly of violence or influence over governing authorities in certain states or territories, they do not seek to overturn the state. Rather, DTOs are profit-driven, and Mexican DTOs seek "both market dominance and freedom from government interference."[137] Figure 2 contrasts between a traditional depiction of "oligarchic" influence spanning the entire country with a municipality-level depiction providing a more precise display of their influence.

[135] Alberto Lozano-Vázquez and Jorge Rebolledo Flores, "In Search of the Mérida Initiative: From Antecedents to Practical Results," in *Drug Trafficking, Organized Crime, and Violence in the Americas Today*, ed. Bruce M. Bagley and Jonathan D. Rosen (Gainesville, FL: University Press of Florida, 2015), 243–244.

[136] Coscia and Rios, *Knowing Where and How*.

[137] John P. Sullivan, "Future Conflict: Criminal Insurgencies, Gangs and Intelligence," in *Deviant Globalization: Future Conflict: Criminal Insurgencies, Gangs and Intelligence*, ed. Nils Gilman, Jesse Goldhammer, and Steven Weber (New York: Continuum International Publishing Group, 2011), 258.

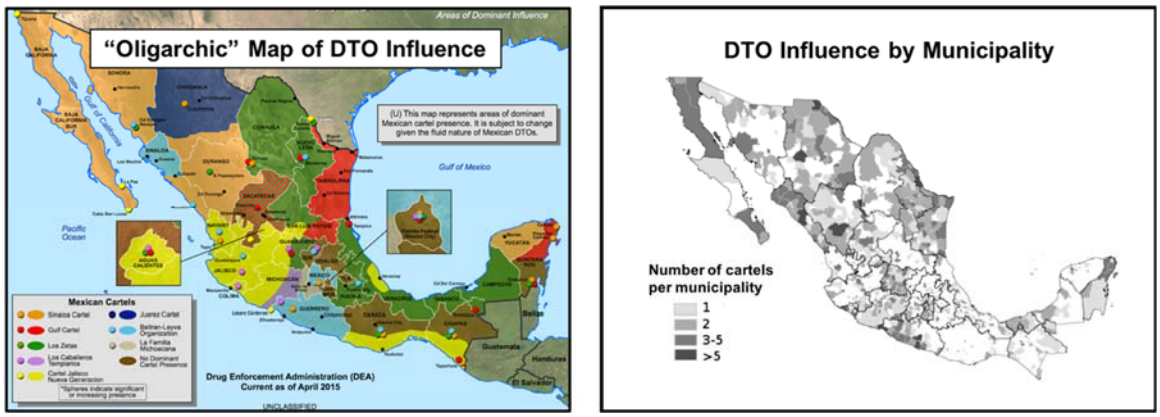


Figure 2. Divergent Depictions of DTO Influence[138]

Whereas the "oligarchic" map of DTO influence in Figure 2 depicts the traditional view of cartel influence over the entire country, the map of DTO influence by municipality demonstrates substantially different picture. In actuality, DTOs operated in only 713 of 2,441 (29 percent) of municipalities as of 2010.[139] This does not indicate a monopoly of force over the country. DTO presence has corresponded primarily ports of entry and transit routes, as shown in Figure 3.

[138] "'Oligarchic' Map of DTO Influence" source: U.S. Drug Enforcement Administration, *Mexican Cartels: Areas of Dominant Influence* (Washington, DC: U.S. Drug Enforcement Administration, 2015), http://www.storybench.org/wp-content/uploads/2016/01/dea-mexico-drugcartels.png;

"DTO Influence by Municipality" adapted from Coscia and Viridiana Rios, *Knowing Where and How*.

[139] Coscia and Rios, *Knowing Where and How*.

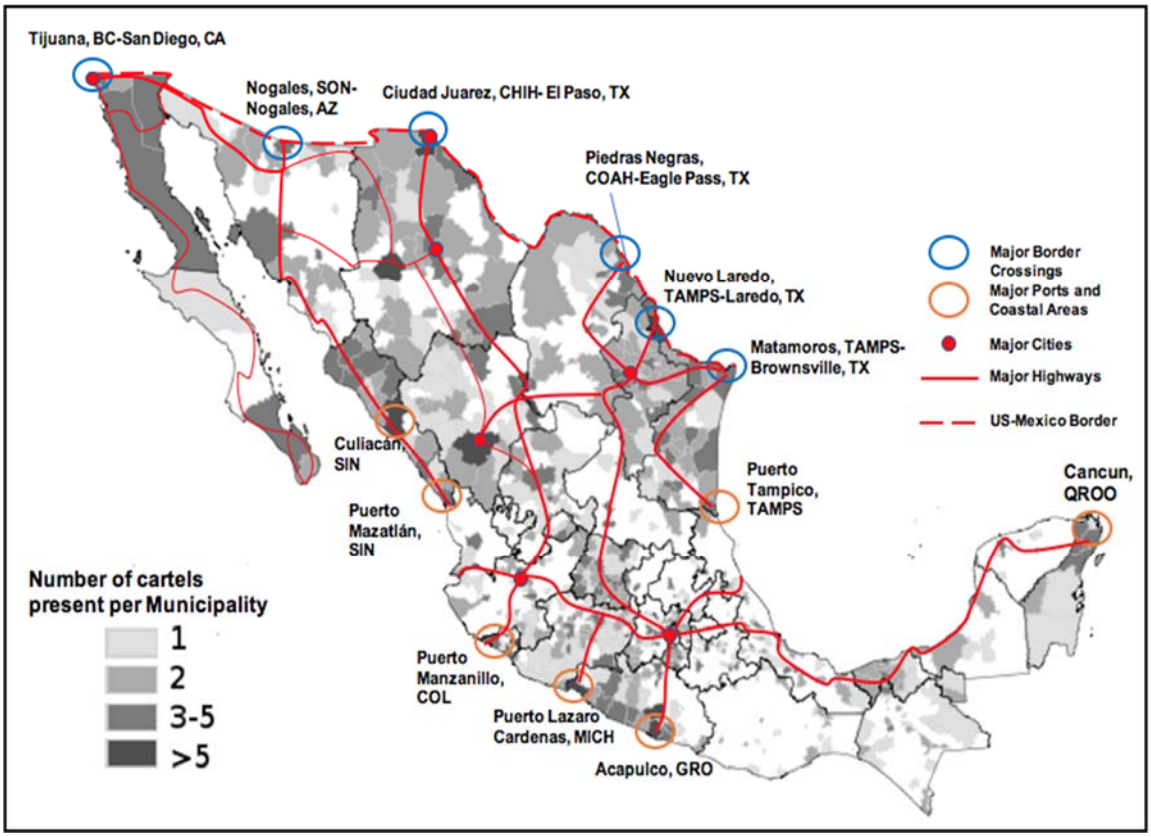


Figure 3. Cartel Influence and Significant Terrain, 2010[140]

Figures 2 and 3 demonstrate the variance in DTO presence and the importance of analyzing drug-related instability at the subnational level. Additionally, as I cover later in this chapter, Mexican state governments vary in their level of cooperation with DTOs, thereby affecting differences in DTO behavior by state. When specific territories or states are not explicitly named, my discussion on drug related instability refers to the areas Mexico with a cartel presence rather than the whole of Mexico.

C. ECONOMIC ENVIRONMENT: FREE MARKET CAPITALISM

Mexico's current economic environment vis-à-vis the United States is one characterized by free market capitalism. Although Mexico began formally applying aspects of economic liberalization after its 1982 debt crisis,[141] the bulk of its of its trade policy

[140] Adapted from Coscia and Rios, *Knowing Where and How*.

[141] Watt and Roberto Zepeda, *Drug War Mexico*, 54.

liberalization coincided with the ratification of the North American Free Trade Agreement (NAFTA) in 1994 with the United States and Canada. NAFTA represents a deregulation of trade and a large investment in physical and financial trade infrastructure between the United States and Mexico. Additionally, NAFTA has broadened logistical trade routes, streamlined U.S.-Mexico border crossing procedures, and opened up U.S.-based banking services to Mexican businesses.[142]

Although NAFTA has greatly increased the flow of trade between the United States and Mexico, it also increased the flow of drugs. An uptick in the number of commercial trucks crossing the border provided traffickers with smuggling opportunities on a scale that has reduced both the impact and deterrent effect of border inspections.[143] Access to U.S. banking services facilitated the laundering of drug money, allowing drug crime leaders to maintain lower profiles.[144] Deregulation applied to the Mexican economy as a whole has affected both licit and illicit markets. Therefore, the illicit market closely resembled the normal economic market in which DTOs sought to maximize profits and received capital from domestic and international investors.[145] DTOs have pursued economic expansion the licit sector; the Federal Bureau of Investigations reported in 1995 that DTOs had been buying up Mexican state-owned enterprises.[146] The U.S. Drug Enforcement Administration (DEA), which has also reported on many of the above trends, called "NAFTA a 'godsend' to drug trafficking."[147] Peter Andreas identifies the impacts of Mexico's market reforms on the drug trade in Table 5. As DTOs have become intertwined in the Mexican economy through licit ventures, singling out illicit market activities has become more complicated.

---

[142] Peter Andreas, "When Policies Collide: Market Reform, Market Prohibition, and the Narcotization of the Mexican Economy," in *The Illicit Global Economy and State Power*, ed. H. Richard Friman and Peter Andreas (Lantham, MD: Rowman and Littlefield, 1999), 125–142.

[143] Andreas, "When Policies Collide," 134.

[144] Watt and Zepeda, *Drug War Mexico*, 96.

[145] Andreas, "When Policies Collide," 130.

[146] Andreas, 131.

[147] Andreas, 134.

Table 5. Impact of Mexico's Market Reforms on Drug Trade[148]

Market Reforms	Impact
Trade liberalization	Increased trade flows (Colombia–Mexico–U.S.) provide cover for increased drug smuggling
Privatization	Increased opportunity for money laundering; narcoinvestment
Deregulation of trucking	Increased use of trucking for drug shipments within Mexico and into U.S. market
Foreign debt payments	Increased incentive to tolerate influx of drug revenues
Lower public sector salaries	Increased incentive to accept bribes
Financial liberalization	Increased opportunity for money laundering; narcosector and capital markets investment
Agricultural reform	Increased drug cultivation as a household survival strategy; possible increase in narcoinvestment in the countryside

U.S. influence has also played a significant role in the increase of drug flows. One can make the argument that in the years following NAFTA's 1994 initiation, NAFTA's economic benefits ranked higher on the U.S. agenda than did the war on drugs. The U.S. government had been well aware of NAFTA's destabilizing implications for the illicit market, yet prioritized the trade agreement at the expense of drug proliferation. Presidents George H. W. Bush and Bill Clinton "expressly prohibited members of the DEA and the U.S. Customs Service from raising the subject of drug trafficking as a likely outcome of NAFTA."[149] Mexico's relationship of complex interdependence with the U.S. has influenced the destabilizing impacts of its neoliberal reforms, both positive and negative.

[148] Andreas, 137.

[149] Watt and Zepeda, *Drug War Mexico*, 96.

D. PROHIBITION POLICY IN THE ECONOMIC ENVIRONMENT

While the free market has led to great wealth for some, it also renders the supply control policies of drug prohibition a catalyst of instability. The market's facilitation of increased drug flows has also indirectly contributed to the destabilization of Mexican society. Drug eradication and interdiction are implemented in the free-market environment has resulted in human rights abuses by the military, the funding of the drug war, and disparities in social opportunity and income.

1. International Pressure and Increased Militarization

International pressure presents a key reason why NAFTA-driven reforms have caused destabilization. Under pressure to follow the precepts of various United Nations (UN) conventions on illicit substances while maintaining a posture of free-market capitalism, Mexico is in a challenging position. Capitalism eschews market controls; counter-narcotics operations require them.[150] To fulfill UN requirements, which have been largely influenced by the United States, Mexico must maintain the "appearance" of criminalizing the cultivation, trafficking, and sale of narcotic substances and their precursor chemicals, lest it face sanctions.[151] Meanwhile, as the United States' third largest trading partner, it is in the best interest of Mexico's elites and the country as a whole to maintain an open economy.

To maintain a favorable trade relationship with the United States while holding a favorable position in the international community, Mexico has been required to reduce the economic regulation arm of its government with regard to the licit market while it has increased its military enforcement with regard to the illicit market.[152] This has skewed the political culture of Mexico toward the use of the military in non-military roles, which has also increased human rights violations. During President Felipe Calderon's *sextenio*, he "gave the Mexican military an assignment for which it was not trained, prepared, or

[150] Andreas, "When Policies Collide," 136.

[151] Andreas, 135–136.

[152] Andreas, 136.

equipped."[153] Trained to use deadly force in defense of national sovereignty, the military has allegedly overstepped its bounds while functioning as a domestic "keeper of the peace." The results have been far from ideal, as Grayson explains:

> Pollsters for *The Reforma* newspaper found that a majority of citizens (58 percent) and opinion leaders (67 percent) recognized that the army committed human rights abuses. Indeed, 72 percent of the latter claimed to have known a victim of some crime. At the same time, average people (81 percent) and elites (64 percent) favored deploying the armed forces against criminal organizations.[154]

2. The Futility of Eradication and Interdiction

Eradication and interdiction operations successful enough to raise the street price of drugs in the United States have essentially funded the drug war and incentivized DTO violence. Illicit drugs, especially heroin, tend to exhibit market demand that is more inelastic than normal products. Therefore, an increase in street price has a relatively minimal effect on consumer behavior.[155] That is, to an extent, drug consumers continue to purchase drugs regardless of price. Thus, traffickers reap increased revenues from the sale of drugs when governments implement prohibitionist policies. Since interdiction increases DTO risk of detection or incarceration, however, the extra revenues from the increase in price are often invested in risk-reducing protections—arms, security personnel, less detectable transit methods, market diversification, innovation, etc.[156] In short, increased DTO revenues indirectly resulting from interdiction and eradication fund the innovation, sophistication, and power projection of DTOs by which they continue and expand their destabilizing activities.

For a number of reasons, however, many eradication operations fail to affect street price. First, eradication disrupts the point in the supply chain where supply is the highest—isolated terrain with ideal growing conditions and multiple harvests per year by

---

[153] George W. Grayson, *The Cartels: The Story of Mexico's Most Dangerous Criminal Organizations and Their Impact on U.S. Security* (Westport, CT: Praeger, 2014), 155.

[154] Grayson, *The Cartels*, 136.

[155] Peter Reuter, ed., *Understanding the Demand for Illegal Drugs* (Washington, DC: National Academies Press, 2010), 20, https://www.nap.edu/read/12976/chapter/4.

[156] Reuter, *Understanding the Demand*, 27.

economically desperate farming communities often under coercion by DTOs[157]—and the demand is the lowest—Mexico's domestic drug demand does not approach levels in the United States. The value of illicit drugs skyrockets upon entering the United States because of the level of skill and expertise required to cross the border undetected and the willingness of U.S. consumers to pay a high street price.[158] Therefore, the interdiction and eradication of drugs prior to arrival in the United States tends to be of relatively little value, providing an insignificant increase in street price.

The lucrative supply chain valuation of illicit narcotics—heroin's value, for example, increases 170 times between farmgate and retail[159]—presents a primary problem in itself. In virtually no other industry can businesses match this type of profit margin. The high incentive to enter the drug market leads to a continual fight for increased market share and a constant stream of new entrants. Mexico's competitive geographical and political advantages as a drug corridor also guarantee a stream of drug flows by which to employ the labor pool.

3. Socioeconomic Effects of Eradication

Due to NAFTA-related reforms, a significant number of new entrants into the drug market have been Mexico's *campesinos*, or farmers. NAFTA has caused controversy in Mexico, a country with a strong national identity of sovereignty that had traditionally protected its domestic industry under a structure of Import Substitution Industrialization with great success during the "Mexican Miracle" era 1950s and 60s.[160] NAFTA phased out "subsidies, quotas, and other protective measures, [and] imports from the United States and Canada dealt a blow to farmers living on communal farms and small-scale independent

[157] Marten W. Brienen, "Bolivian Drug Policy under the Morales Administration," in *Drug Trafficking, Organized Crime, and Violence in the Americas Today*, ed. Bruce M. Bagley and Jonathan D. Rosen (Gainesville, FL: University Press of Florida, 2015), 207.

[158] Peter H. Smith, *Talons of the Eagle: Latin America, The United States, and the World* (Oxford University Press, 2013), 319.

[159] José Miguel Insulza, *The Economics of Drug Trafficking*, The Drug Problem in the Americas: Studies (Washington, DC: Organization of American States Office of the Secretary General, 2013), 20.

[160] Ai Camp, *Mexico: What Everyone Needs to Know*, 32–33.

producers who provided food to the domestic market."[161] The liberalization of trade meant closer ties with the United States, which exacerbated the anti-imperialist concerns of Mexico's dependencia theorists.[162]

The sense NAFTA's "violation" of Mexican sovereignty became publicly apparent on its implementation day, January 1, 1994. The National Liberation Army, a group of anti-imperialist Zapatista guerrillas from the southern state of Chiapas, publicly protested the free-trade accord.[163] The Zapatista uprising reflected Mexico's sensitivity interdependence on U.S.-driven economic policy. As a result of socioeconomic hardship, some farmers fled the south, migrating north to Mexico-U.S. border states in search of employment, while others remained but had no choice but to cultivate illicit crops to survive.[164]

In Mexico's free market environment, eradication operations do not affect the bottom line of cartels; rather, they diminish the livelihoods of poor *campesinos* disenfranchised under NAFTA and forced to grow illicit crops of out necessity.[165] This does not bode well for the legitimacy of the Mexican government in these rural areas. The only interaction with some rural citizens have with the government is the destruction of their livelihoods. The absence of government presence and the unfavorable perception of the government in remote cultivation areas has created a vacuum of legitimate authority that the DTOs often fill.

E. POLITICAL ENVIRONMENT: CENTRALIZED VERSES DECENTRALIZED GOVERNANCE

The fall of the Institutional Revolutionary Party (PRI) marked a major political shift in Mexican history. After holding a political hegemony at the national level for seven decades (1929–2000) and at the subregional level for about 50 of those years, the PRI

---

[161] Grayson, *The Cartels*, 214.

[162] *Dependencia* theorists, or *dependistas*, were preoccupied on Mexico's economic subjugation to the United States resulting from free-market capitalism. The literature review on complex interdependence in Chapter I provides further details.

[163] Smith, *Talons of the Eagle*, 217.

[164] Andreas, "When Policies Collide," 133.

[165] Andreas, 132.

began losing subnational elections in the late 1980s and eventually lost the national election in 2000. This represented more than simply the loss of power by a political party; it dissolved a political culture—a national system of endemic corruption.[166]

1. Centralization under the PRI

The most relevant characteristic of the PRI era with regard to drug trafficking has been the centralization of government power. The PRI exerted effective top-down partly control at all levels of government according to a centralized "code of conduct."[167] This meant limited autonomy for state and local governments. As a result, Mexico's government systems were relatively uniform and predictable. This stable code of conduct, albeit corrupt, pervaded into all aspects of government, including the rule of law.[168]

Drug traffickers enjoyed a stable and cooperative relationship with the Mexican government in the PRI era, particularly with the Mexican Secret Service (DFS). The traffickers provided financial kickbacks as well as intelligence on communist rebel groups to the DFS in return for free passage of drug movements.[169] The DFS also had the complicity of the United States at this time, which was predicated on the DFS's relationship with the Central Intelligence Agency (CIA). The DFS provided intelligence to the CIA on Mexico's subversive movements, while the CIA was interested in "defeating what they perceived to be the threat of Communism in the continent."[170] In return, the United States allowed drug trafficking to occur under the radar, at least until U.S. domestic drug use expanded post-Vietnam. The DFS aided the Guadalajara cartel's monopolization of the

---

[166] Ana De La O, "How Governmental Corruption Breeds Clientelism," in *Mexico's Evolving Democracy: A Comparative Study of the 2012 Elections*, ed. Jorge L. Domínguez et al. (Baltimore, MD: Johns Hopkins University Press, 2014), 185.

[167] Rios Contreras, *How Government Structure Encourages*, 76.

[168] Joy Langston, "The Birth and Transformation of the Dedazo in Mexico," in *Informal Institutions and Democracy: Lessons from Latin America*, ed. Gretchen Helmke and Steven Levitsky (Baltimore, MD: Johns Hopkins University Press, 2006), 144.

[169] Grayson, *The Cartels*, 28.

[170] Watt and Zepeda, *Drug War Mexico*, 29.

market and, through its connections with the CIA, facilitated U.S. access for DTO drug shipments.[171]

DTOs were less likely to use force against the state during the PRI era due to the threat of a strong state reaction. Since subnational governments were an extension arm of the central government, DTO use of coercion or force against any level of government level might have provoked a whole-of-government, coordinated response in the security and judiciary sectors.[172] Therefore, DTOs opted for cooperation and a low profile to minimize risk to their operations. In sum, the PRI era of centralized governance was one of *Pax Mafioso*, or peaceful DTO-state equilibrium.

The erosion of PRI dominance at the subnational level and finally at the national level at the end of the 20th century marked a significant shift from one-party rule to democratic elections in Mexico. While a necessary and positive step in Mexico's political development from the standpoint of advocates of progressive liberal democracy, the change disrupted the peaceful state-DTO equilibrium. Mexico's political system decentralized, shifting hard in the direction of federalism. Funding poured into state coffers and state legislatures gained increased control over laws in their territories.[173] In the pluralistic post-PRI political environment, the central government was no longer guaranteed political control over subnational politicians, nor could it provide an umbrella of protection for DTO against their rival DTOs.[174]

Territorially, Mexico's decentralization was neither homogeneous nor simultaneous. It was more radical in areas where governors and mayors exercised more influence over national level politicians or where the president lacked legislative support. With an electoral system more open to competition, "…leaders had to court votes from the peripheral areas and could no longer depend solely on support from elites in the center as

---

[171] Watt and Zepeda, 51.

[172] Rios Contreras, *How Government Structure Encourages*, 7.

[173] Stephan Haggard and Steven B. Webb, "Political Incentives and Intergovernmental Fiscal Relations: Argentina, Brazil, and Mexico Compared," in *Decentralization and Democracy in Latin America*, ed. Alfred P. Montero and David J. Samuels (Notre Dame, IN: University of Notre Dame Press, 2004), 265.

[174] Rios Contreras, *How Government Structure Encourages*, 173.

they had during authoritarian and military rule."[175] State-level politicians could now influence central government legitimacy to an extent. The structure of the Mexican taxation system was such that "…state officials play an important role in the enforcement of federal taxes."[176] If states opted out of collecting federal taxes and simply collected their own state taxes, other states might choose to do the same, which would upend the whole federal taxation system and shifting significant power in favor of the individual states.[177] In short, decentralization meant a shift in government power structure and autonomy in favor of some, but not all, subnational governments.

Corruption also became decentralized, taking place increasingly at the regional and local levels. The central government could no longer count on state-level support in the use of force or the prosecution of drug crimes, however, especially as an increasing number of state-level officials were benefitting from the drug trade. The central government's primary method of controlling the size of bribes was punishing the lower levels of government.[178] With the government's limited ability to punish drug crimes, or to protect DTOs from their rivals, DTOs became more brazen in their use of coercion and force against the state and in competition with each other for market share.[179] Figure 4 demonstrates that the locations inter-cartel murders in the 1990s were closely correlated with those in which the PRI lost subnational elections.

---

[175] Caroline C. Beer, "Electoral Competition and Fiscal Decentralization in Mexico," in *Decentralization and Democracy in Latin America*, ed. Alfred P. Montero and David J. Samuels (Notre Dame, Indiana: University of Notre Dame Press, 2004), 183.

[176] Haggard and Webb, "Political Incentives," 246.

[177] Haggard and Webb, 246.

[178] Rios Contreras, *How Government Structure Encourages*, 172.

[179] Rios Contreras, 172–173.

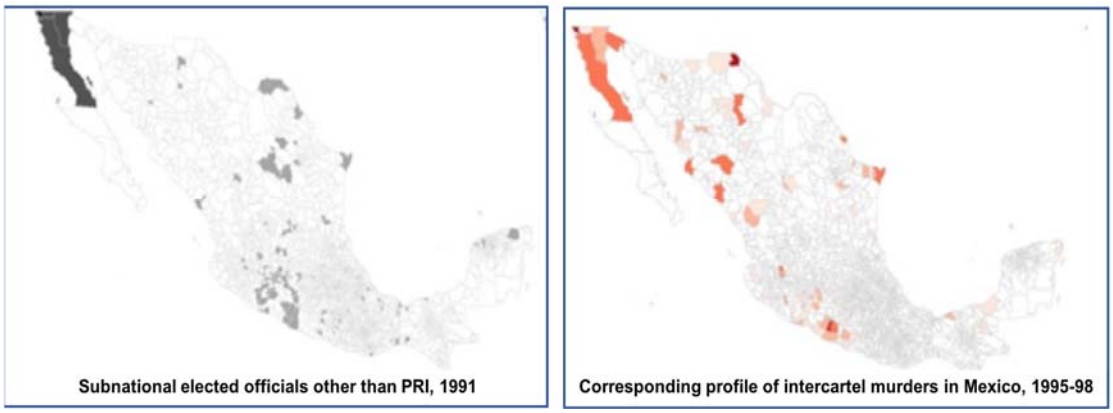


Figure 4. Geographical Coherence between Subnational PRI Losses and Intercartel Violence[180]

The structural shift in government power upended the previously stable relationship between DTOs and the Mexican state. The network of DTO-PRI corruption, assuring free passage of drug shipments, was now the prerogative of state governments, differing in their laws and levels of accountability to the federal government. However, DTO survival, short of directly challenging the state by force, still depended on corruption. Therefore, DTOs began to pursue relationships of corruption with new government jurisdictions, sectors, and personalities.[181] A once cooperative DTO environment became a competitive pursuit of market share and self-protection. Viridiana Rios observes this important link between decentralization and DTO competition, stating, "Decentralization increases the total demand for bribes, and the total amount of money that criminal groups need to pay to avoid prosecution."[182]

In sum, decentralization of governance structures resulted in higher systemic vulnerability to drug crime and therefore higher fragility. In contrast to the PRI era in which endemic corruption allowed for open trafficking corridors and relatively stable revenues, DTO revenues now depend on the ability of DTOs to corrupt or directly challenge each government sector or jurisdiction. The decentralized system has enabled DTO violence in

[180] Coscia and Rios, *Knowing Where and How*.

[181] Rios Contreras, *How Government Structure Encourages*, 173.

[182] Rios Contreras, 172.

this pursuit because levels of government no longer act cohesively; judicial and security crackdowns tend to be less predictively severe than in a centralized system. Additionally, a cartel which loses favor with one jurisdiction of government can survive by garnering favor with another.[183] The variation in Mexico's governance structure and its destabilizing effect on DTO behavior underscores the importance of analyzing Mexico at the regional level, not just the national level.

2. Additional Considerations: Stable Authoritarianism vs. Fragile Democracy

Although the PRI era was characterized by relative stability, its endemic clientelistic corruption undermined the very foundation of the rule of law. Under clientelism, government positions are granted on the basis of patronage rather than merit.[184] Therefore, the government does not depend on popular legitimacy for reelection and the public has no mechanism to hold the government accountable for its provision of public works and protections.[185] This government's incentives to provide public works and/or protections is reduced. Under clientelism, then, building of strong, accountable institutions and a healthy political process that are neglected. The social contract that characterizes state-society equilibrium is thereby distorted as formal institutions are infiltrated by informal institutions, essentially re-writing the "code of conduct" between state and society.[186] Should shocks occur to the corruption equilibrium, such as anti-corruption efforts or law enforcement crackdowns, state capacity to fulfill its core functions will diminish, giving rise to public grievance. In sum, corruption facilitates a fragile system susceptible to internal and external shocks. It countervails the strong institutions that facilitate a resilient system through an open and inclusive political process.

---

[183] Rios Contreras, 15.

[184] Flavia Freidenberg and Steven Levitsky, "Informal Institutions and Party Organization in Latin America," in *Informal Institutions and Democracy: Lessons from Latin America*, ed. Gretchen Helmke and Steven Levitsky (Baltimore, MD: Johns Hopkins University Press, 2006), 179.

[185] Stephen D. Morris, "Corruption and the Mexican Political System: Continuity and Change," *Third World Quarterly* 20, no. 3 (1999): 638, https://doi.org/10.1080/01436599913721.

[186] Flavia Van Cott, "Dispensing Justice at the Margins of Formality: The Informal Rule of Law in Latin America," in *Informal Institutions and Democracy: Lessons from Latin America*, ed. Gretchen Helmke and Steven Levitsky (Baltimore, MD: Johns Hopkins University Press, 2006), 250.

F. PROHIBITION POLICY IN THE POLITICAL ENVIRONMENT

Drug eradication and interdiction produced differing results under centralization vs. decentralization. The massive eradication campaign of Operation Condor (1975–1979) resulted in peaceful cooperation and expansion of the cartel network. In contrast, Felipe Calderon's *mano dura* (heavy handed) use of military force against DTOs in the early 2000s led to DTO fragmentation and violent competition. Mano dura also caused DTOs to diversify into other types of organized crime—primarily extortion and kidnapping—and this has exacerbated destabilization.[187]

1. Operation Condor

Operation Condor is a prime example of prohibitionist drug policy leading to peaceful cooperation in a centralized government system. Operation Condor was a major bilateral effort to eradicate marijuana and opium fields in the "Golden Triangle" of the Mexican states of Sinaloa, Durango, and Chihuahua,[188] primarily through aerial spraying. While the large-scale operation succeeded in temporarily reducing the Mexican supply of narcotics to the United States, it did little to deter DTO operations; rather, it strengthened them into a more capable and cooperative network. The more established DTOs were paid off government officials to avoid the spraying of their illicit crops.[189] DTOs innovated by decentralizing into smaller, more dispersed cultivation plots that were harder to detect. They also expanded into new cultivation areas such as the states of Veracruz and Chiapas.[190] As part of DTO territorial decentralization, in the late 1970s and 1980s the Guadalajara cartel split into four additional cartels—Sinaloa, Gulf, Tijuana, and

[187] Nathan P. Jones, *Mexico's Illicit Drug Networks and the State Reaction* (Washington, DC: Georgetown University Press, 2016), 87.

[188] Watt and Zepeda, *Drug War Mexico*, 41.

[189] Watt and Zepeda, 51. According to Daniel Brandt's article "Operation Condor: Ask the DEA," Mexico refused to let the United States fly over the spray zones to verify the extent of aerial spraying. See Daniel Brandt, "Operation Condor: Ask the DEA," Latin American Studies, December 10, 1998, http://www.latinamericanstudies.org/chile/condor.htm.

[190] Watt and Zepeda, *Drug War Mexico*, 41.

Juarez[191]—which cooperated peacefully in subordination to the Guadalajara cartel in a stage of *Pax Padrino*, or "peace of the Godfather."[192] Nathan Jones claims that the "drug networks learned their territoriality from…the DFS [which] organized them along territorial lines in the 1980s."[193] The peaceful and cooperative split led to a hierarchical cartel structure and role specialization among cartels that strengthened trafficking operations.

The permissive environment of corruption under the PRI regime facilitated cooperative intercartel and cartel-state relationships. These relationships allowed for cartels to assume specialized and complementary roles in the trafficking of drugs with minimal destabilizing "collateral damage" of the population. Cartels such as the Tijuana and Juarez headquartered near border areas became "toll-collectors"[194] and controlled access to the *plaza*, or key corridor for the transshipment of drugs into the United States.[195] To ensure revenue while minimizing the risk of government disruption, toll-collecting cartels required both the corruption of local authorities and the ability to prevent "freelance" smuggling through the plaza.[196] Both cartels and government were incentivized to maintain low profiles—cartels due to the risk of social backlash and government to protect against public perception of cooperation in the drug trade.[197] The synergistic working relationship between toll-collecting cartels and "trafficking" cartels, such as Sinaloa and Gulf that cultivated and transported product, produced relatively little violence among the population.[198]

---

[191] Rodrigo Nieto-Gomez, "The Geopolitics of Clandestine Innovation in the Drug Business," Medium, August 17, 2013, https://medium.com/@rodrigonieto/the-geopolitics-of-clandestine-innovation-in-the-drug-business-a07efe494035.

[192] Jones, *Mexico's Illicit Drug Networks*, 57.

[193] Jones, 53.

[194] June S. Beittel, *Mexico: Organized Crime and Drug Trafficking Organizations*, CRS Report No. R41576 (Washington, DC: Congressional Research Service, 2017), 27, https://fas.org/sgp/crs/row/R41576.pdf.

[195] Sullivan, "Future Conflict," 257.

[196] Jones, *Mexico's Illicit Drug Networks*, 54.

[197] Jones, 77.

[198] Rios Contreras, *How Government Structure Encourages*, 38.

2. Mano Dura

The post-PRI era has been characterized by cartel competition. Kingpin strategies under Felipe Calderon and Enrique Pena-Nieto have resulted in violent power vacuums and splintering of DTOs into smaller, competing factions.[199] Perhaps most notably, government crackdowns on corrupt politicians and police forces may have reduced the ability of cartels, particularly toll-collector cartels, to profit from drug trafficking.[200] Cartels in competition for market share have reacted to drug enforcement policies with violence and fragmentation. The DTOs reliance on other forms of organized crime, particularly kidnapping and extortion, has increased physical, political, economic, and social instability.

A comparison of the PRI and post-PRI eras presents a scenario in which the authoritarian system of governance under the PRI appeared to offer higher stability than that of post-PRI democratic rule. Relevant to this discussion is the role of institutions within state stability; the OECD claims the two are closely correlated.[201] Since institutions act as the administrative apparatus of the state, they represent the key character and shape of the state, regardless of regime. Although the PRI era resembled a form of temporary stability, its corrupt institutions were overly dependent on a specific political party and largely crumbled as a result of the regime change at the end of the 20th century. In contrast to the PRI era, Mexican governance in the post-PRI era has pursued stronger formal institutions. Although the shift toward democracy in the post-PRI era has appeared less stable, academics have hailed the building of strong formal institutions, such as "the rule of law, transparency, accountability, decentralization of power, and checks and balances, [as] the most effective means by which to combat organized crime."[202]

---

[199] Beittel, *Mexico: Organized Crime*, 24.

[200] Beittel, 25.

[201] OECD, *Concepts and Dilemmas*, 76.

[202] Jones, *Mexico's Illicit Drug Networks*, 77.

3. Concluding Thoughts on Political Economic Environment: DTO Behavior

Fundamental reforms, such as those experienced under NAFTA and those taking place after the fall of PRI hegemony described above, have changed the underlying "code of conduct" of state-DTO interaction. Therefore, they have also influenced both DTO and drug enforcement behaviors. Because fundamental reforms are usually a less common and more painstaking solution to drug-related instability than new counternarcotics policies, I hold the political economic environment as a constant in my analysis. My case study analyses primarily focus on counternarcotics policies applied within the environment as independent variables, while behavior and instability are dependent variable.

The above political economic discussion above provides valuable insight into the nature of DTO and drug enforcement behavior. It particularly highlights the key factors of revenue and risk which motivate relative shifts in DTO behavior (i.e., deviant innovation). While revenue is self-explanatory as the principle objective of DTOs, I argue that self-preservation, or "risk mitigation," is a key objective even outside of profit motive, and the drive for self-preservation hinges on risk. A view of the historical political landscape provides various examples of the threat state force as deterrence, indicating that DTOs innovate not only to maximize revenue, but also to minimize risk and maintain self-preservation. During the PRI era, the threat of unified government crackdown acted as a deterrent against DTO use of force. In the post-PRI case, the competition among DTOs to corrupt new sectors of the government rather than directly challenging the state indicates that the use of force still serves as a deterrent in some jurisdictions. The elements of both revenue and risk play a significant role in the following chapters' case studies.

G. STABILITY DYNAMICS OF MEXICO'S DRUG WAR

DTO and drug enforcement behaviors are the key medium of policy-stability interaction. So far, I have discussed prohibition policy's effect on behaviors. The remainder of this chapter analyzes the instability resulting DTO and drug enforcement behaviors. In the context of the state-DTO "code of conduct" created by Mexico's political economic environment, I now delve deeper into an analysis of specific DTO behavior. By "DTO

behavior," I refer specifically to crimes—both direct and indirect crimes—employed by DTOs to exploit their maximum advantage within a free-market economy and decentralized political environment. I identify and categorize the most common types of DTO crimes, discuss their interrelationships, and analyze their specific effects on instability in Mexico. I perform my analysis by placing DTO crimes within the state-society construct, demonstrating their effects on state incentives, societal expectations, state legitimacy, and the political process. I also identify other related factors and outcomes.

1. Direct versus Indirect Drug Crimes

Since different types of crime result in varying degrees of instability, identifying the links between each specific type of crime and its resulting instability is essential in policy-instability analysis. For simplification of analysis I separate DTO crimes into "direct" and "indirect" categories. I refer to drug-related crimes,[203] kidnapping, and extortion as "direct crimes" because they are associated directly with DTO revenues.[204] To continue existing, DTOs must produce revenue and are therefore always involved in at least one type of direct crime. Direct crimes are therefore interrelated in that a downturn in one type usually correlates with an expansion into others; in effect, cartels diversify to maintain operations. Although I acknowledge that DTOs are involved in a plethora of other types of direct crime, such as oil theft, "assassination for hire, auto theft, controlling prostitution… money-laundering, software piracy, resource theft, and human smuggling,"[205] I only draw on them as second-order factors in my analysis.

Indirect DTO crimes include homicide, bribery/corruption, and targeted state violence. While destabilizing, indirect crimes do not usually translate to direct revenue. Rather, they enable DTO operations by functioning primarily in the roles of risk reduction, efficiency, or increased market share. DTOs usually innovate, or progress, in the face of

---

[203] Institute for Economics and Peace, *Mexico Peace Index 2017*, 10. The IEP defines "drug-trade related crimes" as "production, transport, trafficking, trade, supply, or possession of drugs or other 'crimes against public health,' as they are termed in Mexican law."

[204] Except in the case of murder for hire, which translates to direct revenue.

[205] Beittel, *Mexico: Organized Crime*, 5.

shocks such as security crackdowns and during bids for increased market share. I posit that DTO innovation/progression manifests in at least one of the following actions: diversification, corruption, territorial shifts, technological advance, and/or defense. As DTOs struggle to survive and expand, the most common indirect crimes that I focus on in this section are homicide, corruption, and the use of force against the state. The specific type of indirect crime used by DTOs to shape their operations speaks to nature of their destabilizing relationship with the authorities and/or the population. As I discuss below, whether DTOs decide to diversify their activities, bribe the authorities, or use direct force against other cartels and/or the Mexican state will determine the extent or type of resulting instability.

2. Diversification of DTO Activities

When drug trafficking is not feasible, DTOs often diversify into other types of direct crime—particularly extortion or kidnapping—to sustain revenue. In contrast to drug trafficking, which often occurs under the radar, kidnapping and extortion increase direct interaction between DTOs and the citizen population, threatening citizen physical safety and economic well-being. The diversification of DTO activity away from drug trafficking into other types of organized crime is what I term *industry diversification*, and it is not only an example of deviant innovation in response to narcotics policy, it has been a key concern of the U.S. government in the war on drugs.[206] The ability of DTOs to diversify makes them resilient, innovating ahead of policy in order to sustain profits. Mexico's crackdowns on corruption during the Calderon and Peña-Nieto administrations restricted DTO access to certain drug corridors, increasing their diversification. Diversification has also been a key argument against marijuana legalization in the US.[207] I focus below on DTO

[206] Hriar Cabayan, "Executive Summary," in *The "New" Face of Transnational Crime Organizations (TCOs): A Geopolitical Perspective and Implications to U.S. National Security*, ed. Gary Ackerman (Washington, DC: Office of the Secretary of Defense, 2013), 8, http://hdl.handle.net/10945/30346.

[207] Glen Butler, "Combating Transnational Criminal Organizations in the Western Hemisphere: It, Too, Takes a Network," in *The "New" Face of Transnational Crime Organizations (TCOs): A Geopolitical Perspective and Implications to U.S. National Security*, ed. Gary Ackerman (Washington, DC: Office of the Secretary of Defense, 2013), 48, http://hdl.handle.net/10945/30346.

diversification into extortion and kidnapping as alternatives to trafficking, as they are both "activities that penetrate more deeply into the local social fabric."[208]

Extortion is very common in Mexico. Extortion is also linked to economic instability, as 160,000 Mexican businesses closed their doors in 2011 in response to organized crime.[209] COPARMEX, an employer's association, reported that "37 percent of Mexican companies in 2014 reported being victims of extortion, corruption, kidnapping, or robbery, most notably in Guerrero, Michoacán, and Tamaulipas."[210] Rios claims that extortion is the most economically damaging of DTO crimes.[211] Mexico's Citizen's Institute for the Study of Insecurity also reported in 2011 that extortion may go unreported up to 85 percent of the time.[212] Since extortion carries with it a threat of murder for noncompliance, it is also a citizen security issue. DTOs often use kidnapping as an indirect form of extortion, with the threat of captivity as collateral.[213] Although extortion targets the majority of Mexican businesses, kidnapping leans toward middle-class citizens, such as engineers or doctors, capable of generating significant ransom. However, kidnapping of members of the middle class is more likely to incite a social backlash. DTO targeting of Tijuana doctors for kidnapping is a prime example, and it resulted in the doctors' refusal to provide medical service to the police force until they addressed corruption.[214]

Direct crimes destabilize by threatening state legitimacy. When the state fails to protect the private property of the population, as with extortion, or the safety of the population, as with kidnapping, the state fails to meet society's expectations, and negative public perception grows. The OECD claims that public perception is directly related to state legitimacy.[215] However, indirect crimes also have a significant effect on state

---

[208] Kyle, *Violence and Insecurity in Guerrero*, 8.

[209] Ai Camp, *Mexico: What Everyone Needs to Know*, 19.

[210] Ai Camp, 19.

[211] Rios Contreras, 164.

[212] Hannah Stone, "How Extortion Rates Vary across Mexico," InSight Crime, September 12, 2011, https://www.insightcrime.org/news/analysis/how-extortion-rates-vary-across-mexico/.

[213] Jones, *Mexico's Illicit Drug Networks*, 63.

[214] Jones, 63.

[215] OECD, *Concepts and Dilemmas*, 17.

legitimacy, even though they often involve less of a direct interface with the population. Without legitimacy, the population does not respect the "rules" set forth by the government for society.[216] Legitimacy also facilitates the political process by which stability is restored through state-society equilibrium.[217]

Homicide has a particularly strong effect on state legitimacy. Since the majority of homicides represent intercartel violence, homicide destabilizes not only through direct victimization but also through *fear* of victimization.[218] DTOs contribute to public fear by gruesome public displays of murdered victims.[219] The Mexican state has also supported the media's display of graphic images to justify the use of state violence against violence.[220] The psychological impacts of homicide have therefore permeated the national psyche.[221] According to Latinobarometro, "crime and public security" surpassed "unemployment" in 2011 as Mexico's most important problem and has remained the most important since.[222] Additionally, according to an opinion poll by *El Universal* in late 2016, 71 percent of respondents felt that the government's "crackdown on organized crime is making the country less safe," and many citizens are prepared to take the law into their own hands.[223] This has led to the rise of vigilante groups, which has had questionable results with regard to stability.

---

[216] Luis Rubio, *A Mexican Utopia: The Rule of Law Is Possible* (Washington, DC: The Wilson Center, 2015), 114, https://www.wilsoncenter.org/sites/default/files/Mexican_Utopia_English.pdf.

[217] OECD, *Concepts and Dilemmas*, 17

[218] Deborah Bonello, "Perceptions of Security Worsen for Average Mexicans: Poll," InSight Crime, November 28, 2016, https://www.insightcrime.org/news/brief/perceptions-of-security-worsen-for-average-mexicans-poll/.

[219] Jones, *Mexico's Illicit Drug Networks*, 24;

Bonello, "Perceptions of Security Worsen for Average Mexicans."

[220] José Luis Cisneros, "Looks of Fear: A Reflection of Violence and Crime in Mexico," in *Using the "Narcotrafico" Threat to Build Public Administration Capacity between the US and Mexico*, ed. David H Rosenbloom and Roberto Moreno Espinosa (Boca Raton, FL: Taylor and Francis Group: CRC Press, 2014), 51.

[221] Bonello, "Perceptions of Security Worsen for Average Mexicans."

[222] "Latinobarometro Survey: Most Important Problem in Mexico, 2004–2017," Latinobarometro, 2015, http://www.latinobarometro.org/latOnline.jsp.

[223] Bonello, "Perceptions of Security Worsen for Average Mexicans."

3. Corruption

Corruption and its second order effects also threaten the state's legitimacy.[224] Corruption is usually covert because political reputation depends on an image of "non-corruption" in the public eye. This clean image becomes tarnished when corruption becomes too "obvious," such as press reporting of public officials found guilty of collaboration with organized crime or when known drug criminals repeatedly escape prosecution. In these cases, the government is delegitimized. Perhaps in no recent incidence was this more apparent than the disappearance of the 43 students in Ayotzinapa in 2014, which the population attributed to government corruption; the incident resulted in the evaporation of the Peña-Nieto administration's legitimacy.[225] INEGI's ENVIPE survey reports that the number of Mexicans concerned with impunity doubled between 2012 and 2016.[226] Survey results also reflect the sensitivity of popular opinion to corruption. Whereas some segments of the population are desensitized to the daily occurrence of homicide,[227] reports of corruption are much less common.

Under what circumstances would the Mexican government choose to forego lucrative bribes to build strong institutions and provide public goods, services, and protections for its citizens? Taking into account the lucrativeness of Mexico's drug trade and the constancy of drug flows through Mexico due to its global competitive advantage as a trafficking corridor, this question is very relevant. The question is also pertinent because corruption has become ingrained and accepted within Mexico's political culture.[228] With regard to drug-related instability, the Mexican government has historically

---

[224] Stephen D. Morris, "Corruption and Democracy in Mexico at the State Level," in *Corruption and Democracy in Latin America*, ed. Charles H. Blake and Stephen D. Morris (University of Pittsburgh Press, 2009), 175.

[225] "Ayotzinapa: A Timeline of the Mass Disappearance That Has Shaken Mexico," Vice News, September 25, 2015, https://news.vice.com/article/ayotzinapa-a-timeline-of-the-mass-disappearance-that-has-shaken-mexico.

[226] Jose Luengo-Cabrera and Tessa Butler, *Impunity in Mexico: A Rising Concern* (Sydney, Australia: Institute for Economics and Peace, 2017), https://justiceinmexico.org/impunity-mexico-rising-concern/.

[227] Cisneros, "Looks of Fear," 52.

[228] Grayson, *The Cartels*, 213.

been motivated toward a healthy political process by a number of different factors, two of the most pertinent being social backlash and international pressure.

Social backlash in Mexico has manifested in the formation of vigilante groups and/ or social protests. In one example mentioned earlier in this section, social backlash occurred when DTOs targeted the families of doctors in Tijuana for kidnapping, and the doctors therefore refused to provide healthcare to the local police force until they addressed the problem. Social backlash has historically motivated the Mexican government. The prolonged lack of state will or capacity to address public grievance will lead to an "exit strategy" by citizens, by which they abandon trust in the state and turn elsewhere, often to organized crime, for protections and public goods.[229] International pressure to address the drug problem, usually advocated by the United States and the UN, has also motivated judicial and security sector reforms. Nathan Jones claims, "It was only in situations where the interests of the United States were harmed that the Mexican government arrested major drug network figures and restructured its security apparatus to combat traffickers."[230]

H. SUMMARY AND CONCLUDING THOUGHTS

This chapter serves three functions within the scope of this thesis. First, it describes the underlying economic and political environments in which DTO activities take place. Second, it provides a historical foundation for the DTO and drug enforcement behaviors resulting from prohibitionist drug policy. Third, it examines the types of instability likely to result from the identified behaviors.

Mexico's evolving political economic landscape has caused shifts in DTO and drug enforcement behavior, which has in turn affected Mexican stability. Mexico's current political economic environment of decentralization and free-market capitalism affects DTO revenue and risk, facilitating DTO expansion, competition, and fragmentation. Decentralized governance has caused a shift from an environment of uniform, predictable

[229] John Bailey, "Drug Traffickers as Political Actors in Mexico's Nascent Democracy," in *The Oxford Handbook of Mexican Politics*, ed. Roderic Ai Camp (New York: Oxford University Press, 2012), 466–496.

[230] Jones, *Mexico's Illicit Drug Networks*, 77.

state-DTO relationships to one of uncertainty. A competitive environment for securing new avenues of government corruption has thus emerged between DTOs to facilitate organized crime. DTO competition, combined with the market flexibility afforded by free-market capitalism, has therefore facilitated a fast-changing environment in which DTOs shift behaviors to maintain revenue and decrease risk. DTOs have diversified into new illicit markets and industries to maintain profits, while turning to protections in the forms of bribery and force to reduce risk.

Militarized prohibition policy has equated to shifts in drug enforcement behavior, also coinciding with a significant uptick in instability. Militarized drug enforcement has coincided with increased allegations of military human rights violations, and eradication has damaged the livelihood of Mexico's impoverished agricultural class, while DTOs have remained largely unscathed. These drug enforcement actions have diminished government legitimacy and thus hindered the political process by which stability is maintained. Interdiction and kingpin operations have caused splintering and power vacuums within and between DTOs, thereby increasing DTO risk and contributing to DTO competition. Public health crises and drug-related social backlash in the United States have also coincided with U.S. pressure and support for militarized policy in Mexico.

The policy-behavior dynamics discussed in this chapter provide the foundation for the drug policy-behavior model developed in Chapter III. Chapter III explores the likely behaviors resulting from alternative drug policies and incorporates them into the model along with this chapter's identified web of behavioral interactions. Discussion of the dynamics of stability associated with DTO and law enforcement behaviors in this chapter also provides a basis for Chapter V's quantitative analysis of Mexican stability.

III. THE DRUG POLICY BEHAVIOR NEXUS

Alternative drug policies in the United States and Mexico affect the behavior of DTOs and drug enforcement regimes, which in turn changes the nature of Mexican instability. The unifying thread of analysis in this thesis is the causal sequence in which alternative drug policy affects DTO and drug enforcement behavior, which in turn affects Mexican stability. Succinctly stated, *(1) drug policy ⇒ (2) resulting behaviors ⇒ (3) stability/instability*, as expounded upon in Figure 5, the drug policy-behavior model. Chapter II provided historical evidence for the links between (1) and (2) as well as (2) and (3) in Mexico's evolving political economic environment. Since (1) has shifted with the introduction of alternative policy, I argue that in the context of Mexico's political economic environment, (2) and (3) have also shifted. To explore the fundamental question of my study, which is essentially the link between (1) and (3), I must place recent alternative drug policies into the context of historical patterns of DTO and drug enforcement behaviors and their destabilizing effects.

This chapter examines the link between (1) "alternative drug policy" and (2) "possible resulting behaviors" qualitatively. The viewpoints presented and supported by literature on alternative policy effects are by no means "fact," and the forecasting of outcomes is tricky due to unforeseen or unaccounted-for variables.[231] Identifying viewpoints of current and possible future policy outcomes therefore serves only as a baseline for deeper examination. A key limitation in the above-mentioned causal sequence is its unidirectionality. In reality, (2) resulting behaviors also affect (1) drug policy, and (3) stability/instability affects both (2) and (1).

A. DRUG POLICY BEHAVIOR MODEL

Figure 5 accounts for the cyclical dynamics between the three elements of the causal sequence, as each causal chain ends in an iterative loop back to some previous step

[231] Rodrigo Nieto-Gomez, "A Director of the Present? Nowcasting Homeland Security's Challenges," *Homeland Security Affairs* XIV (2018), https://www.hsaj.org/articles/11952.

in the chain. It also identifies the points at which domestic and/or international perception of the Mexican government are likely to change, which may increase or decrease the likelihood of policy reform. This, of course, is contingent on the level of sensitivity of the Mexican government to changes in domestic and international opinion. The interdependent causal relationships between drug policy and its resulting behaviors are highlighted in Figure 5.

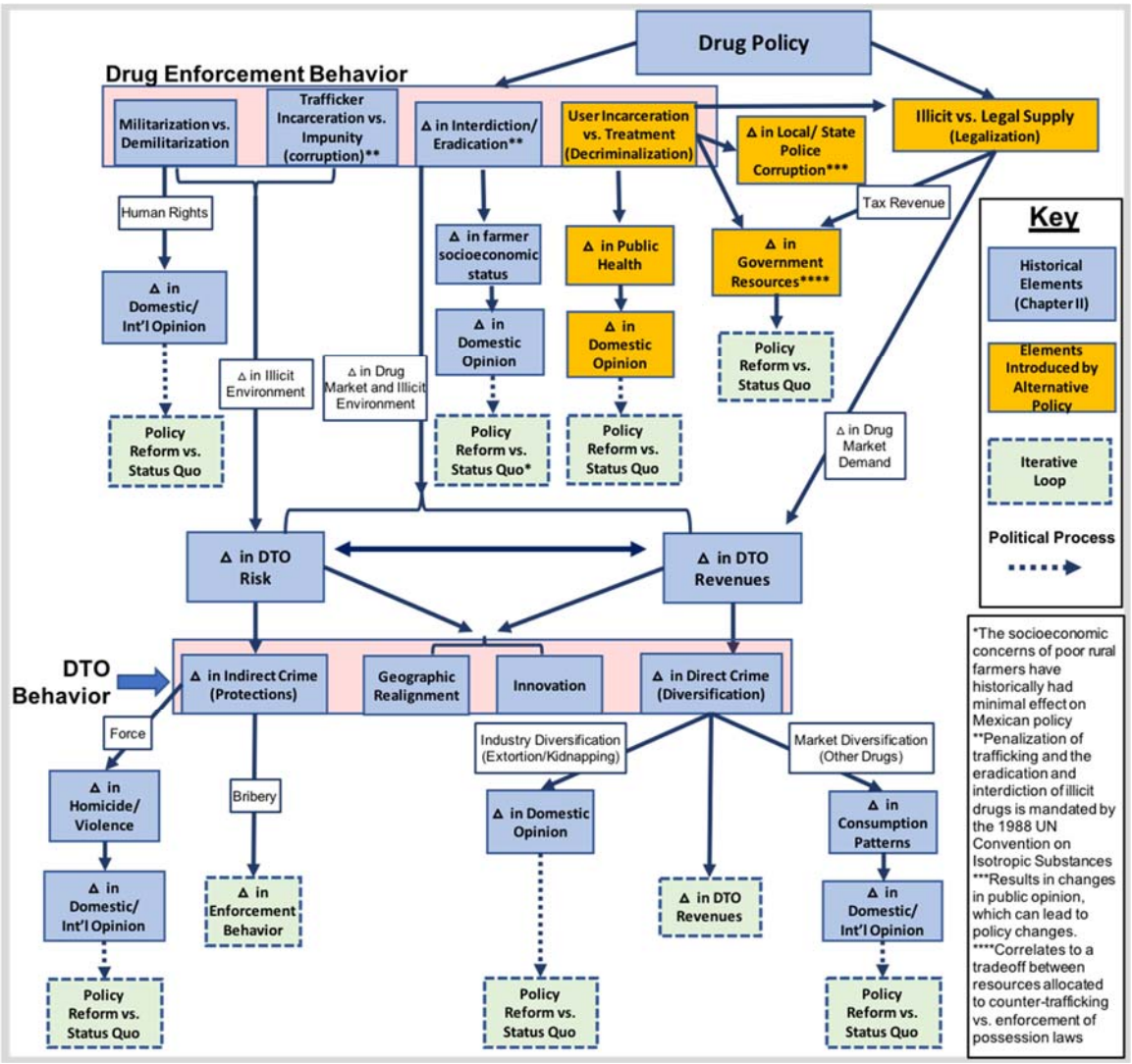


Figure 5. Drug Policy Behavior Model

From the historical examples presented in Chapter II, a drug policy's two most common behavioral effects are shifts in drug enforcement behavior and shifts in DTO behavior. The two are interdependent. Changes in drug enforcement behavior affect DTO incentives, causing adaption and innovation. Conversely, DTOs also influence drug enforcement behavior by facilitating corruption through bribery or inciting a militarized response when using force against the population or the state.

Figure 5 places the DTO and drug enforcement behavioral elements in the context of a complex web of interrelationships while also incorporating elements of alternative policy. The blue elements represent the causal relationships identified in Chapter II's historical analysis. The orange elements are those unique to the alternative policies of legalization and decriminalization. Each causal chain of behaviors and effects terminates in a point of iterative feedback, as represented by the green elements.

1. Uncertainty in Likelihood of Policy Reform

The interaction between domestic opinion and drug policy reform essentially represents the political process and aligns with the political process of negotiation between the population and the state as displayed in the OECD stability model in Chapter I. All causal paths in the policy-behavior model eventually lead to either drug policy reform or a reinforcement of policy status quo. Therefore, one key assumption in the model is that public opinion and/or international opinion can motivate drug policy reform. However, as mentioned above, the likelihood of reform depends on the sensitivity of the Mexican government to domestic and international opinion. The Mexican government has not historically demonstrated sensitivity to the socioeconomic plight of *campesinos*, as evidence by its eradication operations, for example. Rather, the government has responded to some instances of public opinion more than others.[232]

[232] While a deep analysis of the likelihood of reform is beyond the scope of this study, Chapter II touches on the incentives underscoring government reaction to the illicit environment. Additionally, Nathan Jones provides a detailed discussion of the Mexican government's reaction to drug-related instability in the book *Mexico's Illicit Drug Networks and the State Reaction*.

Like any government, the Mexican government must also balance domestic pressures with international pressures; the two do not always align. The domestic population has historically been sensitive to DTO violence, human rights violations, public health, and changes in socioeconomic status. Eradication and interdiction operations are staples of prohibition policy that have contributed to widespread instability. However, the 1988 UN Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances requires that signatories take measures to combat "cultivation, trafficking, and consumption of 'illegal drugs.'"[233] The fact that the Mexican government continues to engage in interdiction and eradication may indicate that the government values international legitimacy over domestic legitimacy. Thus, international law pushes Mexico in the direction of trafficker incarceration and eradication and interdiction, or at a minimum, the appearance of such operations. The United States will also likely put pressure on Mexico to conduct eradication and interdiction when the U.S. domestic population raises its voice as to a public health issue, as in the current opioid crisis.

2. Shifts in DTO Behavior

As depicted in the policy-behavior model, DTOs change behavior in response to two stimuli: changes in revenues and changes in risk. In this section, I describe some of the possible manifestations of DTO behavior in response to these stimuli based on the dynamics of DTO behavior described in literature. The possible behavioral outcomes are incorporated within the policy-behavior model.

a. Drug Market Shocks

As described in Chapter II, DTO behavioral shifts are usually caused by drug market shocks, which affect DTO revenues, or shocks to the illicit environment, which affect DTO risk. DTOs exist to make profit and will therefore always be involved in some sort of profit-making activity or "direct crime," such as drug trafficking, kidnapping, extortion, human trafficking, etc. On the other hand, DTO risk spurs DTOs toward "indirect

[233] Deare, "Security Implications,"103.

crime" in which they minimize risk by reshaping the illicit environment in their favor. Legalization of marijuana is a prime example of an effector of drug market shocks, analyzed later in this chapter.

b. Types of Diversification

If market shocks prevent DTOs from sustaining profits through drug trafficking, DTOs will attempt to traffic other drugs (i.e., *market diversification*) or shift to other types of "direct crime" (i.e., *industry diversification*). An expansion or relative shift from marijuana to heroin trafficking typifies market diversification. A shift from marijuana trafficking to another industry such as extortion, for example, depicts industry diversification.

I argue that specifying between diversification types is important because each type affects stability differently. I claim that industry diversification usually corresponds to a greater behavioral shift than market diversification. Although market diversification from marijuana to heroin trafficking may cause shifts in border smuggling (e.g., through ports of entry versus between ports of entry based on differences in the concealability of each drug) the two drugs are still grown in many of the same territories and will use many of the same trafficking routes within Mexico and the United States. This is true in the case of marijuana and heroin grown in the Mexican state of Guerrero.[234] Marijuana and heroin cultivation and trafficking will therefore likely carry similar destabilization profiles. On the other hand, diversification from the marijuana trafficking industry to extortion could potentially diminish in relative importance trafficking routes and border areas, essentially causing geographic shifts in instability. A shift to extortion may also increase social and economic instability due to the extent which extortion penetrates the local levels of the population.[235]

---

[234] Kyle, *Violence and Insecurity in Guerrero*, 12.

[235] Kyle, 28.

c. Indirect Crime

As discussed in Chapter II, indirect crime usually manifests in either bribery or violence. As shocks to the illicit environment occur, such as changes in illicit narcotic demand, the capture of a DTO kingpin, or shifts in drug enforcement methods, the uncertainty initially occurring within the illicit power structure manifests in instability. DTOs seek protections in the form of bribery or violence to maximize revenues and minimize risk during this period. Bribery is essentially a DTO's pursuit of a cooperative relationship of corruption with the government in which the government offers access and protection for DTO operations in return for some type of payment.

Violence is often inversely proportional to bribery. It can represent a direct challenge to the state whereby cooperation in the form of corruption is not possible or when government protections are not required. DTOs also use violence against other DTOs or the population to increase their territory or intimidate would-be challengers.[236] Indirect crimes have a particularly poignant effect on public perception of the government; low legitimacy retards a healthy political process that facilitates stability.

3. Shifts in Drug Enforcement Behavior

Drug enforcement behavior shifts are primarily determined by drug policy, which specifies the parameters of the enforcement efforts. Drug enforcement effects DTO behavior as well as domestic and international opinion. Changes in drug enforcement present changes DTO risk. Drug enforcement also directly affects popular perception through its enforcement of drug possession laws and the type of tactics used in countertrafficking operations.

a. Drug Enforcement Effects on DTO Behavior

Drug policy is closely related to drug enforcement behavior because enforcement methods are often specified within policy. In turn, shifts in enforcement behavior cause

[236] Benjamin Lessing, *Making Peace in Drug Wars* (University of Chicago: Cambridge University Press, 2018), 59–64.

shifts in DTO behavior because they alter the code of conduct between law enforcement and DTOs. The prospect of drug enforcement militarization presents a risk to DTO survival.[237] The corruptibility of drug enforcement also significantly aligned with DTO risk, as witnessed in the post-PRI era instability caused by traffickers seeking new avenues of government corruption. The scope of interdiction operations also affects DTO risk of arrest and incarceration, while eradication of cultivated plots can potentially affect revenues.

b. Drug Enforcement Effects on Domestic and International Opinion

Drug enforcement behavior also affects domestic and/or international opinion through its effects on levels of public violence, public health, or socioeconomic status. The level of militarization prescribed by drug policy in Mexico has historically correlated to public violence. Calderon's *mano dura* policy beginning in 2006 allocated military force domestically to counter narcotraffickers, causing a vast uptick in reported human rights violations. Human rights violations are especially detrimental to public opinion and are prone to strong international condemnation. While militarized drug enforcement policy does not necessarily equate to human rights violations, a prescribed drug enforcement role among the population is very susceptible to abuses due to the mentality and training of military forces.

Additionally, enforcement behavior under decriminalization has the potential to divert some of the would-be drug convicts to treatment programs in lieu of prison, and this positively affects public health and therefore the social fabric of the population. Decriminalization policy can also increase incarceration level, however-particularly with regard to Mexico's laws, as I explain in subsequent sections. Finally, enforcement effects the population's socioeconomic status. Cultivators of illicit crops—specifically, impoverished, disenfranchised farmers or *campesinos*—whose survival depends on illicit cultivation suffer economic distress as a result of eradication operations, while DTOs are only minimally affected.

[237] Jones, *Mexico's Illicit Drug Networks*, 110.

4. Effect of Behaviors on Government Revenue

Lastly, both legalization and decriminalization affect government revenue, either by shifting its levels it or allowing it to be re-prioritized. The United States receives substantial revenue, for example, from its taxing of state-legalized marijuana.[238] Decriminalization policy may increase or decrease government revenue depending on the nature of the policy. In the Decriminalization section below, I discuss the significance of the different government revenue outcomes related to differences in Mexican vs. Portuguese decriminalization policy. Although there is no guarantee that a government will reinvest its drug policy revenues into drug policy enforcement or administration, I argue that the level of government resources affected by counternarcotics policy is significant because it may increase or decrease government incentive to invest in future policy.

B. MARIJUANA LEGALIZATION

This section examines how marijuana legalization in the United States has affected DTO behavior in Mexico. The legalization of marijuana in some U.S. states has affected the profits of DTOs, which in turn has caused shifts in DTO behavior. Legalization has made the North American marijuana market more competitive due to an influx of suppliers. DTOs that have lost profits in the more competitive market are likely to pursue profits elsewhere, which equates to diversification—diversification across different drug markets within the trafficking industry as well as into additional industries of organized crime.

1. What Legalization Looks Like in North America

Marijuana legalization manifests in two basic forms in North America, medical and recreational. As previously mentioned, trafficking, consumption, and cultivation of illicit drugs is illegal under international law.[239] The most recent of the conventions, the 1988

[238] Katie Zezima, "Study: Legal Marijuana Could Generate More Than $132 Billion in Federal Tax Revenue and 1 Million Jobs," *Washington Post*, January 10, 2018, https://www.washingtonpost.com/national/2018/01/10/study-legal-marijuana-could-generate-more-than-132-billion-in-federal-tax-revenue-and-1-million-jobs/?utm_term=.e074ac9b9065.

[239] Deare, "Security Implications," 103.

UN Conference for the Adoption of a Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances, required signatories to actively prevent the above-mentioned offenses in in the name of "the stability, security, and sovereignty of nations."[240] For this reason the U.S. federal government cannot legalize marijuana cultivation, transport, or sale.

Additionally, supremacy clause of the Constitution also declares the subordination of U.S. state laws to federal law.[241] There are various limitations in the supremacy clause, however, which preclude the U.S. federal government from banning state marijuana legalization. Primary in these limitations is anticommandeering, in which the federal government "cannot require states to enforce federal laws with their own resources."[242] The underscores the reality that the enforcement of antimarijuana laws requires government resources that are beyond the current scope of federal capacity. The federal government can incentivize states to enforce policies through the withholding of federal funds; however, removing funds from state officials would only cripple manpower available for law enforcement.[243] In a 2011 study on marijuana legalization, Joe Shipley clarifies, "as long as federal law does not preempt state law, the state law is not preempted by international law,"[244] and therefore international law does not apply directly to states. In essence, federal governments can only be held responsible internationally with regard to elements of law that they can feasibly affect.

California was the first state to legalize medical marijuana in 1996 and Colorado and Washington were the first to legalize recreational marijuana in late 2012.[245] As of March 2018, 29 U.S. states and the District of Columbia have legalized medical marijuana,

---

[240] Deare, 104.

[241] Robert A. Mikos, "On the Limits of Federal Supremacy: When States Relax (or Abandon) Marijuana Bans," *Policy Analysis*, no. 714 (December 2012): 1.

[242] Joe C. Shipley, "What Have We Learned from the War on Drugs? An Assessment of Mexico's Counternarcotics Strategy" (master's thesis, Naval Postgraduate School, 2011), 50.

[243] Shipley, "What Have We Learned," 50.

[244] Shipley, 52.

[245] Sarah Trumble, "Timeline of State Marijuana Legalization Laws," Third Way, 2018, https://www.thirdway.org/infographic/timeline-of-state-marijuana-legalization-laws. See Figure 12 in Chapter IV for a full timeline of US marijuana legalization laws.

while eight states and the District of Columbia have legalized recreational marijuana.[246] Whereas Mexican-grown marijuana traditionally supplied the majority of the U.S. market, U.S. states that have not legalized currently receive high quality surplus product from legalized states on the grey market.[247] Meanwhile, Mexico legalized medical marijuana in July 2017; the prospect of recreational legalization is under review.[248] However, since U.S. consumption of marijuana is far greater than that of Mexico, I base my study of U.S. legalization on how it affects Mexican stability—particularly through shifts in DTO revenues.[249]

2. Possible DTO and Drug Enforcement Responses to Legalization

The DTO response to legalization is likely to be diversification from marijuana trafficking into other direct crimes. An array of literature supports DTO diversification in response to price shocks caused by the entry of legal marijuana cultivators into a highly innovative U.S. marijuana market.[250] Legal cultivators have essentially reshaped the North American market. A key factor for the legal U.S.-cultivated marijuana market takeover is the high purity levels of U.S. *sinsemilla*, which is about twice as potent in

---

[246] Trumble, "Timeline of State Marijuana Legalization Laws."

[247] Brian Hutchinson, "Black Market to Grey," *National Post*, accessed October 15, 2017, http://nationalpost.com/features/o-cannabis-black-market-to-grey.

The Consumerist article "What is The Gray Market, and Why Should I Care?" states that "The gray market consists of people selling things that aren't really illegal, but that haven't been imported legally, either." This applies to surplus marijuana in the United States that has been produced legally, but has been illegally transported and sold in non-legalized states. Laura Northrup, "What Is the Gray Market, And Why Should I Care?," *The Consumerist*, last updated May 10, 2017, https://consumerist.com/2013/05/09/what-is-the-gray-market-and-why-should-i-care/.

[248] Erickson, "Mexico Just Legalized Medical Marijuana."

[249] United Nations Office of Drugs and Crime, *UNODC World Drug Report, 2011* (New York: United Nations Office of Drugs and Crime, 2011), https://www.unodc.org/documents/data-and-analysis/WDR2011/World_Drug_Report_2011_ebook.pdf. See the 2011 UNODC World Drug Report for data. As of 2011, the latest year for data in Mexico, Mexico had about 1.5 million consumers of marijuana, whereas the U.S. had approximately 50 million.

[250] Kevin Yamazaki, "High Tech: How Marijuana Legalization Breeds Innovation," *Observer*, March 27, 2017, http://observer.com/2017/03/high-tech-how-marijuana-legalization-breeds-innovation/.

tetrahydrocannabinol (THC) content as Mexican "block weed" and therefore more desirable to consumers.[251]

Another factor in U.S. market takeover is the over-supply of legally grown product in the United States, which has forced marijuana prices down and spurred innovation among cultivators who have invested in bulk production and niche markets.[252] For example, the retail price of recreational marijuana in Washington state fell from $25 or $30 per gram in 2013[253] to about $7.45 per gram at the end of December 2017.[254] The large quantity of surplus product also incentivizes licensed cultivators to illegally sell product in nonlegalized states and on the grey market.[255] Rand Corporation authors Kilmer et al. postulate that perhaps the most important threat to DTO marijuana revenues is the threat of legally-grown product in the United States diverted to other states, usurping the DTOs' marijuana market.[256]

The phenomenon of DTO diversification due to marijuana legalization receives broad support from academics and news agencies. Shifts in DTO activity have included market diversification (other drugs) and industry diversification (other types of organized crime). A 2018 Justice in Mexico report states that "drug trafficking organizations are diversifying their activities and attempting to cover their losses by ramping up exports of

---

[251] Beau Kilmer et al., *Appendixes: Reducing Drug Trafficking Revenues and Violence in Mexico: Would Legalizing Marijuana in California Help?* (Santa Monica, CA: Rand International Programs and Policy Research Center, 2010), 7.

[252] Thomas Fuller, "Marijuana Goes Industrial in California," *New York Times*, April 15, 2017, https://www.nytimes.com/2017/04/15/us/california-marijuana-industry-agriculture.html.

[253] Heidi Groover, "Prices Fall as Washington State Weed Growers Produce More Pot Than Can Be Sold," The Stranger, January 8, 2015, https://www.thestranger.com/slog/archives/2015/01/08/prices-fall-as-washington-state-weed-growers-produce-more-pot-than-can-be-sold.

[254] Lester Black, "Washington Just Harvested Its Biggest Legal Weed Crop Ever. Is That a Problem?," The Stranger, December 19, 2017, https://www.thestranger.com/slog/2017/12/19/25639625/washington-just-harvested-its-biggest-legal-weed-crop-ever-is-that-a-problem.

[255] Black, "Washington Just Harvested."

[256] Kilmer et al., "Appendixes: Reducing Drug Trafficking," 19.

heroin, cocaine, and other 'hard' drugs."[257] In January 2018, the *Los Angeles Times* reported,

> Widespread legalization in the U.S. is killing Mexico's marijuana business, and cartel leaders know it. They are increasingly abandoning the crop that was once their bread and butter and looking elsewhere for profits, producing and exporting drugs including heroin and fentanyl and banking on extortion schemes and fuel theft.[258]

NPR mentioned in 2014 that the Sinaloa cartel was smuggling high-quality U.S. marijuana from Colorado southward into Mexico.[259] The article also mentions that Sinaloa is diversifying and "pushing more cocaine, meth and heroin."[260] Diversification also has historical roots within organized crime behavior. Donald E. Klingner relates marijuana legalization to the Prohibition era, stating that the same organizations that trafficked alcohol in the 1920s switched to marijuana in the 1930s.[261]

In addition to diversifying across the drug trafficking market, evidence supports that DTOs also diversify into other organized crime industries. The Congressional Research Service reported in 2017 that "the major DTOs and new crime groups have furthered their expansion into such illicit activity as extortion, kidnapping for ransom, and oil syphoning, posing a governance challenge to President Peña-Nieto as daunting as that faced by his predecessors."[262] Based on news reporting and academic analysis, extortion and kidnapping are especially common in DTO diversification. *Vice News* claims that kidnapping and extortion are among the most common crimes associated the fallout of

---

[257] Laura Calderón, Octavio Rodríguez Ferreira, and David A. Shirk, *Drug Violence in Mexico: Data and Analysis through 2017* (San Diego, CA: University of San Diego Department of Political Science & International Relations, 2018), 47.

[258] Kate Linthicum, "With U.S. Competition Hurting Its Marijuana Business, Mexico Warms a Little to Legalization," *Los Angeles Times*, January 27, 2018, http://www.latimes.com/world/mexico-americas/la-fg-mexico-marijuana-20180127-story.html.

[259] Burnett, "Legal Pot in the U.S."

[260] Burnett.

[261] Klingner, "The 'Perfect Storm,'" 3.

[262] Beittel, *Mexico: Organized Crime*.

DTO marijuana profits.[263] Caulkins, Kilmer, and Kleiman also specifically emphasize extortion and kidnapping a key among DTOs' diversified revenue streams.[264]

The above evidence gives weight to DTO diversification as the expected response to marijuana legalization on which to base quantitative analysis. Although analysis of marijuana legalization has focused on DTO profits, how does legalization affect DTO risk? Kilmer et al. posit, "cartel real profits are undermined by the real and non-monetary costs (risks) associated with a more competitive environment and law enforcement."[265] Therefore, DTOs experience a certain level of risk in any trafficking operations. In economics, *profit = revenue – expenses*.[266] In line with Kilmer et al., I posit that DTO risk amounts to how much DTOs spend in protections, subcontracting, technological innovation, and bribes paid for government protections or weapons, etc. Essentially, I hold that DTO expenses are more or less equivalent to DTO risk. Therefore, specifying between DTO *revenues* and *profits* indicates whether or not DTO risk has been accounted for; *profit* accounts for risk, while *revenue* does not.

C. DECRIMINALIZATION OF DRUGS

This section assesses how the decriminalization of drugs in Mexico has affected drug enforcement and DTO behavior in Mexico. It compares the parameters of Mexican decriminalization policy to Portugal's to inform of possible outcomes of Mexican policy. In doing so, this section distinguishes the specific factors within Mexican policy that may cause destabilizing drug enforcement behaviors. This section also describes Mexico's policy goals.

---

[263] "The Rise of Mexican Black Tar," *Vice News*, May 2, 2016, https://news.vice.com/video/the-rise-of-mexican-black-tar.

[264] Jonathan D. Caulkins, Beau Kilmer, and Mark A. R. Kleiman, *Marijuana Legalization: What Everyone Needs to Know*, 2nd ed. (Oxford University Press, 2016), 153.

[265] Kilmer et al., "Appendixes: Reducing Drug Trafficking Revenues," 9.

[266] Claire Boyd-White, "What Is The Difference Between Revenue And Income?," *Investopedia*, April 19, 2018, https://www.investopedia.com/ask/answers/122214/what-difference-between-revenue-and-income.asp.

1. What Decriminalization Is and Is Not

Decriminalization is not legalization. Although both terms represent a departure from prohibitionist drug policy, their implications can be quite different. One significant difference concerns international law. As mentioned above in the marijuana legalization section, federal legalization of a drug that the UN has deemed "illegal" is a violation of international law. Under decriminalization, however, drugs remain illegal; what changes is the *way* in which illicit drugs are penalized. Rather than trying drug offenders in everyday criminal courts where the penalty is incarceration, the justice system uses specialty drug courts, which typically involve fines and mandatory treatment for offenders caught with an amount of product under a certain limit. Since drug use remains a crime, decriminalization can be federally implemented without violation of international law.[267] In 2011, the International Narcotics Control Board, an independent monitor of international compliance to UN drug conventions, stated, "…Mexico was firmly committed to the goals and objectives of [the UN] treaties."[268] "The establishment of Drug Treatment Courts across five Mexican states" is also currently one of the U.S. Department of State's primary objectives within Beyond Merida.[269]

The objectives of decriminalization policy in given country typically sit on a continuum between two poles: public health and combating drug crime. Mexico has prioritized the latter, as the purpose of its 2009 "Ley de Narcomenudo (Law Against Small-Scale Drug Dealing), was to allow counternarcotics officials to focus their efforts on drug traffickers instead of drug users."[270] Portugal, which decriminalized all drugs in 2001 and serves as a common baseline for international discussion on drug decriminalization, has prioritized the former. Portugal does hold countertrafficking as an important, albeit

---

[267] Wiebke Hollersen, "Portugal, 12 Years after Decriminalizing Drugs," *Spiegel Online*, March 27, 2013, http://www.spiegel.de/international/europe/evaluating-drug-decriminalization-in-portugal-12-years-later-a-891060.html.

[268] Kellen Russoniello, "The Devil (and Drugs) in the Details: Portugal's Focus on Public Health as a Model for Decriminalization of Drugs in Mexico," *Yale Journal of Health Policy, Law, and Ethics* 12, no. 2 (April 2013): 411.

[269] "Merida Initiative," U.S. Department of State, accessed June 14, 2018, https://www.state.gov/j/inl/merida/.

[270] Russoniello, "The Devil (and Drugs) in the Details," 406.

secondary, objective of decriminalization; however, and it is a case relevant to Mexico.[271] Additionally, both countries act as drug trafficking corridors—Mexico for the United States and Portugal for Europe.[272] Mexico is also one of the few countries to follow Portugal in changing its fundamental drug laws with regard to decriminalization.[273] The comparison between the Portuguese and Mexican systems in the following sections contributes the analysis of possible outcomes of Mexico's decriminalization.

2. What Decriminalization Looks Like in North America

Decriminalization has manifested in various forms in North America, mainly in the form of drug treatment courts, and has been accompanied by an increase treatment options and funding. Whereas in the case of marijuana legalization I focus primarily on U.S. policy, for decriminalization I focus on Mexican policy. Mexican policy affects Mexican stability through its effect on the population and on drug enforcement behavior in that country. I argue however that U.S. decriminalization policy has the potential to affect Mexican instability through its effects on U.S. consumption patterns, corresponding to a shift in demand for Mexican-supplied narcotics.

Mexico established its first drug court in 2009 in Monterrey, Nuevo León, with the assistance and oversight of U.S. judges.[274] Mexico also established a drug treatment court in the municipality of Guadalupe, Nuevo Leon that same year.[275] Additionally, Mexico established 300 treatment centers in Nuevo León in 2009.[276] The establishment of a court in Morelos in 2014 was significant in that marked the expansion of the concept beyond the

---

[271] Russoniello, 412.

[272] Lauren Gallagher, "Should the United States Move towards Portugal's Decriminalization of Drugs?," *University of Miami International and Comparative Law Review* 22, no. 2 (May 2015): 215, http://repository.law.miami.edu/umiclr/vol22/iss2/5.

[273] Gallagher, "Should the United States Move," 223.

[274] Mikel Chavers, "US Judges Help Set Up Mexico's First Drug Court," *Capital Ideas*, no. July–August (2010), http://www.csg.org/pubs/capitolideas/jul_aug_2010/hottopic_warondrugs.aspx.

[275] Liberty Aldrich et al., *A Diagnostic Study of the Addiction Treatment Court in Guadalupe, Nuevo León, México: Findings and Recommendations* (Washington, DC: Organization of American States, 2014), viii, https://www.courtinnovation.org/sites/default/files/documents/ diagnostic_study_nuevo_leon_ENG.pdf.

[276] Russoniello, "The Devil (and Drugs) in the Details=," 410.

"pilot" state of Nuevo León.[277] However, one Mexican official claims that the Mexican government had not sufficiently evaluated the success of the Nuevo León courts and therefore the decision to expand was based primarily on political momentum and a lack of alternative options.[278]

Mexico's enthusiasm for the policy has wavered since establishing the *Narcomenudo* law in 2009. Mexico's initial plan was the expansion of the drug court system beyond Nuevo León in three subsequent phases to be completed in 2016. The first phase includes the states of Mexico, Morelos, Durango, and Chihuahua; the second includes Baja California, Mexico City, Hidalgo, Sonora, Puebla, and Guanajuato; and the third includes the remainder of the country.[279] Although support for drug court expansion in Mexico was strong at the beginning of the Enrique Peña-Nieto *sextenio* (six year presidential term; 2012–2018), support dwindled after 2014, and as of 2017 only the first phase had been implemented.[280] The lack of available literature on the topic post-2014 also speaks to the policy's diminishing priority. However, the five courts established in first phase still continue to function.[281]

Several unique aspects of Mexico's decriminalization laws influence their effects on law enforcement behavior and the population. Key distinctions within Mexico's decriminalization laws are state and local jurisdiction over drug criminal apprehensions,

---

[277] Gabriella Días, "As Mexican Officials Tout Drug-Courts Innovation, Drug-War Opponents See Window Dressing," *Panama Post*, May 15, 2014, https://panampost.com/marcela-estrada/2014/05/14/as-mexican-officials-tout-drug-courts-innovation-drug-war-opponents-see-window-dressing/.

[278] This comment does not account for a comprehensive study of the Mexico's Guadalupe, Nuevo León drug treatment court established in 2009 (see Aldrich et al., *A Diagnostic Study of the Addiction Treatment*

[279] Tania Tlacaelelt Ramírez Hernández, *La Expansión de Los Tribunales de Drogas En México* [The Expansion of Mexican Drug Courts] (Aguascalientes, México: Centro de Investigación y Docencia Económicas, 2016), 26–27, http://ppd.cide.edu/documents/302668/0/21_CIDE3.pdf.

[280] José Luis Martínez Limón, "Tribunales de Tratamiento de Adicciones: La Falsa Alternativa Que Recriminaliza a Los Consumidores Mexicanos [Addiction Treatment Courts: The False Alternative that Recriminalizes Mexican Consumers]" *Vice News*, April 20, 2017, https://www.vice.com/es_mx/article/aem3vb/tribunales-de-tratamiento-de-adicciones-la-falsa-alternativa-que-recriminaliza-a-los-consumidores-mexicanos-weedweek2017-semanamariguana2017.

[281] Martínez Limón, "Tribunales de Tratamiento [Treatment Courts]." The current U.S. Department of State Merida Initiative priorities mention support for drug treatment courts in "five states," likely corresponding to the original courts in Nuevo Leon plus the four additional courts established during the first expansion phase before the initiative lost steam.

the small quantities constituting "the amount defined for personal use," and the relatively harsh penalties associated with violating those amounts.[282] The "amount defined for personal use" essentially means "the highest amount allowed without imprisonment," corresponding to Case 1 in Table 6. Initially, Nuevo Leon's state drug treatment courts only presided over Case 1 involving possession below the maximum allowable amount.[283] The 2013 amendment to the *Narcomenudo* law, however, also granted state courts jurisdiction over the Case 2—possession above the maximum personal use amount but below the amount related to drug trafficking—essentially, "possession above the allowable amount, but for personal consumption" (i.e., a non-trafficking violation).[284]

[282] Russoniello, "The Devil (and Drugs) in the Details," 407.

[283] Aldrich et al., *A Diagnostic Study of the Addiction Treatment*, 22. See Table 7 with regard to the maximum allowable amount.

[284] Russoniello, "The Devil (and Drugs) in the Details," 407.

Table 6. Initial versus Amended Drug Possession Penalties under Mexican Decriminalization[285]

Offense	Penalty: 2009 Law	Penalty: 2013 Amendment
Case 1: possession < maximum legal allowance	Administrative Penalties [state jurisdiction]	Negligible Change
Case 2a: max. allowance < possession < 1,000 times max. allowance (*without* intent to distribute)	10 months to 3 years' imprisonment [federal jurisdiction]	4 to 8 years' imprisonment [state jurisdiction]
Case 2b: max. allowance < possession < 1,000 times max. allowance (*with* intent to distribute)	3 to 6 years' imprisonment [federal jurisdiction]	4 and 8 years' imprisonment [state jurisdiction]
Case 3a: Possession > 1,000 times max. allowance (*without* intent to distribute)	No established precedent	4 to 7.5 years' imprisonment [federal jurisdiction]
Case 3b: Possession > 1,000 times max. allowance (*with* intent to distribute)	No established precedent	5 to 15 years' imprisonment [federal jurisdiction]

Per Table 6, the penalty for Case 2 includes four to eight years' imprisonment. In effect, the amendment permitted local and state authorities to dole out prison sentences. Logically speaking, diverting personal consumption cases to state and local vice federal authorities aligned with Mexico's objective of freeing up federal resources for combatting traffickers.[286]

While the 2013 amendment made logical sense, however, it was not likely to free up government resources for countertrafficking; rather, it was likely to drain government resources. This was primarily due to the fact that the quantities of maximum allowance established for Case 1 are unrealistically low. Table 7 shows that Mexico's maximum allowed quantities are relatively miniscule when compared with Portugal.

[285] Russoniello, 407.

[286] Russoniello, 407–408.

Table 7. Maximum Non-Prison Drug Allowances, Mexico versus Portugal[287]

Type of Drug	Allowance: Mexico	Allowance: Portugal
Marijuana	5 g	25 g (five times greater)
Heroin	50 mg	1 g (twenty times greater)
Cocaine	500 mg	2 g (four times greater)
Methamphetamine or MDMA	50mg powder or 200mg tablet	1 g (five times greater)

Portugal's allowances are based on a consumer's average 10-day consumption.[288] Even in the case that narcotics in Mexico would have higher purity and could thus be consumed in lesser quantities, the differences are stark. As a result, the vast majority of non-trafficking violations fall under Case 2. Not only do state and local authorities carry authority for prison sentencing; they can prosecute virtually anyone possessing illicit narcotics. Additionally, I argue that post-amendment drug possession crimes were likely prosecuted more often because state and local authorities are more numerous and more present in communities and therefore encounter drug possession more often than federal authorities.[289]

The incentives for corruption in drug enforcement is another stark difference between Portugal and Mexico. Mexico's state and local police forces, perceived as some of the country's most corrupt institutions, are typically understaffed and therefore cannot prosecute the plethora of drug possession crimes under the amended law.[290] Therefore, the police forces decide which drug crimes to pursue out of the plethora of possible cases, producing inconsistency across enforcement. In Portugal, in contrast, "offenses committed

[287] "Allowance: Mexico" column adapted from Aldrich et al., *A Diagnostic Study of the Addiction Treatment*; "Allowance: Portugal adapted from Hollersen, "Portugal, 12 Years after Decriminalizing Drugs."

[288] Russoniello, "The Devil (and Drugs) in the Details," 385.

[289] This is based on the rationale of the case of U.S. federal government's physical inability to challenge state legalization of marijuana: the U.S. government does not have a sufficient number of federal forces to enforce a marijuana ban without assistance from state security forces. See Section B.1 above: What Legalization Looks Like in North America.

[290] Russoniello, "The Devil (and Drugs) in the Details," 401.

under this law are not handled by the criminal justice system. Instead, the law creates special committees, known as Comissões para a Dissuasdo da Toxicodependencia (Commissions for the Dissuasion of Drug Addiction [CDTs]), which have the power to enforce the provisions of the law by imposing fines and alternative penalties."[291] Courts refer violators to a CDT for medical treatment rather than court proceedings.[292] Enforcement of decriminalization in Portugal is therefore standardized and predictable compared to Mexico's system of subjective police judgement.

Views on the success of decriminalization policies in the arenas of public health and drug enforcement efficiency are conflicting. There are disagreements also on the effectiveness of Mexico's drug policies and the availability and credibility of the data. Vice news reported in 2017 that the Mexican government has not evaluated or provided evidence regarding the success of its drug courts and that figures and information are scarce and difficult to obtain.[293] Evaluations do exist, however. Cited in a 2014 *Panama Post* article, Mexico's Association for a Fundamental Drug Policy stated with regard to Mexico's first drug court in Monterrey, Nuevo Leon that "in the case of Monterrey city, there hasn't been a significant decrease in the crime rate."[294] The article also highlights the low public health success rate of the court, mentioning that only 18 of the 103 addicts initially admitted finished their treatment. Additionally, it quotes the Drug Policy Alliance's senior staff attorney as stating, "[Mexican] drug courts' focus on low-level offenses, even positive results for individual participants translate into little public safety benefit to the community."[295]

Not all reviews of Mexico's drug courts are negative, however. A joint 2014 study sponsored by the Organization of American States, the Inter-American Drug Abuse Control Commission, and the U.S. Center for Court Innovation produced a positive review

---

[291] Russoniello, 386.

[292] Russoniello, 386.

[293] Martínez Limón, "Tribunales de Tratamiento."

[294] Días, "As Mexican Officials Tout Drug-Courts."

[295] Días.

of Mexico's drug treatment court in Guadalupe, Nuevo Leon, which opened in 2009.[296] The court was the first of its kind in Mexico in that it is primarily a domestic abuse court incorporating drug treatment for domestic abusers who happen to be also abusing drugs.[297] The court is therefore culturally relevant because it focuses on the relational structure and is effective in treatment because it incorporates an integrated medical, psychological, spiritual, and social approach.[298] The court has an average graduation rate of about 50 percent, comparable to rates in U.S. drug courts.[299]However, it is important to note that court participants are selected based on likeliness of success. All must be "low-risk…since a suspension of proceedings is not allowable for defendants with a prior conviction."[300] While the study does not provide information on the court's effect on Mexican society at large, it demonstrates that a court's specific method, procedure, and/or participant pool likely have bearing on its effectiveness with regard to Mexican stability.

In contrast to Mexico's experience, decriminalization in the United States continues on a path of long-term positive momentum. The United States opened its first drug court in 1989 in Miami, Florida.[301] According to National Association of Drug Court Professionals, by 1996, "2 out of 3 police chiefs [favored] court-supervised treatment over prison for drug abusers."[302] More than 3,100 drug courts are currently in operation in the United States, and half of them are adult treatment drug courts.[303] However, U.S. government's funding for drug treatment did not surpass that of drug-related domestic law enforcement, which includes incarcerations, until 2014.[304] Since 2014, medication assisted treatment for opioid addicts has represented a significant portion of the treatment budget

---

[296] Aldrich et al., *A Diagnostic Study of the Addiction*, 313.

[297] Aldrich, et al., 54–55.

[298] Aldrich, et al., 26.

[299] Aldrich, et al., 42.

[300] Aldrich, et al., 22.

[301] "Timeline of Drug Courts and Other Problem-Solving Courts in the United States," National Association of Drug Court Professionals, http://www.nadcp.org/sites/default/files/nadcp/Timeline.pdf.

[302] "Timeline of Drug Courts and Other Problem-Solving Courts in the United States."

[303] Office of Justice Programs, *Drug Courts* (Washington, DC: U.S. Department of Justice, 2017), https://www.ncjrs.gov/pdffiles1/nij/238527.pdf.

[304] ONDCP *National Drug Control Strategy 2016*.

increase.[305] U.S. priority on opioid addiction corresponds with an uptick in prescription drug and heroin abuse in the United States, referred to as the "opioid crisis."[306] The "crisis" has reportedly increased U.S. heroin demand, of which 90 percent is supplied from Mexico, primarily from the state of Guerrero.[307]

3. Possible DTO and Drug Enforcement Responses to Decriminalization

The first potential response to Mexico's decriminalization policy is local and state police corruption. Police corruption is likely to occur due to increased police power and drug user vulnerability. Table 6, Case 2b shows that whereas federal authorities enforced individual drug possession laws prior to the 2013 reforms, state and local officials took over enforcement post-2013. Essentially, then, the 2013 amendment gave the local and state police and the judiciary the power to condemn citizens to prison for personal possession of drugs. This has most likely increased penetration of counter drug operations by local law enforcement.[308] The Mexican government also associates higher numbers of arrests with police force effectiveness and drug policy success.[309] Meanwhile, the drug-using population is more vulnerable because drug use penalties have increased.[310]

With more frequent enforcement and harsher drug penalties, drug users may be more likely to bribe police to escape a more painful and probable punishment.[311] Furthermore, with the higher number of drug offender cases, drug court resources may become strained and therefore commissioners may be likely to accept bribes to limit

---

[305] ONDCP, 7–8.

[306] Olga Khazan, "Trump's Opioid Commission Calls for a State of Emergency on Opioids," *The Atlantic*, accessed August 16, 2017, https://www.theatlantic.com/health/archive/2017/07/government-panel-calls-for-a-state-of-emergency-on-opioids/535485/.

[307] Kyle, *Violence and Insecurity in Guerrero*.

[308] Logical claim based on the consistent, communal presence of local security forces as opposed to the limitations on federal force persistence in engagement at the local level.

[309] Russoniello, "The Devil (and Drugs) in the Details," 409.

[310] Compare pre- and post-amendment drug penalties from *Case 2* on Table 7.

[311] Russoniello, "The Devil (and Drugs) in the Details," 419.

numbers of cases.[312] This indicates that without a change in Mexico's maximum possession quantity laws, corruption of the security apparatus and the judiciary will likely increase.

Increased access to treatment means that more addicts will receive treatment than did previously. This may correlate with an uptick in public health for drug court municipalities. However, with maximum quantities of permissive possession so low, it is likely that only a small percentage of arrestees will be eligible for treatment; most would be sentenced to a prison term.[313] Moreover, increased incarceration has correlated with rising overall drug enforcement costs, draining government resources that could potentially be used for countertrafficking.[314] This would be counter to Mexico's primary decriminalization objective of freeing up countertrafficking resources. In Mexico's current system, it is possible that trafficking convictions will decrease due to lack of resources. As a baseline, Portugal has seen little change in trafficking arrests since 2001; however,

> there has been a significant decline in the number of convictions for trafficking, and an even steeper drop in prison sentences for drug trafficking…[and] the number of individuals incarcerated for criminal acts involving the sale, distribution, or production of drugs dropped by close to half.[315]

Although the decreased incarceration of individual dealers and/or cultivators could be credibly attributed to increased diversion of offenders away from criminality and toward treatment, speculating the cause of the decreased trafficker conviction rate is difficult. The same rate of arrest with less convictions means less convictions per arrest. This could have a number of implications: lack of government resources, judicial corruption, and/or traffickers who develop an intimate understanding of drug laws in order to circumvent the judicial system to name a few. In any case, reducing the prison population in general

---

[312] Russoniello, 429.

[313] Días, "As Mexican Officials Tout Drug-Courts."

[314] Russoniello, "The Devil (and Drugs) in the Details," 430.

[315] Hannah Laqueur, "Uses and Abuses of Drug Decriminalization in Portugal," *Law and Social Inquiry* (2014): 4, https://www.law.berkeley.edu/files/Laqueur_%282014%29_-_Uses_and_Abuses_of_Drug_Decriminalization_in_Portugal_-_LSI.pdf.

reduces government spending in that area and could reduce "the pool of people who get trapped into circles of recidivism and criminal behavior when entering prisons."[316]

The source of the illicit product carried by non-trafficking drug users also carries implications for the effects of decriminalization. Theoretically, those in treatment receiving government-allotted narcotic doses are obtaining drugs cultivated legally by the government. However, where does the segment of the population carrying less than the maximum allowable quantity for personal use receive its supply? Craig A. Deare addresses this question, stating that this portion of the population "essentially [facilitates] the demand side and [continues] to allow the criminal element to make profits as they cultivate, produce, distribute, and market the drug."[317] Therefore, without legal cultivation to accompany the "non-punitive" market, the question remains whether a change in licit versus licit supply is probable. However, Mexican government-sponsored legal cultivation by individual growers would likely violate international law as mandated in UN drug conventions.

Government-supplied doses of narcotics for treatment could also affect DTO revenues. In the United States, a continued increase of decriminalization policy and funding for treatment should theoretically equate to a decrease illicit demand by chronic users, as mentioned previously. Although I argue that treatment would likely have less effect on first-time users, the increased availability of treatment should supply recovering addicts with government-sanctioned doses in lieu of those supplied by the illicit market. A shift in DTO revenues could, in turn, lead to diversification.

While not the primary thrust of my analysis, U.S. heroin consumption is a relevant case study of the effect of U.S. policy on DTO revenues due to the recent U.S. national spotlight on the "opioid crisis" and increase in related treatment funding should theoretically reduce black market purchases of heroin. However, the uptick of Mexican heroin production, especially in the state of Guerrero, is evidence of increased U.S. demand

[316] Angelica Durán-Martínez, *The Politics of Drug Violence: Criminals, Cops, and Politicians in Colombia and Mexico* (New York: Oxford University Press, 2018), 284.

[317] Deare, "Security Implications," 112.

for heroin.[318] Mexican DTOs, particularly Sinaloa and the Zetas,[319] possess a global competitive advantage in the cultivation and processing of "black tar" heroin stemming from Mexico's Sierra Madre Occidental Mountains.[320] Additionally, many of the same areas used to grow marijuana in Mexico also grow heroin,[321] making DTO market diversification a relatively seamless venture.

D. SUMMARY AND CONCLUDING THOUGHTS

This chapter has served two functions. It has provided a background on alternative drug policies and as well as a qualitative basis for the DTO and drug enforcement behaviors that may result. It has integrated the possible behaviors caused by alternative policy with those caused by Mexico's past prohibition policy identified in Chapter II to form the drug policy-behavior model (depicted in Figure 5). The policy-behavior model is a systemic web of behavioral interactions linked to drug policy incorporating feedback loops. I discuss the further utility and application of the policy-behavior model in Chapter VI.

This chapter has found that legalization of marijuana in the United States will potentially cause market diversification of DTO activities into different drug trafficking markets and different industries of organized crime. Currently employed in five of Mexico's 32 states, decriminalization, will potentially increase corruption within security forces and judiciary. Decriminalization may result in a decrease in the federal government's ability to conduct counter-trafficking operations because more government resources are required to manage he uptick in prison inmates. This would be contrary to Mexico's goal of freeing up government resources for countertrafficking operations. Decriminalization may also contribute to DTO diversification, since relative drug supply

---

[318] Parker Asmann, "Documentary Series Examines Role of Mexico's Crime Groups in US Opioid Crisis," InSight Crime, February 2, 2018, https://www.insightcrime.org/news/analysis/documentary-series-examines-mexico-crime-groups-opioid-crisis/.

[319] "Mexico's Poppy Cultivation and Heroin Production," Stratfor Worldview, March 12, 2012, https://worldview.stratfor.com/article/mexicos-poppy-cultivation-and-heroin-production.

[320] "Criminal Commodities Series: Black Tar Heroin," Stratfor Worldview, March 9, 2012, https://worldview.stratfor.com/article/criminal-commodities-series-black-tar-heroin.

[321] "The Rise of Mexican Black Tar." However, the best poppies are cultivated at higher elevations (> 1000m) and the best marijuana is typically cultivated at lower elevations.

within “decriminalized” states would theoretically shift from illicit sources to legally-sanctioned sources providing for treatment programs. Chapter IV conducts quantitative verification of the possible behaviors identified in this chapter.

IV. QUANTITATIVE VERIFICATION OF BEHAVIORAL TRENDS

A. INTRODUCTION

The objective of this chapter is quantitative verification of the possible DTO and drug enforcement behavioral trends identified in Chapter III. The verification incorporates an additional layer of detail regarding the typical modes of operation of specific DTOs and their associated geographical territories. It also incorporates the context of recent competition and splintering of DTOs to further contextualize the environment for the most accurate application of data. This chapter completes the analysis of the drug policy (1) ⇒ resulting behaviors (2) relationship within the broader causal sequence of drug policy (1) ⇒ resulting behaviors (2) ⇒ stability/instability (3), described in Chapter III. For simplicity, the analysis is unidirectional. That is, it focusses only on how policy affects DTO and drug enforcement behaviors rather than on how DTO and drug enforcement behaviors affect policy.

This chapter quantitatively analyzes DTO behaviors identified in Chapter III from the standpoint of its key motivators: profit and risk. It analyzes drug enforcement behaviors according to enforcement parameters set forth in drug policy and also in relation to DTOs. While Chapter III identifies verifying behaviors, this chapter's quantitative analysis also identifies behavioral trends that Chapter III does not identify.

B. LEGALIZATION-BEHAVIOR NEXUS: QUANTITATIVE ANALYSIS

As Chapter II identifies, DTO and drug enforcement behaviors are the two primary behavioral outcomes of drug policy. Chapter III's policy-behavior model indicates that U.S. legalization affects DTO behavior in Mexico more than drug enforcement behavior. I examine the tendencies of DTOs to shift from the trafficking of marijuana to different types of drugs (market diversification) and also to different types of organized crime (industry diversification) using the indicators and sources Table 8 identifies.

Table 8. Behavioral Trends Caused by Legalization, Their Indicators, and Indicator Sources

Legalization		
Behavioral Trend	**Behavioral Indicator(s)**	**Source(s) of Indicator**
(1.1) DTO market diversification resulting from legalization policy	DTO revenue trends, by drug, 1995-2016	Derived from several sources, including SAMHSA, DEA, National Drug Control Strategy (NDCS), Cannabis Benchmarks, among others[a]
(1.2) DTO industry diversification resulting from legalization policy	Shifts in kidnapping and extortion rates, 2014-2016	INEGI National Business Victimization Survey (ENVE) 1.7: Economic entities by state, according to their perception of the factors that affect them
	Direct comparison of trends in drug crime rates with those of homicide and kidnapping	IEP Mexico Peace Index. Uses SESNSP enhanced dataset for organized crime, pre-2017[b] (the enhanced dataset starts in 2017, is far more accurate and will be useful in future studies.
(1.3) Investment in legal business resulting from legalization policy	Tends in DTO revenues generated from legal business investments	Not available

a. See the appendix for and explanation of DTO revenue source values.

b. See Figure A.2 of the IEP's 2018 *Mexico Peace Index* in which the Mexican executive secretary for the National System of Public Security enhanced organized crime data set renders pre-2017 data obsolete.

1. Verification of Behavioral Trend (1.1): DTO Market Diversification Resulting from Legalization Policy

As discussed in Chapter III, Section A, the two primary drivers of DTO behavior are revenue and risk, and both are affected by legalization. The most accurate analysis of policy effects on behavior would therefore incorporate both drivers. Although DTO revenues are relatively straightforward in terms of quantifiable value, the risk associated with illicit operations is more elusive. This risk includes anything that interferes with DTO operations, including drug enforcement crackdowns, territorial challenges from other cartels, etc. How is DTO risk calculated? I incorporate a statement from a 2010 Rand Corporation by Kilmer et al. that a calculation of "the real but nonmonetary cost of various risks, including the risks of arrest, imprisonment, injury, and death…would overtax

available data."[322] Additionally, I posit that revenue values also correlate to the ability of DTOs to minimize risk, albeit loosely. DTOs pay for indirect crime protections in the form of weapons, extra security, etc., out of drug revenues to minimize risk.[323] Therefore, revenues do correlate with destabilization. In conducting a quantitative verification of DTO market diversification, therefore, I focus solely on revenues.

a. Measurement Method

The assessment of DTO drug revenues begins with the first U.S. statewide medical marijuana legalization in California in 1996. A report from the Norwegian School of Economics claims that medical marijuana laws affect DTO revenues because medical marijuana legalization has spurred an increase in U.S. marijuana production, which has decreased the DTO's market share.[324] A marijuana revenue decrease in conjunction with an increase in the revenue of other "hard drugs" (heroin, cocaine, and methamphetamine) would signify a potential market diversification, or DTO "drug substitution" in trafficking. Therefore, I compare DTO revenues from 1995, before medical legalization, to 2016, the year of the most recent available data. I also focus particularly on the 2012–2016 period, which corresponds with recreational legalization of marijuana in several U.S. states. I also account for uncertainties and gaps in available data throughout due to the challenges inherent in gathering accurate illicit market data.

What is the most reliable way to measure drug DTO revenues? Of all the organizations researching the issue, the Rand Corporation has perhaps pursued the DTO revenue problem set most comprehensively. It offers reasoned support for the superiority of the demand-side calculation—based on amount of product consumed—over a supply-side calculation, which is based either on the amount cultivated or the amount seized.[325]

---

[322] Beau Kilmer et al., *Reducing Drug Trafficking Revenues and Violence in Mexico: Would Legalizing Marijuana in California Help?* (Santa Monica, CA: Rand International Programs and Policy Research Center, 2010), 9.

[323] Kilmer et al., *Reducing Drug Trafficking Revenues*, 10.

[324] Evelina Gavrilova, Takuma Kamada, and Floris Zoutman, "Is Legal Pot Crippling Mexican Drug Trafficking Organisations? The Effect of Medical Marijuana Laws on US Crime," *The Economic Journal* (June 2017): 2, http://conference.iza.org/conference_files/riskonomics2015/zoutman_f21865.pdf.

[325] Kilmer et al., *Reducing Drug Trafficking Revenues*, 6–10.

For example, writing for Rand, Kilmer et al. claim that supply-side measurements are less accurate because (1) cultivation does not always correlate with U.S. drug consumption, and (2) U.S. seizure data is not an accurate representation of the amount of product sold by DTOs within the United States, since shifting drug enforcement priorities and the relative ease of concealment of certain drugs may cause asymmetry in the types of drugs law enforcement seizes. Additionally, there is no data on how much product is seized on the Mexican side of the border before it enters the United States.

My calculation of DTO revenues includes four variables: the number of current users,[326] the average amount consumed per user, the percentage of product supplied from Mexico, and the product wholesale price. DTO revenue calculations per year by type of drug are therefore based on the following formula:

$$DTO\ Revenue = (number\ of\ current\ users)\ x\ (average\ amount\ consumed\ per\ user)\ x\ (percentage\ of\ product\ supplied\ from\ Mexico)\ x\ (product\ wholesale\ price)$$

The number of current drug users is primarily based on household surveys in the United States conducted by the Substance Abuse and Mental Health Services Administration National Survey on Drug Use and Health.[327] Multiplying the number of drug users by the average amount of drugs consumed per person per year provides the total amount of drugs consumed in the United States in a given year. For lack of data on the average quantity of drugs consumed per person in the United States, I base this value on Portugal's maximum non-prison drug allowances.[328] Although Portugal's values may not exactly correspond to consumption by U.S. users, I posit that they serve as a sufficient ballpark estimate of U.S. consumption for a relative comparison of DTO revenues.

Multiplying the total amount of drugs consumed in the United States in a given year by the proportion of product supplied by Mexican DTOs yields the total amount of product

[326] "Current refers to reported drug use within the last 30 days.

[327] Substance Abuse and Mental Health Services Administration, *Results from the 2016 National Survey on Drug Use and Health: Detailed Tables* (Rockville, MD: Substance Abuse and Mental Health Services Administration, 2017). See Appendix for a full explanation of source data.

[328] See Table 7 in Chapter III.C.2.

supplied from Mexico. For marijuana, this proportion is based on DEA analysis of seized product from field offices across the United States, which specifies the purity of marijuana samples.[329] The proportion of marijuana supplied from Mexico is commonly referred to as "commercial" or "block" weed and has a typical THC[330] content of less than seven percent.[331] Currently, there is no available data on whether marijuana cultivated in Mexico has increased in purity due to competition north of the border in U.S. states that have recently legalized or decriminalized growing marijuana.[332] Regarding heroin, DEA analysis of field seizures provides the proportion of Mexican-supplied black tar heroin by year.[333] However, distinguishing what proportion of heroin powder[334] has recently replaced black tar is also unknown.[335]

Finally, I multiply the total amount of Mexican-supplied product by the product wholesale price. The wholesale price is the price of a bulk purchase that a DTO representative would sell to a U.S. dealer, rather than the retail price, which represents a relatively small purchase by an individual consumer. The White House National Drug Control Strategy (NDCS) provides wholesale prices for years up to and including 2012.[336] I extrapolate post-2012 prices from various sources, including spot price averages from

---

[329] Mahmoud A. Elsohly et al., "Changes in Cannabis Potency over the Last Two Decades (1995–2014): Analysis of Current Data in the United States," *Biological Psychiatry* 79, no. 7 (April 2016): Table 3, https://doi.org/10.1016/j.biopsych.2016.01.004. See Appendix for a full explanation of source data.

[330] The clinical name of THC is tetrahydrocannabinol, which is the psychoactive portion of marijuana.

[331] Beau Kilmer et al., "Appendixes," in *Reducing Drug Trafficking*, 7.

[332] Based on a conversation author had with Beau Kilmer of Rand Corporation on April 17, 2018. Also based on the conversation, Rand is currently updating its analysis to revisit its generation of cannabis figures. This is due to the large recent changes in potency and the "move to non-flower consumption."

[333] U.S. Drug Enforcement Administration, *2015 Heroin Domestic Monitor Program* (Washington, DC: U.S. Drug Enforcement Administration, 2017), Appendix A. See Appendix for a full explanation of source data.

[334] Heroin powder is typically used as a carrier or the trafficking of fentanyl, a recent DTO trend. Fentanyl is a heroin additive that makes the drug much more potent. "FAQ's-Fentanyl and Fentanyl-Related Substances," U.S. Drug Enforcement Administration, accessed April 29, 2018, https://www.dea.gov/druginfo/fentanyl-faq.shtml.

[335] Based on a conversation author had with Beau Kilmer of Rand Corporation on April 17, 2018.

[336] Office of National Drug Control Policy, *National Drug Control Strategy Data Supplement 2016* (Washington, DC: Executive Office of the President of the United States, 2016), Tables 73–76, https://www.hsdl.org/?abstract&did=806335.

Cannabis Benchmarks,[337] wholesale adaptations of retail prices from DEA's Heroin Domestic Monitor Program,[338] and the NDCS Data Supplement.[339] Where no comparable values are available, I rely on linear interpolation between established values.

b. DTO Drug Trafficking Revenues

Figure 6 displays the marijuana legalization timeframe as a reference. The two particular years of interest from Figure 6 are 1996, the year of the first state-wide medical legalization of marijuana in the United States, and 2012, the first legalization of state-wide recreational marijuana.[340] The two landmark years of legalization policy are baselines for comparative DTO revenue shifts in Figures 7, 8, and 9. The DTO revenue data portrayed in Figures 7, 8, and 9 reveal possible instances of DTO market diversification within drug trafficking.

---

[337] Bruce Kennedy, "Wholesale Cannabis Prices Tumbled in 2017—and They Have yet to Hit Rock Bottom," The Cannabist, March 8, 2018, https://www.thecannabist.com/2018/03/08/marijuana-prices-2017-cannabis-benchmarks/100103/.

[338] U.S. Drug Enforcement Administration, *2015 Heroin Domestic Monitor Program*, Figure 3.

[339] Office of National Drug Control Policy, *National Drug Control Strategy Data Supplement*.

[340] States implemented statewide legalizations in 1996 and 2012 in January of the following year. Therefore, I single out 1996 and 2012 as the last years in which DTO revenue patterns remained "unaltered" by landmark state legalizations. I utilized data from these years as a data baseline for which to compare the subsequent effects of legalization on DTO revenues, as shown in Figures 7, 8, and 9.

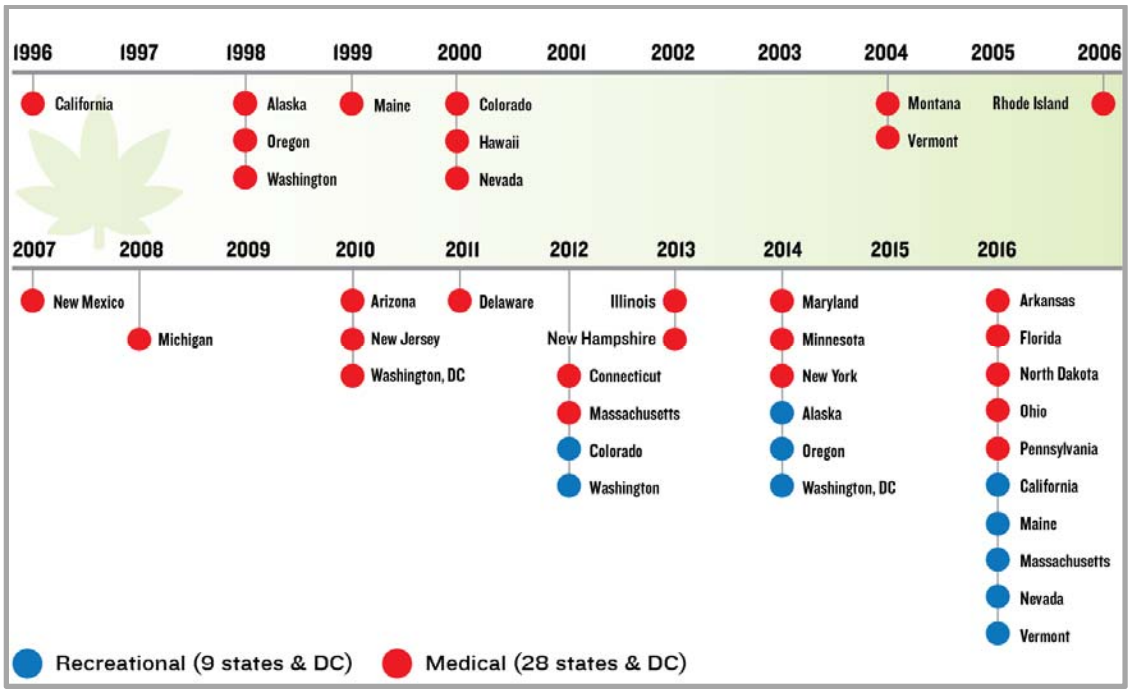


Figure 6. Timeline of U.S. State Marijuana Legalization Laws[341]

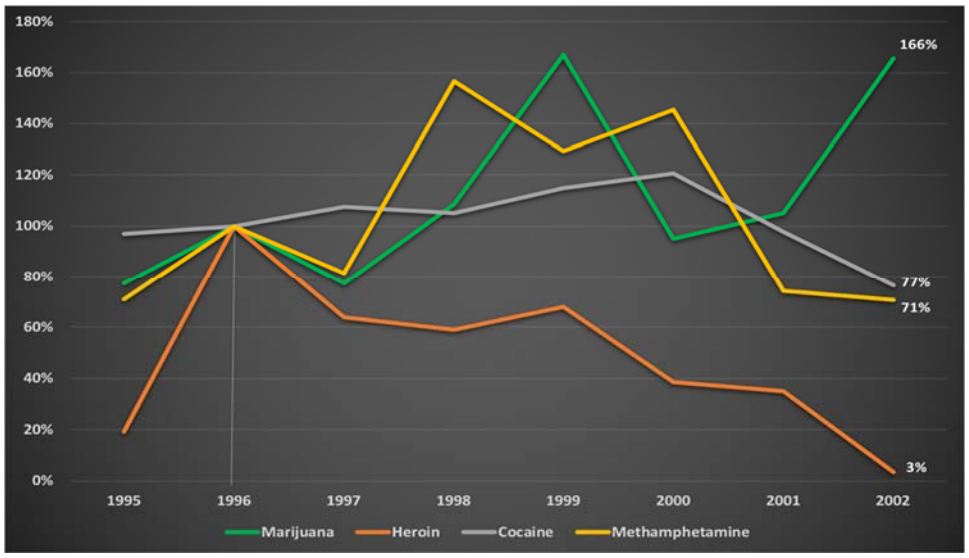


Figure 7. DTO Revenues by Drug, Relative to 1996 Revenues, 1995–2002[342]

[341] Source: Trumble, "Timeline of State Marijuana."

[342] Adapted from various sources identified in Appendix. Revenue percentages based on the nominal value of Mexican pesos (MXN).

Figure 7 shows that the first statewide medical marijuana legalization in 1996 caused no apparent decrease in marijuana relative to other drugs. Therefore, medical legalization did not likely cause DTO market diversification. However, Figure 8 indicates that market diversification *was* a likely result of recreational legalization in 2012.

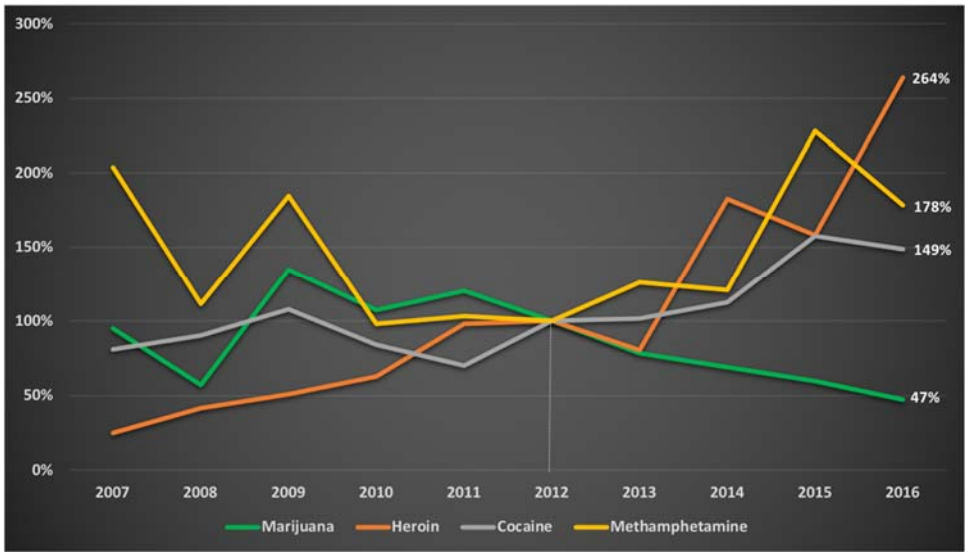
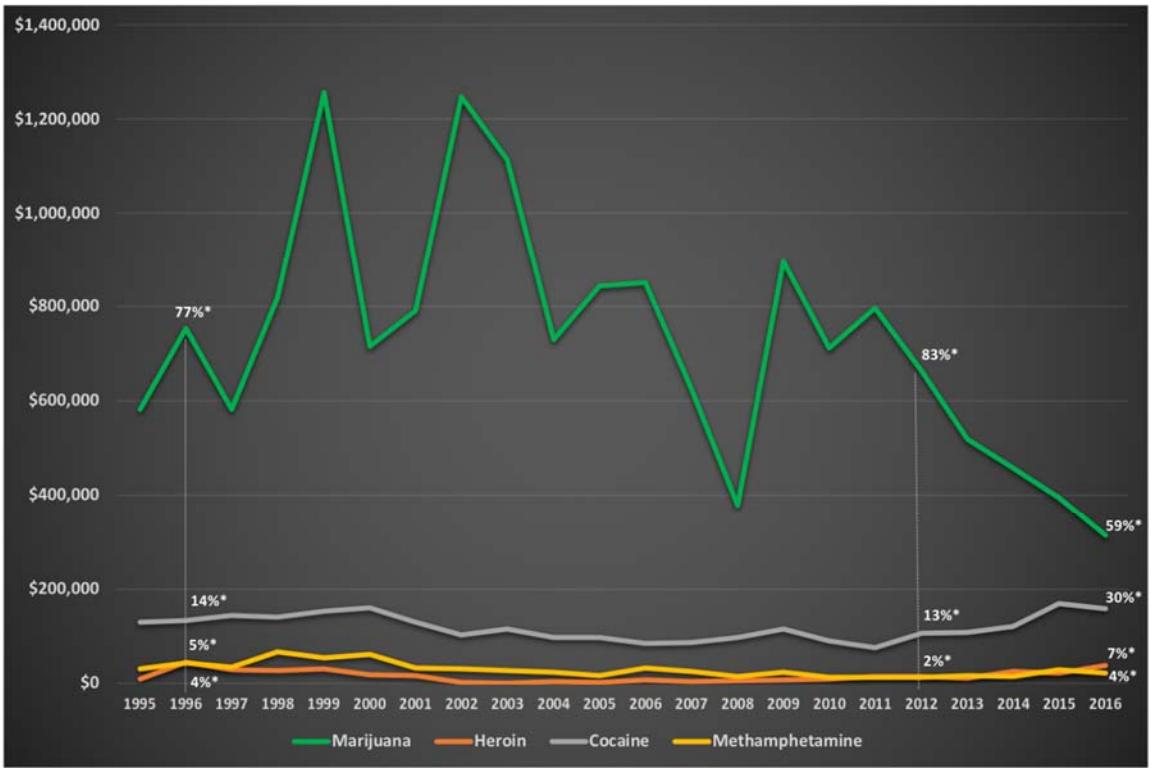


Figure 8. DTO Revenues by Drug, Relative to 2012 Revenues, 2007–2016[343]

By the end of 2016, four years after the United States' first statewide legalization marijuana, DTO marijuana revenues had decreased to just 47 percent of 2012 levels. Additionally, revenues from the trafficking of cocaine, methamphetamine, and heroin increased by 49 percent, 78 percent, and 164 percent respectively. Therefore, the 2012 recreational legalization correlates with DTO market diversification. Although market diversification in Figure 8 corresponds with the possible results of legalization policy (as identified in Chapter III), particularly with regard to the uptick in heroin revenues, the diversification becomes less significant when one views revenues in absolute terms of Mexican pesos (MXN). Figure 9 portrays DTO revenues in MXN between 1995 and 2016.

[343] Adapted from various sources identified in Appendix. Revenue percentages based on the nominal value of MXN.



*Percentage of Total Drug Revenues

Figure 9. DTO Revenue Trends, by Drug, in Millions of Nominal MXN, 1995–2016[344]

While heroin, cocaine, and methamphetamine revenues did increase on the order of 50–150 percent relative to their 2012 revenues, combined, they still only accounted for less than half of all DTO drug revenues in 2016. Due to the sheer number of marijuana consumers in the United States relative to consumers of "hard drugs,"[345] marijuana still ruled the illicit drug market. Figure 9 also shows that between 2012 and 2016 cocaine revenue, in real terms, increased rather substantially compared that of heroin and methamphetamine. Even though cocaine revenues increased on the order of $50 billion MXN over the same period, it was not nearly enough to offset the $350 billion MXN marijuana revenue decrease.

[344] Adapted from various sources identified in Appendix. DTO revenues presented in nominal MXN because that value most accurately corresponds to the real-time profit motive of DTOs headquartered and living in Mexico.

[345] See Appendix for relative numbers of drug users between 2012 and 2016.

Figure 9 presents a number of insights with regard to DTO behavior and its effects on instability. First, the relatively minor increase in heroin revenue does not appear to correlate with the recent literature describing heroin's primary role in fueling the recent U.S. opioid crisis (touched on in Chapter III). However, since 2013, splinter groups of the Beltran Leyva Organization (BLO), have competed violently with rival DTOs in the state of Guerrero for control of the poppy industry, creating a complicated and ever-morphing crime situation.[346] While these events point to heroin's substitution for marijuana, I argue that due to the relatively small uptick in heroin revenues, resulting DTO behavior shifts are likely mostly constrained to Guerrero, a particularly violent and weakly-governed state. With the relatively small uptick in methamphetamine revenues displayed in Figure 9, claims that methamphetamine's substitution of marijuana is empowering meth trafficking DTOs such as Nueva Generación[347] may be overstated.

Second, the substantial uptick in cocaine as a percentage of total drug revenues likely increases the relative importance of cocaine within the DTO power structure. This also increases the importance on the control of cocaine routes stemming from Colombia and moving through Central America. As of July 2015, the Sinaloa cartel "[directed] 50% of the drugs that leave from [the ports of] Tumaco, Buenaventura, and el Urabá, which form a network with ports in Peru (El Callao and Talara), Ecuador (Esmeraldas and San Lorenzo) and Guatemala"[348] Cocaine is the primary drug coming from Colombia, and 87 percent of Colombian cocaine passes through Mexico en route to the United States along routes shown in Figure 10, and most of it enters Mexico through Guatemala.[349] The significant uptick in DTO cocaine revenues since the first U.S. statewide legalization of recreational marijuana is also therefore most likely associated with the Sinaloa cartel.

---

[346] Ioan Grillo, "Mexico's New, Deadlier Crime Lords," U.S. News, December 8, 2017, https://www.usnews.com/news/best-countries/articles/2017-12-08/splintering-of-cartels-in-mexico-pushes-deadly-violence-to-record-levels.

[347] Calderón, Ferreira, and Shirk, *Drug Violence in Mexico*, 38.

[348] Christopher Woody, "'El Chapo' Guzmán Has Been Recaptured—Here's How His Cartel Dominates the Cocaine Trade," *Business Insider*, January 10, 2016, http://www.businessinsider.com/el-chapo-sinaloa-cartel-global-cocaine-trade.

[349] Woody, "'El Chapo' Guzmán Has Been Recaptured."

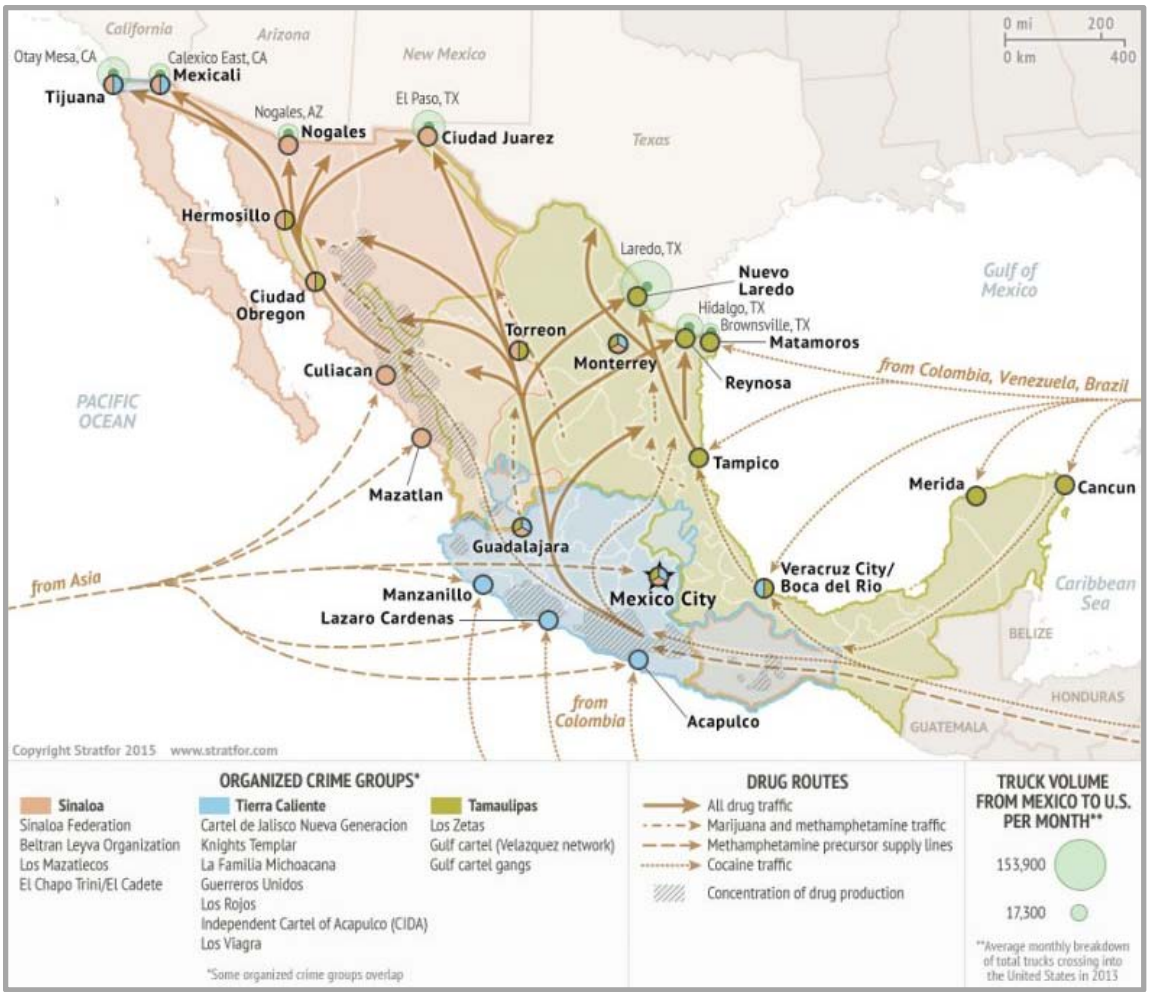


Figure 10. Drug Trafficking Routes Through Mexico[350]

Thus, whichever DTO controls Guatemala likely controls the majority of the cocaine flows through Mexico. Although the Zetas and Sinaloa cartels have historically

[350] Source: "Mexico's Changing Criminal Landscape," Stratfor Worldview, June 29, 2015, https://worldview.stratfor.com/article/mexicos-changing-criminal-landscape. While Figure 7 is valuable for showing drug flows within Mexico, it is necessarily accurate in reflecting the relatively large amount of cocaine entering Guatemala along its Pacific coast.

competed for control over Guatemala,[351] the Sinaloa cartel has dominated[352] as the territorial reach of the Zetas has diminished.[353]

Third, and perhaps most significant, the decrease in DTO marijuana revenues since 2012 has outweighed the revenue increases from hard drugs. As discussed in Chapter III, the lack of compensatory drug revenues amounts to a net revenue loss for marijuana-trafficking DTOs, such as the Sinaloa cartel particularly. In an illicit market functioning much like a capitalist market, albeit with fewer legal restrictions and a different risk profile, would logically spur the pursuit of profits elsewhere. The Mexican Competitiveness Institute estimated in 2012 that if marijuana were legalized in Colorado and Washington, Sinaloa would be the most affected, losing up to 50 percent of its revenue.[354] This directs the "search" for lost profits in the direction of industry diversification.

2. Verification of Behavioral Trend (1.2): DTO Industry Diversification Resulting from Legalization Policy

DTOs diversify across organized crime industries for the same reasons they diversify within the drug market (described in the previous section). In this section, I specifically examine rates of extortion and kidnapping, identified by the IEP as primary DTO diversification activities.[355] How strongly can one claim legalization as the cause of industry diversification, however? Law enforcement crackdowns on drugs that increase DTO risk, a change in the U.S. demand for drugs, and/or opportunities to extract extortion revenue all have potential to motivate industry diversification. To distinguish which particular aspects of industry diversification legalization causes, I conduct an in-depth

[351] Miriam Wells and Hannah Stone, "Zetas Fight Sinaloa Cartel for Guatemala Drug Routes," InSight Crime, January 14, 2013, https://www.insightcrime.org/news/brief/zetas-fight-sinaloa-cartel-guatemala-perez/.

[352] "Mexico's Changing Criminal Landscape."

[353] "Zetas," InSight Crime, last modified April 6, 2018, https://www.insightcrime.org/mexico-organized-crime-news/zetas-profile/.

[354] Olga Khazan, "How Marijuana Legalization Will Affect Mexico's Cartels, in Charts," *Washington Post*, November 9, 2012, https://www.washingtonpost.com/news/worldviews/wp/2012/11/09/how-marijuana-legalization-will-affect-mexicos-cartels-in-charts/?noredirect=on&utm_term=.d24141e23753.

[355] Institute for Economics and Peace, *Mexico Peace Index 2017*, 19.

analysis of the behavioral characteristics of particular cartels and territorial characteristics of drug cultivation, trafficking, and border smuggling.

a. Operational Characteristics

Table 9 demonstrates the traditional "trafficking" and "non-trafficking" activities of Mexico's primary DTOs. Table 10 contains notes explaining the specifics of Table 9.

Table 9. Characteristic DTO Activities by Cartel[356]

DTO Activities	Sinaloa[a]	Los Zetas[b]	Gulf[c]	Tijuana[d]	Juarez[e]	Jalisco New Generation (CJNG)[f]	Knight's Templars/ La Familia	Beltrán Leyva (BLO)[g]
Trafficking								
Marijuana	X	X	X	X	X	X[h]	X	X
Cocaine	X	X	X	X	X	X[h]		X
Heroin	X							X
Methamphetamine	X					X[i]	X	
Non-Trafficking								
Public Intimidation		X[j]	X[k]			X	X	
Bribery of Police/Judges	X[l]	X	X	X	X	X	X[m]	X
Extortion		X[n]	X	X			X	
Kidnapping	X[o]	X		X		X[p]		
Petroleum Theft		X	X					
Murder for Hire		X						
"Legal" Business	X							
Alliances w/security forces						X[q]		
Territorial Control		X				X[r]		

See Table 10 for notes pertaining to Table 9.

[356] Unless otherwise noted, this table based either on text in this chapter or on the characteristics displayed in George W. Grayson, "Appendix F: Overview of Cartels," and "Appendix G: Summary of Cartels and Their Characteristics," in *The Cartels*, 247–254.

Table 10. Notes on Table 9

a.	Historical stronghold in the "Golden Triangle" of Sinaloa, Durango, and Chihuahua. Currently weakened by the extradition of cartel leader "El Chapo" to the United States. Currently challenged by Jalisco Cartel New Generation (CJNG) for control of Tijuana.
b.	Currently weakened due to law enforcement crackdowns. The Zetas' most critical areas remain Tamaulipas and the Gulf Coast. The Zetas are the cartel most likely to diversify into nontrafficking industries. See "Zetas," InSight Crime.
c.	Profits from tollkeeping of illicit product at key Tamaulipas border crossings, including Matamoros, Reynosa, and Nuevo León.
d.	Profits from tollkeeping, primarily through the Tijuana/San Diego border crossing. See Jones, *Mexico's Illicit Drug Networks* , 52. Tijuana cartel is currently supported by CJNG in challenging Sinaloa for control of Tijuana. See: Calderón, Rodríguez Ferreira, and Shirk, "Drug Violence in Mexico," 38.
e.	Profits from "tollkeeping" at the Juarez/El Paso border crossing in Chihuahua.
f.	Stemming from Jalisco, Veracruz, former Zeta territories. Fastest growing cartel; uses violent tactics. Currently supporting the Tijuana Cartel in challenging Sinaloa for control of Tijuana. Calderón, Rodríguez Ferreira, and Shirk, "Drug Violence in Mexico," 24.
g.	BLO has splintered into smaller criminal bands and is now vying for control of poppy cultivation in Guerrero. See Grillo, "Mexico's New, Deadlier Crime Lords."
h.	CJNG reportedly uses contacts to traffic cocaine, marijuana, and methamphetamine. See "Jalisco Cartel New Generation (CJNG)," InSight Crime, March 30, 2018, https://www.insightcrime.org/mexico-organized-crime-news/jalisco-cartel-new-generation/.
i.	CJNG has historically specialized in methamphetamine trafficking due to links to Taiwanese Ye Gon, which provided the first precursor chemicals to the organization. See: Calderón, Rodríguez Ferreira, and Shirk, "Drug Violence in Mexico," 38.
j.	Conducts systemic intimidation.
k.	Conducts public intimidation in Tamaulipas and Nuevo León.
l.	Conducts bribery of judges, police, and prosecutors, especially in Sinaloa.
m.	Conducts bribery primarily in Michoacán.
n.	Past masters at corrupting local police.
o.	Sinaloa has used kidnapping when fighting other cartels, such as the Zetas in 2007 to 2010.
p.	CJNG reported to participate in kidnappings in Jalisco and Veracruz. See Pérez Caballero, "Mexico's CJNG."
q.	CJNG reported to strike alliances with police forces in Jalisco, Veracruz, and Michoacán. See Pérez Caballero, "Mexico's CJNG."
r.	CJNG exercises a significant measure of control in Baja California, Jalisco, Michoacán, Guerrero, Guanajuato, Oaxaca, and Veracruz. See Pérez Caballero, "Mexico's CJNG."

The Sinaloa cartel occupies a central position in my analysis of industry diversification. As discussed in the previous section on market diversification, legalization has likely affected the profits of Sinaloa more than any other DTO. Sinaloa also has a "generational heritage" of marijuana and poppy cultivation,[357] which has fostered its loyalty to drug trafficking.[358] The Sinaloa cartel has diversified into kidnapping in the past, however, to obtain supplemental revenues for which to wage turf wars.[359] It also commonly engages in bribery with security forces and the judicial system and invests in "legal" business, as depicted in Table 9.

The Zetas, Gulf, Tijuana, Juarez, Beltran Leyva, and La Familia cartels have also participated in marijuana and cocaine trafficking. U.S. legalization and/or decriminalization of marijuana in select states has therefore likely affected their power structures and behaviors. However, I attribute less weight to the correlation between their diversification activities and legalization for a number of reasons. First, most DTOs are naturally more prone to industry diversification than Sinaloa. A 2017 article in *The Economist* reports that new or smaller-scale criminal bands will prioritize illicit activities other than drug trafficking because they "lack the manpower and management skills to run full-scale drug operations."[360] This tendency links rises in extortion and kidnapping to characteristics of newer, less established DTOs rather than to legalization. The number of smaller groups is also growing due to the splintering of cartels into new "breakoff" groups vying for survival. DTO splintering is a common second order effect of kingpin operations, which "decapitate" cartels, thereby causing power vacuums within and between DTOs.[361]

Second, the more established DTOs, such as the Zetas, Gulf, Tijuana, and Juarez, have generally been weakened from splintering, turf wars, and law enforcement

---

[357] Nieto-Gomez, "The Geopolitics of Clandestine Innovation."

[358] John Burnett, "Legal Pot in the U.S."

[359] Grayson, *The Cartels*, 248.

[360] "Why Murder in Mexico Is Rising Again," *The Economist*, May 11, 2017, https://www.economist.com/the-americas/2017/05/11/why-murder-in-mexico-is-rising-again.

[361] Grillo, "Mexico's New, Deadlier Crime Lords."

crackdowns since 2012.[362] Therefore, they have controlled less of the drug market than the Sinaloa cartel does, and their overall revenues from organized crime activities have likely been less affected. On the other hand, although weakened by the extradition of its leader Joaquin "El Chapo" Guzmán to the United States in January 2017, the Sinaloa cartel has been relatively dominant. However, the new generation cartels of Jalisco and Tijuana, which I will collectively place under the classification of the Jalisco New Generation Cartel (CJNG)[363] have recently challenged Sinaloa's control of Tijuana,[364] one of the most lucrative smuggling routes into the United States.

Shocks to the illicit environment caused by the extradition of El Chapo may reduce the possible causality between legalization and diversification. Moreover, the extradition has coincided with escalated turf wars between the Sinaloa and CJNG.[365] This could potentially cause the Sinaloa cartel to diversify. El Chapo's extradition has also likely caused diversification and/or innovation within CJNG, which also significantly stepped up its bid for territorial control in 2017.[366] Should the Sinaloa cartel diversify, determination of whether the diversification was caused by turf wars or by legalization is not straightforward. Due to the likely additional confluence of factors beyond drug policy contributing to Mexican instability in 2017, the remainder of my analysis only considers data through 2016, prior to El Chapo's extradition.

---

[362] The Zetas are a classic example of a cartel weakened by law enforcement crackdowns and turf wars. See Victoria Dittmar, "Is Mexico's CJNG Following in the Footsteps of the Zetas?," February 19, 2018, https://www.insightcrime.org/news/analysis/mexicos-cjng-following-footsteps-zetas/.

[363] The JNGC broke off from the Sinaloa cartel in 2009 and allied with the weakened Tijuana (AFO) cartel against Sinaloa. See Victoria Dittmar, "Mexico's Ascendant Jalisco Cartel May Be Copying the Brutal Tactics of the Once-Dominant Zetas," *Business Insider*, February 25, 2018, http://www.businessinsider.com/mexicos-jalisco-new-generation-cartel-copying-zetas-tactics-2018-2?r=UK&IR=T.

[364] Calderón, Rodríguez Ferreira, and Shirk, "Drug Violence in Mexico," 38.

[365] Calderón, Rodríguez Ferreira, and Shirk, 24.

[366] Jesús Pérez Caballero, "Mexico's CJNG: Local Consolidation, Military Expansion and Vigilante Rhetoric," InSight Crime, February 8, 2018, https://www.insightcrime.org/news/analysis/mexico-cjng-local-consolidation-military-expansion-vigilante-rhetoric/.

b. Territorial Characteristics

Linking DTO tendencies to territories in which they operate is essential for determining the regionally-based effects of their behavior. Therefore, I prioritize Mexican states in/through which drugs are cultivated, trafficked, and/or smuggled, and the associated DTOs. Figures 11 and 12 show marijuana and poppy cultivation areas in Mexico based on Mexican military eradication data.

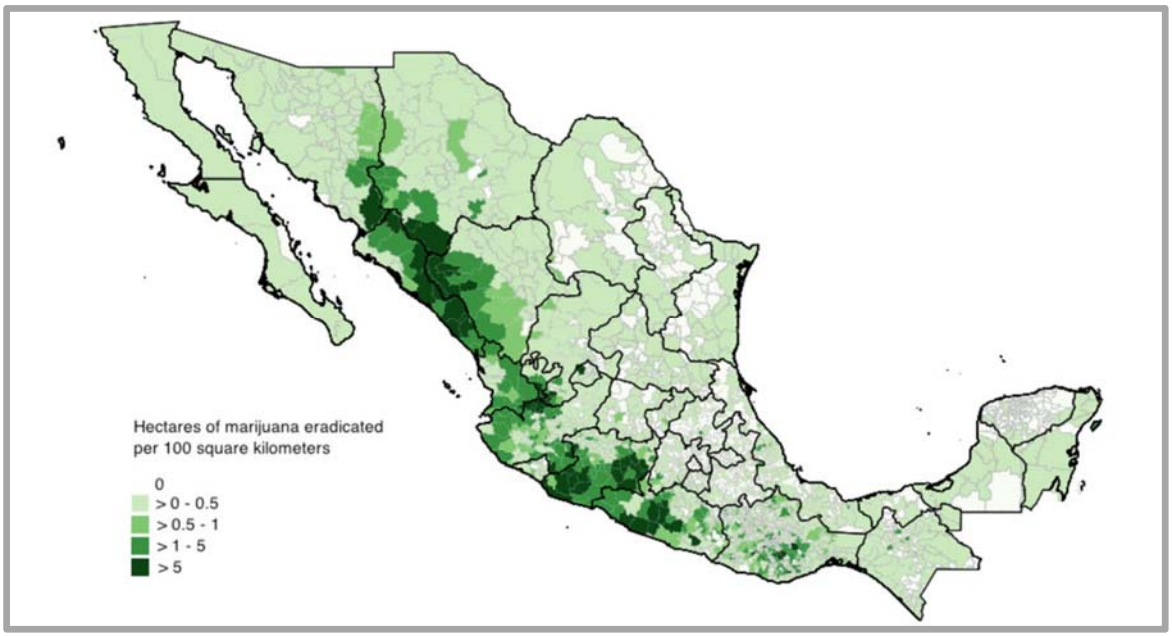


Figure 11. Average Annual Eradication of Marijuana by Mexican Municipality, 1990–2010.[367]

[367] Source: Oendrila Dube, Kevin Thom, and Omar García-Ponce, "From Maize to Haze: Agricultural Shocks and the Growth of the Mexican Drug Sector," *Journal of the European Economic Association* 14, no. 5 (October 2016): 1192, https://doi.org/10.1111/jeea.12172. The average eradication per 100 square kilometers. Dube, Thom and García Ponce mention that they obtained the data from the Mexican Ministry of Defense.

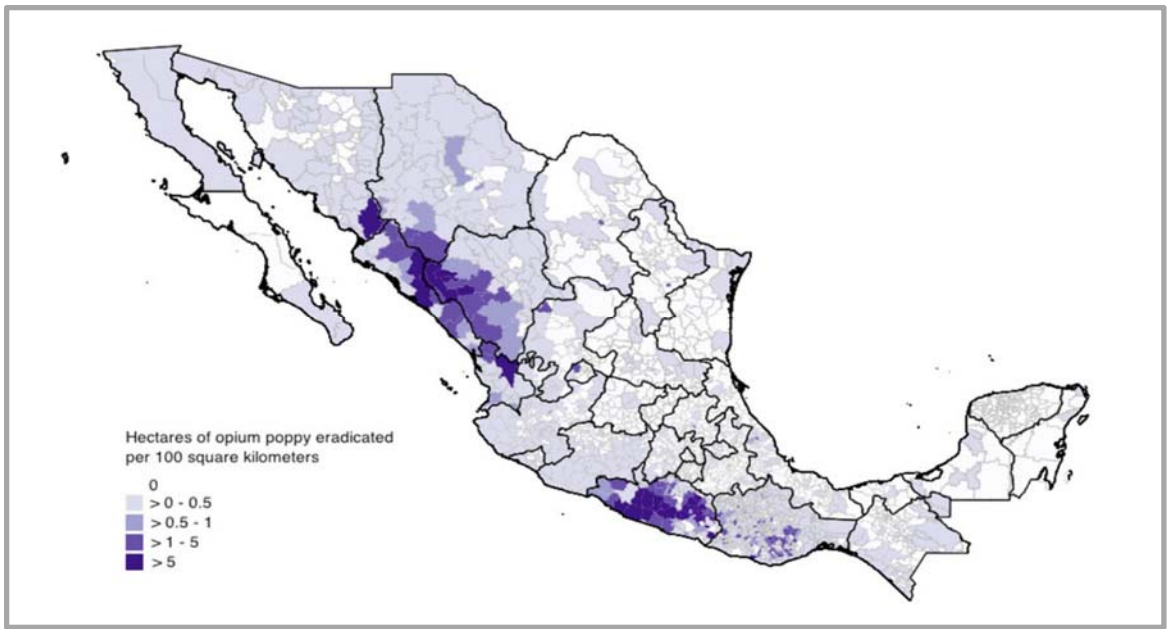


Figure 12. Average Annual Eradication of Poppy by Mexican Municipality, 1990–2010[368]

Marijuana and poppies are the two primary drugs cultivated in Mexico, and they are cultivated in many of the same territories. As mentioned previously, however, an analysis of DTO revenues does not reveal significant substitution of marijuana by heroin.

Whereas Figures 10, 11, and 12 provide information on cultivation and trafficking routes, U.S. seizure data in Figure 13 provides an estimate, albeit imperfect, of drug routing. The DEA *National Drug Threat Assessments* portray seizure statistics from fiscal year (FY) 14 to FY16 by drug type and border region.[369] Figure 13 shows that the top two border regions for marijuana smuggling are Tucson, Arizona, and the Rio Grande Valley, Texas. On the Mexican side of the border, these regions correspond to the states of

[368] Source: Dube, Thom, and García-Ponce, "From Maize to Haze," 1192. Average eradication per 100 km^2. The authors obtained the data from Mexican Ministry of Defense.

[369] U.S. Drug Enforcement Administration, *2014 National Drug Threat Assessment Summary* (Washington, DC: U.S. Drug Enforcement Administration, 2014), https://www.dea.gov/resource-center/dir-ndta-unclass.pdf; U.S. Drug Enforcement Administration, *2015 National Drug Threat Assessment Summary* (Washington, DC: U.S. Drug Enforcement Administration, 2015), https://www.dea.gov/docs/2015%20NDTA%20Report.pdf; U.S. Drug Enforcement Administration, *2016 National Drug Threat Assessment Summary* (Washington, DC: U.S. Drug Enforcement Administration, 2016), https://www.dea.gov/resource-center/DIR-001-17_2016_NDTA_Summary.pdf; U.S. Drug Enforcement Administration, *2017 National Drug Threat Assessment*.

Tamaulipas and Sonora respectively. On the other hand, the most cocaine law enforcement seized at San Diego and the Rio Grande Valley regions, corresponding to the Mexican states of Tamaulipas and Baja California. Thus, the border states associated with marijuana and/or cocaine trafficking factor into this chapter's analyses.

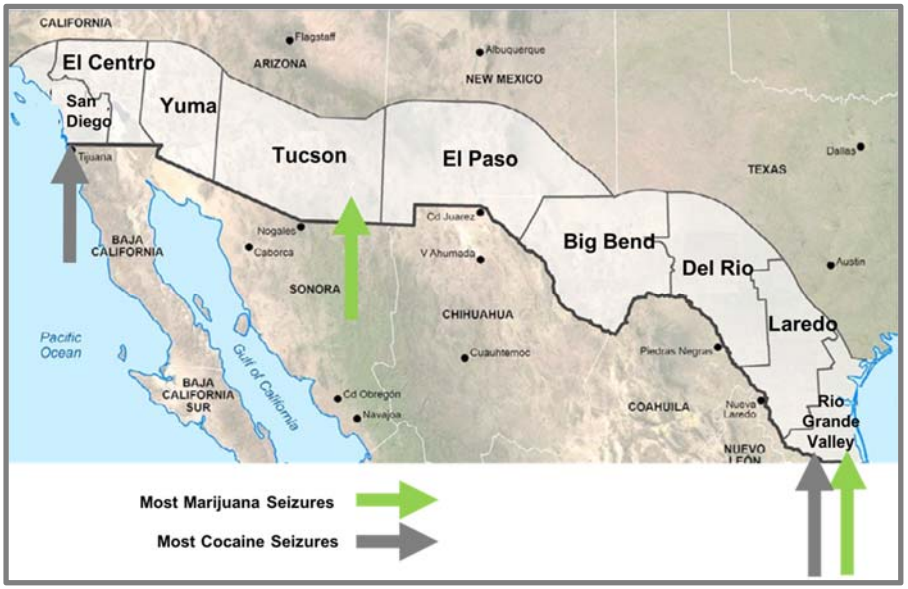


Figure 13. Most U.S. Border Seizures of Marijuana and Cocaine, 2013–2016[370]

Figure 13 implies that the substitution of cocaine for marijuana would likely equate to less product smuggled across the border through the state of Sonora and more through Baja California. In effect, this would increase the relative importance of Baja California in drug trafficking and could potentially contribute to increased instability prior to 2017.

I identify the states highlighted in green on Figure 14 as states more likely to be affected by alternative drug policy. These include states encompassing cultivation areas, trafficking routes, and border smuggling regions for both marijuana and cocaine as well as

[370] Adapted from U.S. Drug Enforcement Administration, *2014 National Drug Threat Assessment*; U.S. Drug Enforcement Administration, *2015 National Drug Threat Assessment*; U.S. Drug Enforcement Administration, *2016 National Drug Threat Assessment*; U.S. Drug Enforcement Administration, *2017 National Drug Threat Assessment*.

states implementing decriminalization policies,[371] which I discuss in this chapter's analysis of decriminalization.

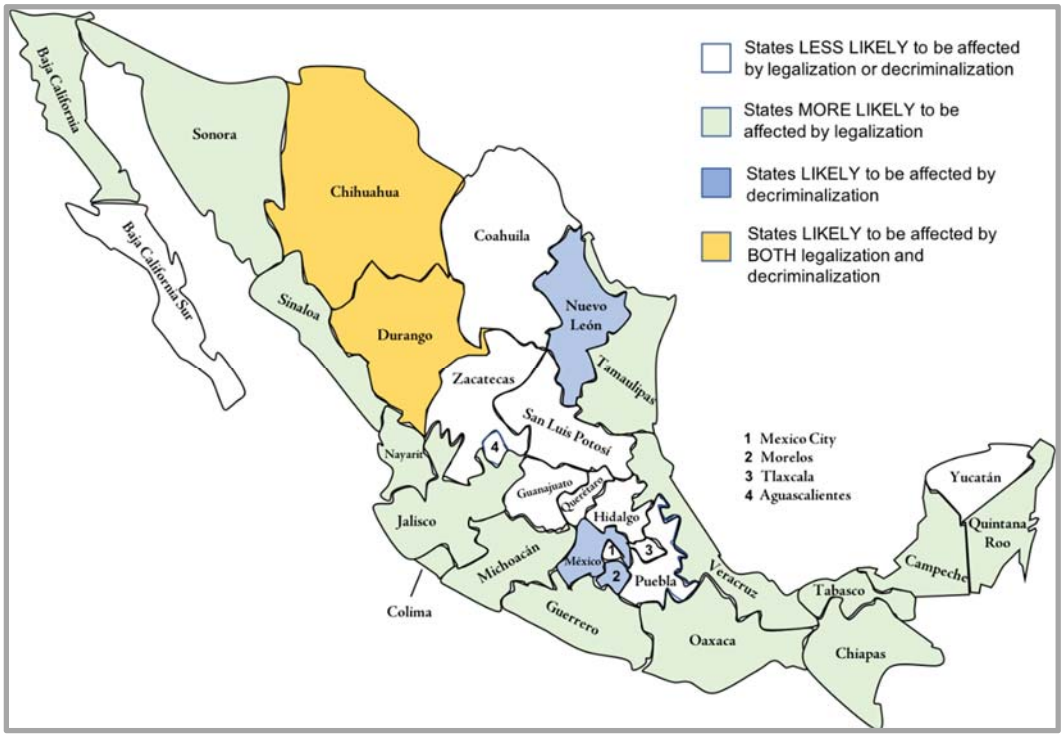


Figure 14. States Most Likely to be Affected by Alternative Drug Policy

c. Kidnapping

Figure 15 shows the kidnapping rates in Mexican states in 2014, the earliest year of available data, and 2016, just prior to El Chapo's January 2017 extradition, while Figure 16 provides more granularity on the states with most substantial shifts in kidnapping rates.

[371] The five states with drug functioning drug courts as part of decriminalization policy, Chihuahua, Durango, Mexico, Morelos, and Nuevo León. See Chapter III.C.2: What Decriminalization Looks Like in North America.

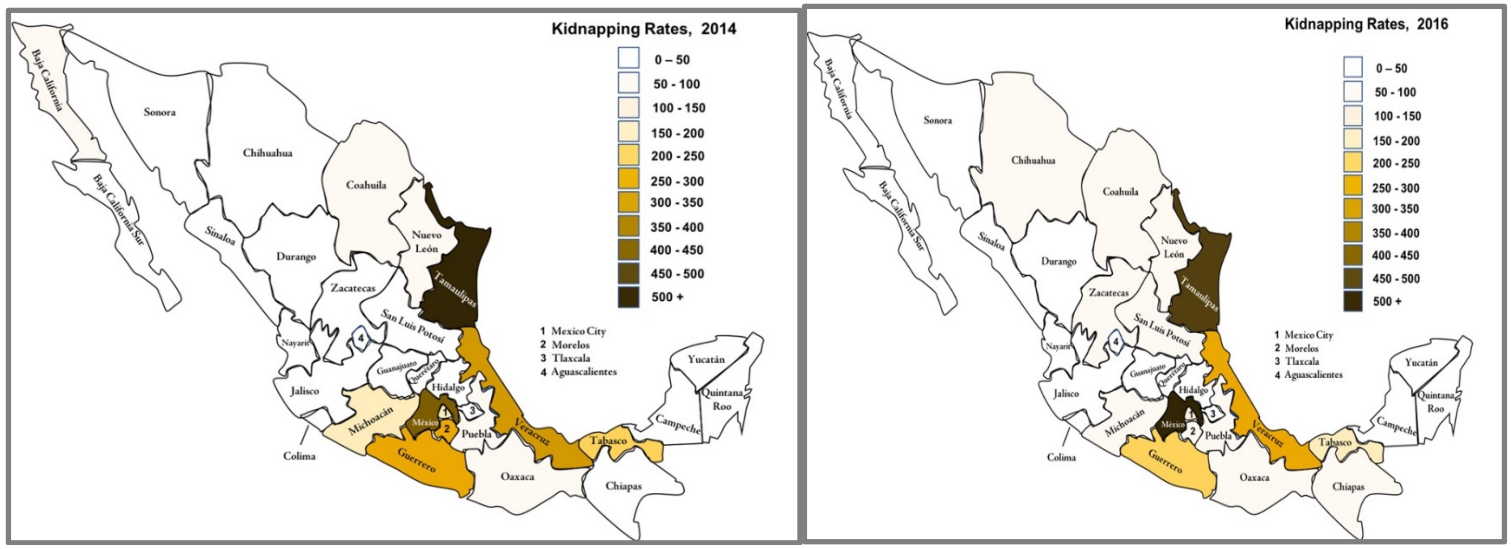


Figure 15. Comparison of Kidnapping Rates by Mexican State, 2014–2016[372]

[372] Adapted from "Secretariado Ejecutivo Del Sistema Nacional de Seguridad Pública (SESNSP)—Datos Abiertos: Víctimas de Homicidio, Secuestro y Extorsión [Mexican Executive Secretary of the National Security System—Open Data: Homicide, Kidnapping, and Extortion Victims]," Datos, accessed April 29, 2018, https://datos.gob.mx/busca/dataset/victimas-de-homicidio-secuestro-y-extorsion-excel. Henceforth "SESNSP Open Data."

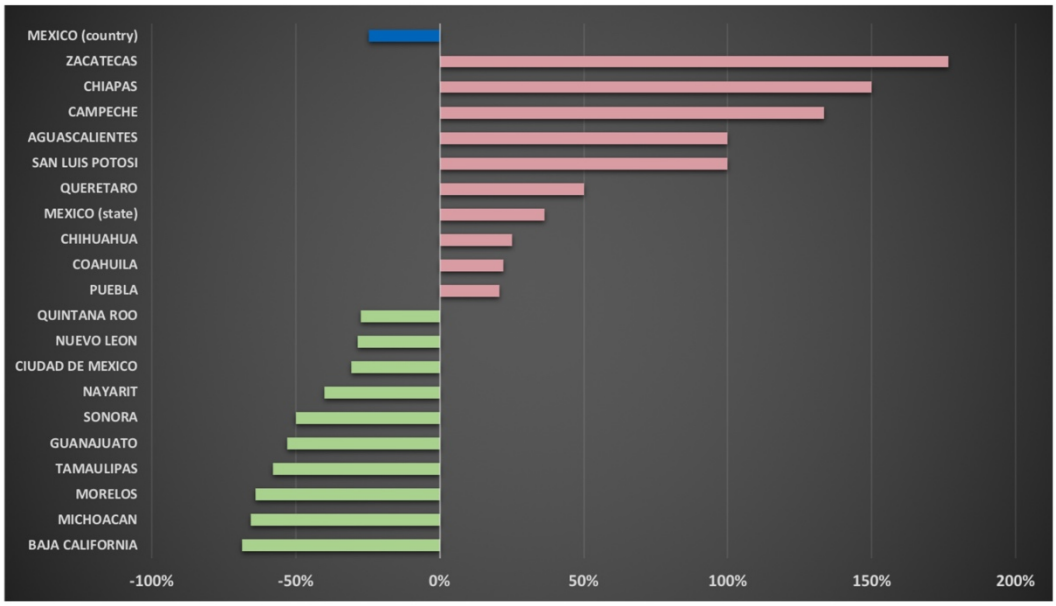


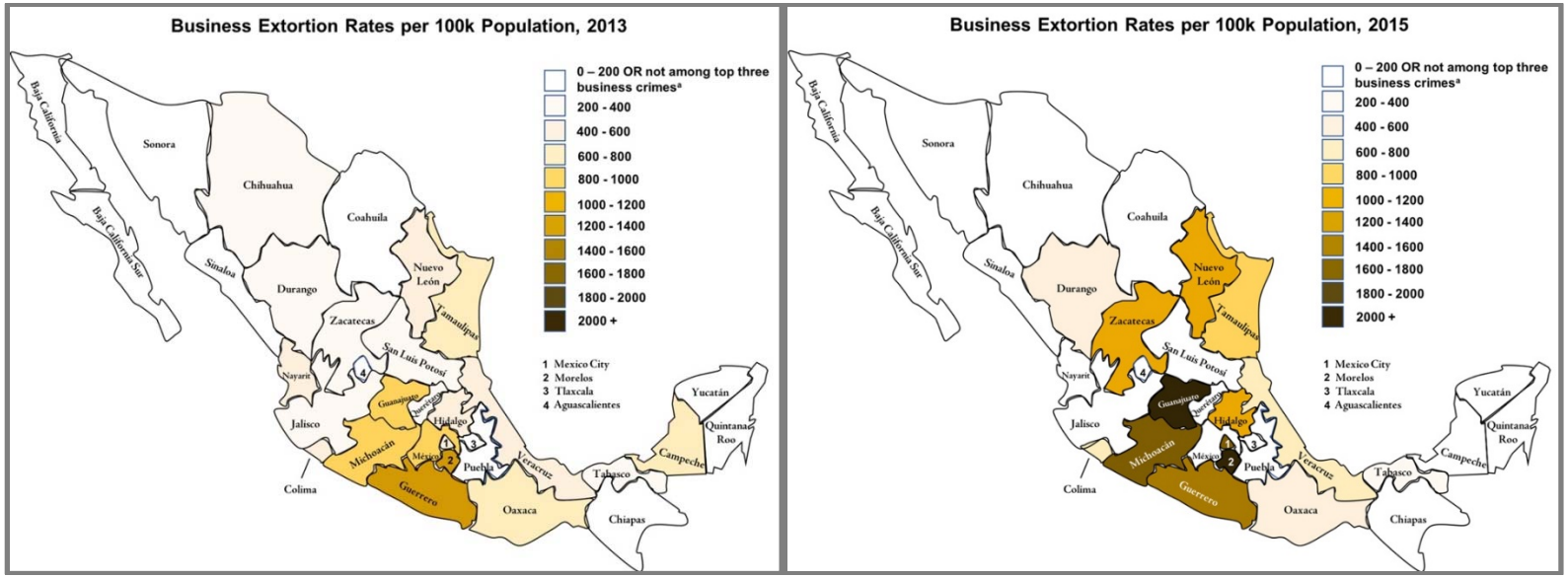
Figure 16. Most Substantial Shifts in Kidnapping Rates by Mexican State, 2014–2016[373]

Figures 15 and 16 indicate that kidnapping saw some of its biggest decreases between 2014 and 2016 in the border states with the most marijuana smuggling, particularly Sonora and Tamaulipas. Additionally, most of the states showing large increases in kidnapping are among the states "not likely to be affected by legalization or decriminalization" on Figure 14. This indicates that kidnapping has not been a likely consequence of legalization policy, especially in northern border states, where the Sinaloa cartel has tended toward kidnapping in the past.

d. Extortion

Figures 17 and 18 show business extortion trends between 2013 and 2015.

[373] Adapted from "SESNSP Open Data."



"Not among top three business crimes" refers to the source data, which displays the top three business crimes by state for each year. That is, extortion values were only provided if extortion was one of the top three business crimes in a given state.

Figure 17. Comparison of Business Extortion Rates by Mexican State, 2013 versus 2015[374]

[374] Extortion values adapted from Instituto Nacional de Estadística y Geografía, "Modulo I—Nivel de victimización [Module 1—Level of Victimization]," in *Encuesta Nacional de Victimización de Empresas (ENVE) [National Survey of Business Victimization] 2017* (Aguascalientes, Mexico: Instituto Nacional de Estadística y Geografía, 2017), Table 1.7, http://www.beta.inegi.org.mx/proyectos/enchogares/regulares/envipe/2017/default.html; Populations by state adapted from Instituto Nacional de Estadística y Geografía, "Modulo VI—Diseño institucional [Module 6—Institutional Design]," in *Censo Nacional de Gobierno, Seguridad Pública y Sistema Penitenciario Estatales [National Government Census, Public Security and State Penitentiary System] 2017* (Aguascalientes, Mexico: Instituto Nacional de Estadística y Geografía, 2017), Table 6.13, http://www.beta.inegi.org.mx/proyectos/censosgobierno/estatal/cngspspe/2017/.

Only states in which extortion was one of the most common three business crimes are shown due to data limitations. In some states, DTO extortions were initially one of the top three most common crimes in 2013 but not in 2015 and vice-versa. Also, important to note is that extortion may have increased significantly in some states between 2013 and 2015, even though it was not one of the three most common crimes.

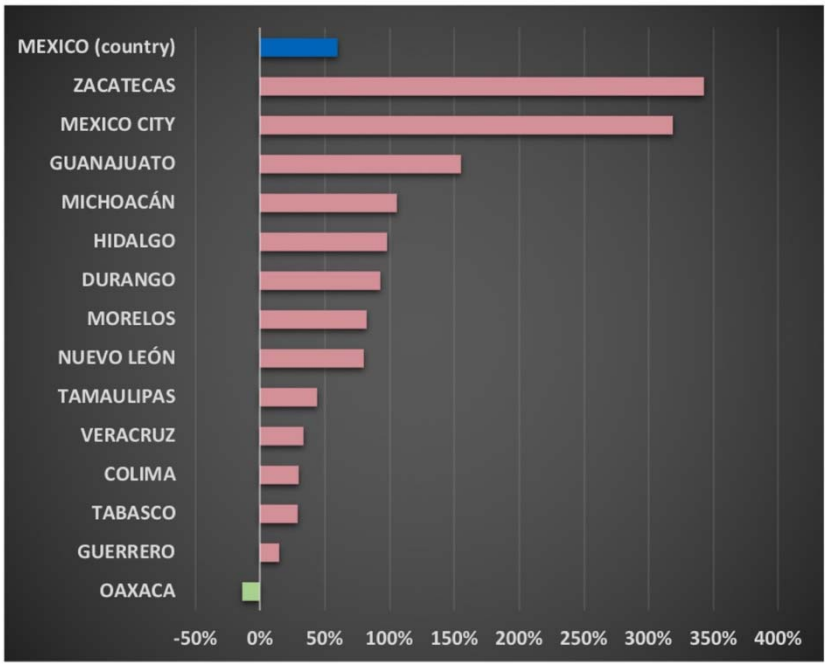


Figure 18. Shifts in Business Extortion Rates per 100,000 Population by Mexican State, 2013–2015[375]

Figure 18 depicts shifts in extortion rates for states in which DTO extortion was one of the three most common business crimes in 2013 and 2015. Most substantial increases occurred in Zacatecas, Mexico City, Guanajuato, and Michoacán, all with increases over 100 percent, whereas the country-wide the Mexican average was 59 percent. Out of these states, Michoacán is the only one where marijuana is typically cultivated. Additionally, the Sinaloa cartel was not the dominant cartel in any of these states between 2013 and 2015. While Durango did experience a significant increase in extortions, the trend was not consistent across the Golden Triangle, the tristate region of Durango, Chihuahua,

[375] Extortion values adapted from Instituto Nacional de Estadística y Geografía, "Modulo I [Module 1]," Table 1.7;

2012 population by state adapted from Instituto Nacional de Estadística y Geografía, "Modulo VI—Diseño institucional [Module 6—Institutional Design]," in *Censo Nacional de Gobierno, Seguridad Pública y Sistema Penitenciario Estatales [National Government Census, Public Security and State Penitentiary System] 2013* (Aguascalientes, Mexico: Instituto Nacional de Estadística y Geografía, 2013), Table 6.1, http://www.beta.inegi.org.mx/proyectos/censosgobierno/estatal/cngspspe/2013/.

2016 population by state adapted from Instituto Nacional de Estadística y Geografía, "Modulo VI—Diseño institucional [Module 6—Institutional Design]," Table 6.13, http://www.beta.inegi.org.mx/proyectos/censosgobierno/estatal/cngspspe/2017/.

and Sinaloa typically controlled by the Sinaloa cartel. According to Figure 17, the prevalence of extortion in Chihuahua decreased relative to other crimes between 2013 and 2015; neither was it one of the top three business crimes in Sinaloa during the period.

Caribbean coastal states such as Tamaulipas, Veracruz, and Tabasco saw DTO extortion increases, yet their increases were less than the Mexican average of 59 percent. The history of conflict between the Zetas and CJNG in Tamaulipas and Veracruz and the commonplace diversification strategies of these two DTOs clouds the link between legalization in the increase of extortion. Additionally, CJNG and the Zetas—the Zetas in particular—reportedly engage in a gamut of organized crime activities in the Caribbean states.[376] The Zetas have remained powerful within Tamaulipas and have diversified into other activities, such as tapping oil pipelines.[377] Since relative newcomer DTOs, such as the Zetas and CJNG, are more prone to diversification, increased extortion rates in the states where they operate, and are less likely to be linked with legalization policy.

In addition to the data presented on kidnapping and extortion, the IEP's Mexico Peace Index assesses industry diversification using an additional measurement method. The IEP uses data from the Mexican executive secretary for the National System of Public Security (SESNSP) to compare the prevalence of drug crimes with the prevalence of extortion and kidnapping. SESNSP released an enhanced dataset in 2017 for this measurement. Whereas the old data set was based only on the "number of investigations," the new dataset accounts for "victims of kidnapping and extortion [and] cases of federal drug crimes and retail drug sales."[378] In the new dataset, narcotics crimes therefore increased from 49 percent of all direct crimes to 88 percent.[379] This demonstrates that

---

[376] Burnett, "Legal Pot in the U.S.;" Dittmar, "Mexico's Ascendant Jalisco Cartel."

[377] Scot DuFour, "Legal Marijuana and Drug Cartels: Will Legal Marijuana Hurt Cartel Power?," *Calibre Press*, May 24, 2017, https://www.calibrepress.com/2017/05/legal-marijuana-drug-cartels/.

[378] Institute for Economics and Peace, *Mexico Peace Index 2018* (Mexico City: Institute for Economics and Peace, 2018), 82, http://visionofhumanity.org/app/uploads/2017/04/ MPI17_English_Report_WEB_03.04-1.pdf.

[379] Direct crimes refers to crimes committed directly for profit versus indirect crimes, which are used for shaping the illicit environment. See Chapter II.G.1: Direct versus Indirect Drug Crimes. The IEP compares narcotics crimes, kidnapping, and extortion as interchangeable as direct crimes. See Figure A.2 in the 2018 MPI for a comparison. Institute for Economics and Peace, *Mexico Peace Index 2018*, 82.

industry diversification is less prevalent than supposed under the old dataset. Unfortunately, the incompleteness of the old data set precludes the use of this useful measurement for the time period of concern for legalization (2012–2016). As the new dataset populates each year, it will likely prove useful in future analysis, however. In any case, the SESNSP example demonstrates just one of the many data gaps that can distort the assessment accuracy of drug policy effects.

The lack of correlation between legalization policy and industry diversification has important implications for the effects of alternative policy. Particularly, the Sinaloa cartel has most likely not recouped its lost marijuana revenues by committing types of organized crime other than trafficking. The Sinaloa cartel has potentially seen net drug trafficking losses on the order of $300 billion MXN due to lost marijuana revenues based on this chapter's analysis. The revenue loss that is still unaccounted for raises pertinent questions on whether legalization has reduced the profitability of organized crime in general. It also raises questions on where the Sinaloa cartel might be making up for lost marijuana revenues and leads one to re-examine the cartel's past tendencies of organized crime, namely, investment in "legal" business. I address the likelihood of the Sinaloa cartel's legal business investment in the following section.

3. Verification of Behavioral Trend (1.3): Increased Investment in Legal Business Resulting from Legalization Policy

Data regarding DTO return on legal business investments is scarce. Popular perception of collaboration between DTOs and legitimate business or government entities could significantly damage the legitimacy of the Mexican authorities. Calculation and analysis as to whether returns on legal business might fill the gap of lost marijuana revenues is beyond the scope of this thesis. Several past alleged links between the Sinaloa cartel, the Mexican government, and investment in legal business, however, demonstrate the Sinaloa cartel's tendency to embed itself within Mexico's formal institutional structures. Other prominent cartels, such as CJNG and the Zetas, typically engaging in industry diversification, are willing to exact violence on the population and often the state. They are usually therefore less likely to invest in legal business.

Since Sinaloa cartel leader El Chapo's storied prison break under the watch of President Vicente Fox in 2001, many in Mexico have perceived a cooperative relationship between the Mexican National Action Party (PAN) and Sinaloa.[380] El Chapo has reportedly "used drug proceeds to assemble a conglomerate of 288 firms across more than a dozen countries," including "hotels, mines, gas stations and an ostrich ranch," a daycare, legal prescription drug businesses, and several charities.[381] Whether El Chapo's fortunes have increased post-legalization is unclear, however. *Forbes Magazine* removed El Chapo from its list of billionaires in 2013 due to a belief that the drug lord was spending more in protections for himself and his family.[382]

Sinaloa operations have also had deep roots within the United States. The profitability of drug transactions is substantially higher in the United States due to significant valuation of product once it crosses the border. From a business standpoint, it makes sense that the Sinaloa cartel would invest the most resources at the most valuable point in the supply chain. Since California's recreation legalization of marijuana, the Sinaloa cartel has been implicated in increased illicit marijuana cultivation in northern California.[383] *Chicago Magazine* also reported in 2013 that the cartel had a major presence in Chicago, "the transportation hub of the US…within a day's drive of 70 percent of the nation's population."[384] Cocaine, heroin, and methamphetamine revenues have increased since 2012, which is primarily due to an increased number of users.[385] Trends in

---

[380] "10 Years after Prison Escape, 'El Chapo' Thrives," *CBS News*, January 18, 2011, https://www.cbsnews.com/news/10-years-after-prison-escape-el-chapo-thrives/.

[381] "Mexican Drug Lord Owns Nearly 300 Companies," *San Diego Union-Tribune*, February 28, 2014, http://www.sandiegouniontribune.com/hoy-san-diego/sdhoy-mexican-drug-lord-owns-nearly-300-companies-2014feb28-story.html.

[382] Dolia Estevez, "Mexican Drug Kingpin El Chapo out of Billionaire Ranks," *Forbes*, March 5, 2013, https://www.forbes.com/sites/doliaestevez/2013/03/05/mexican-drug-kingpin-el-chapo-out-of-billionaire-ranks/#4e962a3266fc.

[383] Johnny Magdaleno, "Mexican Drug Cartels May Use Illegal Marijuana to Increase Their Presence in Northern California," *Newsweek*, January 10, 2018, http://www.newsweek.com/2018/01/19/mexican-drug-cartels-taking-over-california-legal-marijuana-775665.html.

[384] Jason McGahan, "Why Mexico's Sinaloa Cartel Loves Selling Drugs in Chicago," *Chicago Magazine*, September 17, 2013, http://www.chicagomag.com/Chicago-Magazine/October-2013/Sinaloa-Cartel/.

[385] See Appendix.

profitability of DTO operations in the U.S. is unclear. Legalization may potentially drive DTOs to recoup profits by embedding themselves more deeply in legitimate economic and/ or political structures within Mexico, the US, or other international locations.

C. DECRIMINALIZATION-BEHAVIOR NEXUS: QUANTITATIVE ANALYSIS

Chapter III's analysis describes three possible shifts in drug enforcement and DTO behavior due to decriminalization: shifts in the incarceration to treatment ratio of drug offenders (2.1), shifts in federal prioritization on individual consumption versus trafficking crimes (2.2), and DTO diversification (2.3), as depicted on Table 11. Important to note is that (2.1) and (2.2) are interdependent. Shift (2.1) affects (2.2) because treatment may be more or less cost-effective than incarceration, potentially freeing up federal resources to focus on trafficking. Shift (2.2) also affects (2.1) however, because federal prioritization on trafficking over consumption means delegation of the prosecution of individual drug users to the state and local levels. Since state and local law enforcement agents are more present in communities that federal law enforcement, and they are incentivized to enforce strict drug possession, the number of incarcerations will theoretically increase. However, the converse may also be true in that higher rates of incarceration often correlate with less counter-trafficking resources. My quantitative assessment of shifts (2.1)–(2.4) and their implications for Mexican stability will focus on Mexican states currently implementing drug courts: Nuevo Leon, Mexico, Morelos, Durango, and Chihuahua**.** I quantitatively measure the behavioral effects of decriminalization using the indicators mentioned in Table 11. I have also noted in Table 11 the indicators that would be useful in refining the analysis, but either do not exist or are not publicly available.

Table 11. Decriminalization-Behavioral Shift Indicators

Decriminalization[a]		
Behavioral Trend	**Behavioral Indicator(s)**	**Source(s) of Indicator**
(2.1) Shift in prioritization of incarceration vs. treatment as a penalty for drug use	Comparison of Prison Overcrowding in "Decriminalized" States with the Mexican Average, 2012-2016 (as a function of prison capacity vs. number of prisoners)	INEGI National Survey on Government, Public Security, and State Penitentiaries 3.5 Part 1a: Population incarcerated at the end of the year for common crimes by state and type of crime, 2012 (survey 3.3 for 2016) INEGI National Survey on Government, Public Security, and State Penitentiaries 3.7: Penitentiary centers and their capaicity, by judicial status and population, 2012 (survey 3.4 for 2016)
	Trends in the rates of prisoners incarcerated specifically for drug crimes	Not available
	Trends in the rates of drug offenders treated for drug addiction	Not available
(2.2) Shift in enforcemet of individual drug offenses vs. drug trafficking	Comparison of Prison Budgets of "Decriminalized" States Per Capita (MXN), 2012-2016 (as a function of prison budgets and number of 18 and older population by state)	INEGI National Survey on Government, Public Security, and State Penitentiaries 3.9, Part 1a: Budget exercised for prisons by state and by type of fund, 2012 (Survey 3.6 for 2016) National Survey for Victimization and Public Secuirty Perception (ENVIPE) 6.1: Dispersion of the population 18 and older by state and type of authority, 2012 (Survey 6.13 for 2016)
	Trends in number of trafficking crimes prosecuted and associated cost by state	Not available
	Countertrafficking budget trends by state	Not available
(2.3) DTO market diversification resulting from decriminalization policy	Trends in the types and quantities of drugs offered in treatment	Not available
	Shifts in DTO drug revenues, by drug, in the five decriminalized states	Not available
(2.4) DTO industry diversification resulting from decriminalization policy	Kidnapping and extortion trends	INEGI National Business Victimization Survey (ENVE) 1.7: Economic entities by states, according to their perception of the factors that affect them (same as behavioral trend 1.2), 2012-2016

a. All indicators in this table applied only to the five decriminalized states that have a functioning drug court system, which are Chihuahua, Durango, Mexico, Morelos, and Nuevo León.

1. Verification of Behavioral Trend (2.1): Shift in Prioritization of Incarceration versus Treatment as a Penalty for Drug Use

I quantitatively examine all decriminalization-related behaviors using the basis of a pre- versus post-2013 reform analysis.[386] I primarily utilize data from Mexico's National INEGI.[387] According to INEGI figures, the prison overcrowding of the five drug court states increased faster than the national average between 2012 (pre-reform) and 2016 (post-reform). Table 12 presents the overcrowding trends in prisons of the five drug court states from 2012 to 2016.

Table 12. Comparison of Prison Overcrowding in Decriminalized States with the Mexican Average, 2012–2016[388]

Percent of Prison Capacity			
	2012[a]	2013[b]	2016[c]
Chihuahua	63%	100%	99%
Durango	95%	141%	134%
Mexico	94%	188%	196%
Morelos	103%	121%	135%
Nuevo Leon	126%	130%	104%
Average	**96%**	**136%**	**134%**
Total Mexico	**109%**	**130%**	**110%**

Change, 2012 - 2016			
	Change in Capaciy	Change in Prisoners	Change in Crowdedness
Chihuahua	40.0%	120.3%	36%
Durango	2.1%	43.8%	39%
Mexico	-25.0%	56.2%	102%
Morelos	-0.7%	30.2%	32%
Nuevo Leon	12.2%	-7.3%	-22%
Average	**6%**	**49%**	**37%**
Total Mexico	**5.5%**	**6.8%**	**1%**

[386] See Chapter III.C.2: What Decriminalization Looks Like in North America for a description of the 2013 reforms to Mexican decriminalization law, particularly with regard to state/local police enforcement of the Narcomenudo law vice federal law enforcement, as well as the increased penalties associated with the possession of illicit product over the maximum allowable limit. Although the government established drug courts in the pilot state of Nuevo León in 2009, it expanded the concept to the states of México, Morelos, Durango, and Chihuahua during the 2013–2014 timeframe.

[387] Instituto Nacional de Estadística y Geografía, *Encuesta Nacional de Victimización y Percepción Sobre Seguridad Pública (ENVIPE) [National Survey of Victimization and Perception of Public Safety] 2017* (Aguascalientes, Mexico: Instituto Nacional de Estadística y Geografía, 2017), http://www.beta.inegi.org.mx/proyectos/enchogares/regulares/envipe/2017/default.html.

[388] 2012 number of prisoners and prison capacity adapted from Instituto Nacional de Estadística y Geografía, "Modulo III—Sistema penitenciario [Module 3—Penitentiary System]" in *Censo Nacional de Gobierno, Seguridad Pública y Sistema Penitenciario Estatales [National Survey of Government, Public Security, and the State Penitentiary System] 2013* (Aguascalientes, Mexico: Instituto Nacional de Estadística y Geografía, 2013), Tables 3.5, 3.7, http://www.beta.inegi.org.mx/proyectos/ censosgobierno/estatal/cngspspe/2013/.

Table 12 shows that prison crowdedness in the decriminalized states increased at higher rates than the Mexican average. Much of this increase happened relatively quickly, with average crowdedness of the five states increasing 40 percent between 2012 and 2013. While the average prison capacity of the five states increased at a similar rate to the country average between 2012 and 2016, the number of average prisoners increased 42 percent more than the national average. Notably, Nuevo León was a strong outlier with respect to the prisoner uptick, seeing a *decrease* of 7.3 percent.

The average relative increase in prisoners in the five states could potentially indicate a post-reform increase of drug-related convictions. The delegation of drug crime sentencing from federal down to state and local authorities, who are incentivized to crack down on individual drug possession, may have contributed to this trend. Since Nuevo León was the first state to institute drug courts in 2009, however, its decrease in prisoners could possibly be related to a more developed and refined decriminalization system. This may also point to growth in the proportion of government resources allocated toward treatment rather than incarceration, which could potentially reduce instability.

Data detailing which portion of prison sentences are drug-related would be useful in further singling out the possible effects stemming from decriminalization policy. However, INEGI does not provide this data beyond 2012.[389] Additionally, to my

---

2013 prison capacity adapted from Instituto Nacional de Estadística y Geografía, "Modulo III—Sistema penitenciario [Module III—Penitentiary System]," in *Censo Nacional de Gobierno, Seguridad Pública y Sistema Penitenciario Estatales [National Survey of Government, Public Security, and the State Penitentiary System] 2014* (Aguascalientes, Mexico: Instituto Nacional de Estadística y Geografía, 2014), Table 2.4, http://www.beta.inegi.org.mx/proyectos/censosgobierno/estatal/cngspspe/2014;

2013 number of prisoners adapted from Instituto Nacional de Estadística y Geografía, "Modulo III—Sistema penitenciario [Module III—Penitentiary System]," in *Censo Nacional de Gobierno, Seguridad Pública y Sistema Penitenciario Estatales [National Survey of Government, Public Security, and the State Penitentiary System] 2013* (Aguascalientes, Mexico: Instituto Nacional de Estadística y Geografía, 2013), Table 3.3, http://www.beta.inegi.org.mx/proyectos/censosgobierno/estatal/cngspspe/2013/;

2016 number of prisoners and 2016 prison capacity adapted from Instituto Nacional de Estadística y Geografía, "Modulo III—Sistema penitenciario [Module III—Penitentiary System]" in *Censo Nacional de Gobierno, Seguridad Pública y Sistema Penitenciario Estatales [National Survey of Government, Public Security, and the State Penitentiary System] 2017* (Aguascalientes, Mexico: Instituto Nacional de Estadística y Geografía, 2017), Tables 3.3, 3.4, http://www.beta.inegi.org.mx/proyectos/censosgobierno/estatal/cngspspe/2017.

[389] After 2012, INEGI breaks down its inmate crime data into two categories only, common crimes and federal crimes, from which one cannot discern the portion of sentences related to drug crimes.

knowledge, drug treatment stats in these states are not publicly available. The concurrent drop in prison capacity and rise in number of prisoners from 2013 to 2016 also indicates that the Mexican government allocated resources for expansion of prisons during this timeframe. This could have potentially reduced government resources available for which to invest in counter-trafficking, which correlates with behavioral trend (2.2) in the following section.

2. Verification of Behavioral Trend (2.2): Shift in Enforcement of Individual Drug Offenses versus Drug Trafficking

One of Mexico's primary goals in decriminalization policy is to free up federal resources for focus on countertrafficking operations. As explained in Chapter III, the 2013 reforms to the Narcomenudo law amended the parameters of decriminalization policy in a way that likely increased the number of incarcerated drug offenders. Quantitative verification of this trend requires data on prison budgets as well as countertrafficking budgets for comparison. Table 12 shows that the number of prisoners in decriminalized states did increase by about 42 percent more than the Mexican average between 2012 and 2016 (49 percent total). Logically, a 49 percent increase in prison population would require increased prison budgets. Table 13 shows the prison budget increase per capita of the total population, 18 years or older, for the five states and compares it to Mexican country-wide prison budget trends.

Table 13. Comparison of Prison Budgets of "Decriminalized" States Per Capita in MXN, 2012–2016[390]

	2012[a]	2016[b]	Change
Chihuahua	$93.45	$320.76	243%
Durango	$25.92	$43.06	66%
México	$97.07	$157.65	62%
Morelos	$168.59	$234.78	39%
Nuevo León	$107.48	$553.25	415%
Average	**$98.50**	**$261.90**	**165%**
Total Mexico	**$106.79**	**$162.87**	**53%**

The average prison budget for decriminalized states has increased 112 percent more than the country-wide average between 2012 and 2016. Nuevo León saw the largest budget increase of 415 percent; Nuevo León's relatively large prison budget increase could potentially indicate an initial investment in establishing treatment facilities, or possibly that treatment is actually less cost-effective than incarceration. Data specifying the number drug crimes prosecuted and associated cost would help to clarify the implications of the concurrent increase in budget and decrease in prisoners in Nuevo León.

[390] 2012 population by state adapted from Instituto Nacional de Estadística y Geografía, "Modulo VI—Desempeño institucional [Institutional Development]," in *Censo Nacional de Gobierno, Seguridad Pública y Sistema Penitenciario Estatales [National Survey of Government, Public Security, and the State Penitentiary System] 2013* (Aguascalientes, Mexico: Instituto Nacional de Estadística y Geografía, 2013), Table 6.1, http://www.beta.inegi.org.mx/proyectos/censosgobierno/estatal/cngspspe/2013.

2016 population by state adapted from Instituto Nacional de Estadística y Geografía, "Modulo VI—Desempeño institucional [Institutional Development]," in *Censo Nacional de Gobierno, Seguridad Pública y Sistema Penitenciario Estatales [National Survey of Government, Public Security, and the State Penitentiary System] 2017* (Aguascalientes, Mexico: Instituto Nacional de Estadística y Geografía, 2017), Table 6.3, http://www.beta.inegi.org.mx/proyectos/censosgobierno/estatal/cngspspe/2017.

2012 prison budget by state adapted from Instituto Nacional de Estadística y Geografía, "Modulo III—Sistema penitenciario [Module III—Penitentiary System]" in *Censo Nacional de Gobierno, Seguridad Pública y Sistema Penitenciario Estatales [National Survey of Government, Public Security, and the State Penitentiary System] 2013* (Aguascalientes, Mexico: Instituto Nacional de Estadística y Geografía, 2013), Table 3.9, http://www.beta.inegi.org.mx/proyectos/censosgobierno/estatal/cngspspe/2013.

2016 prison budget by state adapted from Instituto Nacional de Estadística y Geografía, "Modulo III—Sistema penitenciario [Module III—Penitentiary System]" in *Censo Nacional de Gobierno, Seguridad Pública y Sistema Penitenciario Estatales [National Survey of Government, Public Security, and the State Penitentiary System] 2017* (Aguascalientes, Mexico: Instituto Nacional de Estadística y Geografía, 2017), Table 3.6, http://www.beta.inegi.org.mx/proyectos/censosgobierno/estatal/cngspspe/2017.

While the federal prison budget data reflects a relative increase in federal budget in decriminalized states, this is where data applicable to shifts in prioritization of individual drug offenses versus countertrafficking ends. To my knowledge, there is no current data available regarding the budget allocation specifically related to prosecution and sentencing. Nor is specific data available on the counternarcotics budget. Data on the specific portion of the budget allocated to counter-trafficking would be required to assess the occurrence of a "resource tradeoff." The IEP's 2015 *Mexico Peace Index* indicates that there was no change in the economic cost of incarceration between 2012 and 2014 to correspond with the uptick in overcrowding.[391] The index also shows that incarceration is a relatively insignificant portion of the overall economic impact of violence. However, its figures are based only on the forgone wages of prisoners[392] rather prison infrastructure and services.

3. Verification of Behavioral Trend (2.3): DTO Market Diversification Resulting from Decriminalization Policy

As discussed in Chapter III, decriminalization may cause a potential shift from illicit drug sourcing to legal government-sponsored providers, which provide daily amounts for treatment. A shift away from DTO-sourced product could potentially affect DTO revenues within Mexico and cause diversification. I apply data from analysis of the two previous behavioral trends to the case of legalization to decriminalization in the five drug court states. To focus the verification of this behavioral trend, I identify which cartels are most present in each of the drug court states (depicted in Table 14). Table 14 shows that based on intercartel violence data, the Sinaloa cartel is one of the primary cartels involved in four out of the five decriminalized states. Since the Sinaloa cartel is most prone to market diversification, its presence adds weight to the possibility that decriminalization may cause diversification into other drugs.

[391] Institute for Economics and Peace, *Mexico Peace Index 2015*, 57.

[392] Institute for Economics and Peace, *Mexico Peace Index 2015*, 82.

Table 14. Primary Cartels Involved in Cartel-on-Cartel Violence in Drug Court States[393]

	Chihuahua	Durango	Morelos[a]	Mexico	Nuevo León
Sinaloa	X	X	X	X	
Zetas		X		X	X
Gulf			X	X	X
CJNG					
Tijuana					
Juarez	X				

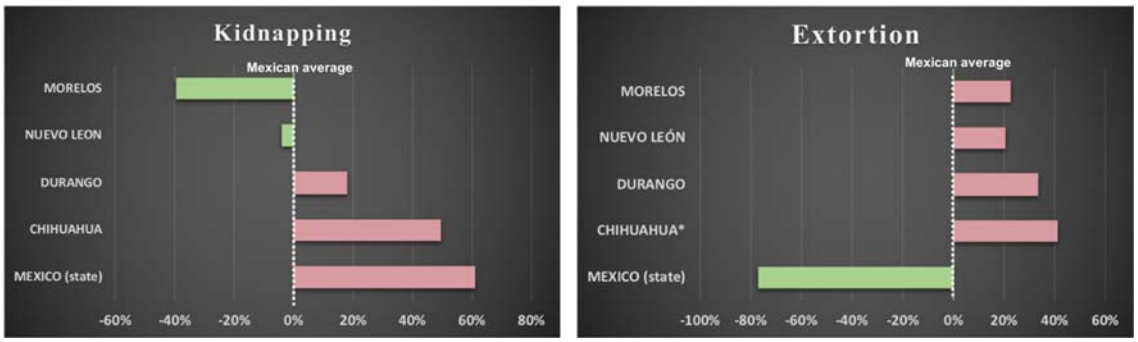
a. Very few violence cases in Morelos reported by media outlets.

Although the presence of the Sinaloa cartel in most decriminalized states may strengthen analysis of market diversification, the analysis lacks key important data sets, in particular is data on Mexican domestic drug use patterns. To my knowledge, there is no available data quantifying the number of drug users by Mexican state by type of drug exists that would facilitate an analysis of drug substitution parallel to the one conducted for market diversification under legalization. In addition to drug consumption data, figures on the numbers of drug offenders undergoing government-sponsored treatment would provide clarity on how many potential clients of DTOs or drug-dealing gangs are now clients of the government. Due to a lack of data, therefore, I cannot conduct verification of the causal link between decriminalization and DTO market diversification with any level of confidence.

4. Verification of Behavioral Trend (2.4): DTO Industry Diversification Resulting from Decriminalization Policy

DTO industry diversification is the final possible outcome of decriminalization, which I have identified for analysis. I apply the analysis method for the legalization case of industry diversification to the five decriminalized states. Figure 19 depicts the industry diversification trends of kidnapping and extortion in the five decriminalized states compared to the national average.

[393] "Countries in Conflict View: Mexico," Department of Peace and Conflict Research, Uppsala Conflict Data Program, http://ucdp.uu.se/#country/70. The Uppsala Conflict Data Program sources its data from media reports of violent conflict.



*Maximum possible increase shown. Actual values for 2015 unknown. May have increased or decreased.

Figure 19. Comparison of the Change in Extortion and Kidnapping in the Five Decriminalized States to the Mexican Average, 2014–2016.[394]

Diversification into kidnapping and extortion in decriminalized states has been inconsistent. Notably, Chihuahua and Durango both saw an increase in both kidnapping and extortion relative to the Mexican average between 2014 and 2016. However, Nuevo León, the first state to implement decriminalization policy, is the tell-tale case study of industry diversification. Nuevo León's relative rates of extortion increased relative to the Mexican average, while kidnapping rates remained virtually unchanged. Due to the variance of industry diversification trends across decriminalized states and minimal relative shifts in Nuevo León, quantitative evidence for industry diversification as a result of decriminalization policy is inconclusive.

[394] Extortion values adapted from Instituto Nacional de Estadística y Geografía, "Modulo I—Nivel de victimización [Module 1—Level of Victimization]" in *Encuesta Nacional de Victimización y Percepción sobre Seguridad Pública (ENVIPE) [National Survey of Victimization and Perception of Public Safety] 2017* (Aguascalientes, Mexico: Instituto Nacional de Estadística y Geografía, 2017), Table 1.7, http://www.beta.inegi.org.mx/proyectos/enchogares/regulares/envipe/2017/default.html.

Kidnapping data adapted from "SESNSP Open Data."

2012 population by state adapted from Instituto Nacional de Estadística y Geografía, "Modulo VI—Desempeño institucional [Institutional Development]," in *Censo Nacional de Gobierno, Seguridad Pública y Sistema Penitenciario Estatales [National Survey of Government, Public Security, and the State Penitentiary System] 2013* (Aguascalientes, Mexico: Instituto Nacional de Estadística y Geografía, 2013), Table 6.1, http://www.beta.inegi.org.mx/proyectos/censosgobierno/estatal/cngspspe/2013.

2016 population by state adapted from Instituto Nacional de Estadística y Geografía, "Modulo VI—Desempeño institucional [Institutional Development]," in *Censo Nacional de Gobierno, Seguridad Pública y Sistema Penitenciario Estatales [National Survey of Government, Public Security, and the State Penitentiary System] 2017* (Aguascalientes, Mexico: Instituto Nacional de Estadística y Geografía, 2017), Table 6.13, http://www.beta.inegi.org.mx/proyectos/censosgobierno/estatal/cngspspe/2017.

D. SUMMARY OF QUANTITATIVE FINDINGS ON BEHAVIORAL TRENDS

The quantitative analysis of possible DTO behaviors resulting from alternative policy in this chapter has provided significant findings. First, legalization has most likely caused the Sinaloa cartel's diversification into cocaine. Analysis of "drug substitution" in the legalization market diversification section of this chapter shows a substantial drop in marijuana revenues since legalization. The Sinaloa cartel has been the primary marijuana trafficking cartel and has therefore most likely lost the most overall drug-trafficking revenue since legalization. Since the Sinaloa Cartel also participates in the majority of cocaine trafficking, and their cocaine revenues have increased since legalization. The Sinaloa cartel also has one of the lowest historical tendencies toward industry diversification, which means that it has likely stuck to drug trafficking to a greater extent than other DTOs. This chapter's analysis of kidnapping and extortion also reveals minimum likelihood of the Sinaloa cartel's industry diversification.

With uncompensated-for losses in marijuana revenue, it is possible that organized crime is becoming less profitable for the Sinaloa cartel. This could potentially motivate the Sinaloa cartel to increase investment in licit business as it has done in the past. However, reliable data on high level cooperation between businesses or government and organized crime groups is not available. PAN, where the Sinaloa cartel's most powerful government connections reportedly reside, has offered press releases in an attempt to dissuade perceptions of collaboration.[395] Barring uncertain levels of investment in legal business, legalization may make organized crime less profitable for the Sinaloa cartel overall. Chapter V's instability analysis cross-examines these findings, however, and place them in the context of overall policy success.

Other cartels, including Gulf, Zetas, Juarez, Tijuana, La Familia, and BLO have also participated in marijuana trafficking, albeit to a lesser degree than the Sinaloa cartel. However, these DTOs are more generally prone to industry diversification than Sinaloas, and therefore, the causality between legalization and diversification is opaquer. These

[395] "Sinaloa Cartel," InSight Crime, January 24, 2018, https://www.insightcrime.org/mexico-organized-crime-news/sinaloa-cartel-profile/.

cartels have also undergone splits or turf wars to a greater extent than the Sinaloa cartel has, yielding smaller splinter groups more prone to industry diversification. Drug kingpin operations are typically named as the cause of splintering. While legalization may have also contributed to an uptick in cartel versus cartel conflict, and therefore splintering, the scope of its specific contribution requires a more in-depth analysis of the specific trends of cartels. Instability indicators for the territories of cartels other than the Sinaloa cartel would therefore hold less weight than the effects of alternative drug policies.

Although I have placed significance on DTO drug revenues in my analysis of legalization's effects, I acknowledge that actual figures are, in some cases, somewhat arbitrary. It is not only the quantity of DTO revenues that cause instability,[396] but also DTO pursuit of those revenues. A key underlying assumption is, therefore, that when DTOs lose profits in a capitalistic illicit environment, they will attempt to recoup the lost profits. Thus, determining the "revenue gap" caused by legalization is not a direct determination of DTO diversification; rather, it is an approximate measure of DTO incentive to diversify. The two primary linkages between DTO revenues and stability are then (1) the quantity of revenue available for investment in destabilizing protections or environment-shaping activities, and (2) the level of incentive to expand the quantity and/or scope of direct crimes.[397]

With regard to decriminalization, this chapter's analysis has shown the policy has most likely an increase in incarceration of the population due to minor possession crimes. Nuevo León has had the longest-running decriminalization program,[398] and therefore it is the most reliable case study. It is also a state not likely to be affected by legalization policy, which distinguishes it as a more direct case study for decriminalization. Table 12 shows that prison overcrowding was well above the national average in all decriminalized states except for Nuevo León. Nuevo León's concurrent 415 percent increase in prison budget and seven percent decrease of number of prisoners between 2012 and 2016 yields two

[396] Increased revenues afford DTOs the ability to invest in increased protections or in shaping the illicit environment in to increase power, which often include violence and other destabilizing activities.

[397] Direct crimes is synonymous with profit-making crimes, as EXPLAINED in Chapter II.

[398] Nuevo León's decriminalization program started in 2009, while the other four decriminalized states started theirs between 2012 and 2013.

possible conclusions: (1) court-mandated treatment programs are successful in decreasing prison populations, and/or (2) treatment programs require more government funding than incarceration, thereby causing a large budget increase. The implications for instability are multilayered; higher social stability due to increased public health and less incarceration should increase government legitimacy. However, if treatment programs require higher levels of government resources, the government may have fewer resources to allocate to other programs such as countertrafficking operations and court procedures.

I have cited multiple instances in this chapter where additional or more specific data could enhance the analysis of alternative drug policy's behavioral effects, particularly with regard to decriminalization. The potentially useful data includes the number of Mexican drug users by state and type of drug, the proportion of prisoners incarcerated for drug crimes versus other types of crime, the number of drug offenders undergoing government-sponsored treatment programs, and the federal counter-narcotics budget. The missing datasets would also increase the accuracy or reliability of instability analysis, as is evident in Chapter V.

V. QUANTITATIVE INDICATORS OF MEXICAN STABILITY

A. INTRODUCTION

Thus far, I have constructed a model framework of analysis for the effects of drug policy on DTO and drug enforcement behavior and completed the initial analysis alternative drug policy within the context of the model. This was one of the two primary objectives of this thesis. This chapter pursues the other key objective—examining the possible ways that these behaviors have affected Mexican stability.

1. Purpose and Context of This Chapter

The main objective of this chapter is to determine how and to what extent alternative drug policies (i.e., legalization and decriminalization) have most likely affected Mexican instability. This chapter builds on the qualitative and quantitative analyses of DTO and drug enforcement behavior presented in Chapters III and IV. Whereas Chapters III and IV focus primarily on the drug policy (1) $\Rightarrow$ resulting behaviors (2) leg of the of the broader drug policy (1) $\Rightarrow$ resulting behaviors (2) $\Rightarrow$ stability/instability (3) causal sequence, this chapter focusses on the latter leg: the relationship between behavior (2) and stability/instability (3). As with Chapter IV, I primarily assume a "unidirectional" relationship between (2) and (3) for simplicity of calculation and will therefore not incorporate the feedback loops identified in Chapter III's policy-behavior model. The instability analyses herein also serves as a cross-examination of Chapter IV's findings on policy-behavior dynamics.

This chapter links particular instability indicators to each of the behaviors analyzed in Chapter IV, depicted in this chapter in Tables 16 and 17. I select or tailor each indicator to match corresponding behavior as closely as possible to most accurately reflect possible shifts in stability. However, the indicators are approximations as best since causal relationships are complex (discussed in Chapter IV). As explained in the Chapter I's literature review on stability, all types of stability—physical, social, political, and economic—essentially manifest in the form of either political or economic stability once

their effects proliferate to the country level. Therefore, I frame my findings on stability in this chapter in terms of either political or economic instability.

Chapter IV developed certain emphases and parameters related to DTO operations and decriminalization law so as to contextualize analysis. The parameters also apply to this chapter. First, Chapter IV identified that the Sinaloa cartel is most likely to be affected by legalization policy. Therefore, I focus particularly attention on the regions where the Sinaloa primarily operates and the types of activities the Sinaloa conducts. Second, among the five states implementing decriminalization policy,[399] the state of Nuevo León is the most reliable case study. Nuevo León was the first to implement decriminalization policy,[400] and it is less likely to be affected by legalization than some other decriminalized states, which better distinguishes the effects of decriminalization.[401] Because of this, I place higher importance on Nuevo León with regard to decriminalization's effects on stability. Third, I utilize data only through 2016 in my analysis. Sinaloa cartel leader El Chapo's extradition to the United States in January of that year has coincided with a significant spike in crime in Mexico during 2017. Thus, I use only data prior to 2017 to avoid distortion of the correlation between drug policy and instability that may occur due to additional destabilizing factors.

2. Developing Stability Indicators

As discussed in the literature review concerning stability in Chapter I, the IEP provides political stability data in the positive peace section of its Mexico Peace Index. The IEP defines positive peace as "the attitudes, institutions and structures that create and sustain peaceful societies" and claims that "positive peace factors can be used as the basis for empirically measuring a country's resilience, or its ability to absorb and recover from

[399] The five "decriminalized" states are Chihuahua, Durango, Mexico, Morelos, and Nuevo León.

[400] Nuevo León implemented decriminalization in 2009, while the other four "decriminalized" states did so in the 2013–2014 timeframe. I therefore assume that Nuevo León serves as a superior "proof of concept" for policy. See Chapter III.C.2: What Decriminalization Looks Like in North America.

[401] Nuevo León is not a typical marijuana cultivation area and less of a stronghold of the Sinaloa cartel compared to other "decriminalized" states such as Chihuahua and Durango. See Figure 14 in Chapter IV.

shocks."[402] Thus, I use the MPPI as the primary metric of political instability. Since political stability has a number of influences, as shown on Table 15, I derive the specific indicators that relate most closely correlate with DTO and law enforcement behaviors to form an index tailored to organized crime-related political stability.

[402] Institute for Economics and Peace, *Mexico Peace Index 2018*, 42. The definition of positive peace closely aligns with the associations between "stability" and "equilibrium" in Chapter I.C: Literature Review: Stability.

Table 15. Mexico Positive Peace Indicators Relating to Political Instability[403]

PILLAR	INDICATOR	DESCRIPTION	YEAR	SOURCE
WELL-FUNCTIONING GOVERNMENT *(15.2%)	Are you aware of any action taken by local authorities to improve public lighting?	Percentage of respondents that answered Yes	2016	ENVIPE
	Are you aware of any action taken by local authorities to construct or improve parks and sports facilities?	Percentage of respondents that answered Yes	2016	ENVIPE
	How would you rate the performance of the work carried out by the municipal police?	Percentage of respondents answered 'effective'	2016	ENVIPE
	Impunity rate for homicides	Ratio of incoming prisoners for homicide to homicide cases	2014	INEGI CNG
SOUND BUSINESS ENVIRONMENT *(13.0%)	Doing Business	Ease of Doing Business Rank	2012	World Bank
	Unemployment rate	Percentage of unemployed people per state	2014	INEGI
	GDP per capita	GDP per capita	2015	INEGI
LOW LEVELS OF CORRUPTION *(15.7%)	How often do you perceive acts of corruption?	Percentage of state population answering 'very frequent'	2015	ENCIG
	Do you perceive the Public Ministry and State Attorney General as corrupt?	Percentage of respondents answering 'No'	2017	ENVIPE
	Do you perceive the municipal police to be corrupt?	Percentage of respondents answering 'No'	2017	ENVIPE
	Do you perceive the state police to be corrupt?	Percentage of respondents answering 'No'	2017	ENVIPE
	Is there an anticorruption training program for public administration personnel?	States score 1 for yes and 0 for no or unknown	2015	INEGI CNG
HIGH LEVELS OF HUMAN CAPITAL *(12.4%)	HDI health	Sub-component of the Human Development Index	2012	UNDP
	HDI education	Sub-component of the Human Development Index	2012	UNDP
	Scientific and technological companies/institutes	Number of those registered in the Registro Nacional de Instituciones y Empresas Científicas y Tecnológicas (RENIECyT)	2014	DENUE
GOOD RELATIONS WITH NEIGHBORS *(11.2%)	Trust in neighbors	Percentage of respondents that answered with 'high degree of trust'	2017	ENVIPE
	Safety in public locations of municipality	Percentage of respondents that answered that they felt 'safe'	2017	ENVIPE
	Net migration	Levels of immigration minus emigration, as a percentage of the population	2014	INEGI
FREE FLOW OF INFORMATION *(10.1%)	Households with internet access	Percentage of households with broadband subscription	2015	INEGI
	Accessibility to public information	Percentage of respondents that report being able to access public information 'very frequently'	2016	INEGI
	Attacks on journalists	Total number of attacks per state	2015	Article 19
EQUITABLE DISTRIBUTION OF RESOURCES *(9.7%)	Socially vulnerable population	Percentage of population with income below the wellbeing level and with at least one social vulnerability	2014	CONEVAL
	People living in poverty	Percentage of population living in poverty	2014	CONEVAL
	Average number of people per house	Average number of occupants per household	2010	INEGI
ACCEPTANCE OF THE RIGHTS OF OTHERS *(12.6%)	Upward social mobility	Additional years of school for this generation compared to the last	2011	EMOVI/CEEY
	Women in the state administration	Percentage of women employed in the state administration	2014	CNGMD
	Indigenous development gap	Absolute value of the difference in HDI score for the indigenous and non-indigenous populations	2010	UNDP

***Total weight of pillar as a % of total index. Based on the sum of the weights of the indicators for each pillar in IEP's 2017 Positive Peace Report.**

[403] Adapted from Institute for Economics and Peace, *Mexico Peace Index 2017*, 43; Institute for Economics and Peace, *Mexico Peace Index 2018*, 77. The two highlighted pillars represent the columns that make up the OCPSI. I utilize the table format from the 2017 MPI, updated with 2018 information, in order to account for an apparent oversight in the 2018 MPI, which placed the impunity rate for homicides indicator under the Sound Business Environment pillar rather than its correct placement under the Well Functioning Government pillar.

I highlight the Low Levels of Corruption and Good Relations with Neighbors pillars because they represent the presence and effects of organized crime. The Low Levels of Corruption pillar accounts for public perceptions of corruption within the police force and the judicial system and organized crime often relies on corruption to function. The Good Relations with Neighbors pillar encompasses perceptions of security and public trust. Organized crime often poses a threat to citizen security. Whether DTOs are engaged in intercartel violence, use force against the state, or the use violence for coercion or intimidation of the population, the effects encompass both physical insecurity and/or widespread fear and insecurity among the population. DTO use of violent intimidation of the population has also migration of citizens to safe havens in some cases.[404]

I integrate the Low Levels of Corruption and Good Relations with Neighbors pillars to form the tailored Organized Crime Political Stability Index (OCPSI) for gauging instability specifically relating to organized crime. Additionally, I weight the two pillars relative to their percentage of the total Positive Peace Index.[405] In certain cases, I limit the indicator to only the Low Levels of Corruption pillar because the related instability corresponds more to corruption than public safety. For others, I utilize IEP original data sources, such as Mexico's INEGI, as reflected on Tables 16 and 17.

This chapter follows a similar format to that of Chapter IV's analysis of behavior but for the analysis of instability. For each behavioral trend analyzed in Chapter IV, Tables 16 and 17 display the quantitively verified outcomes and the specific indicator or indicators used in this chapter to assess instability. Each behavioral trend is aligned with a best suited instability indicator. Instability indicators stem from three root sources: the IEP MPI, the INEGI *Encuesta Nacional de Victimización de Empresas* (ENVE) [*National Survey of Business Victimization*], and the Mexico Global Impunity Index.

---

[404] "The Rise of Mexican Black Tar," *Vice News*.

[405] See note c on Table 16 for a detailed description of my calculation of the OCPSI.

B. INSTABILITY DUE TO LEGALIZATION

Table 16 highlights the findings of Chapter IV's quantitative verification and provides the applicable indicator to assess the related instability.

Table 16. Verified Behaviors and Instability Indicators for Legalization Policy

Legalization			
Behavioral Trend	**Quantitative Verification (Chp. IV)[a]**	**Instability Indicator(s)**	**Source(s) of Indicator**
(1.1) DTO market diversification resulting from legalization policy	**Diversification to other drug markets is likely occurring.** Diminishing marijuana revenues from 2012 to 2016 coincided with a significant rise in cocaine revenues and lesser rises in heroin and methamphetamine revenues. Sinaloa cartel is the most likely to diversify across drug trafficking markets and to benefit from cocaine upticks.[b]	**Comparison of Organized Crime-Driven Political Instability by Mexican State, 2014 vs. 2016**	Organized Crime Political Stability Index (OCPSI)[c]
(1.2) DTO industry diversification resulting from legalization policy	**Results Inconclusive.** Industry diversification occurring primarily among DTOs that are already predisposed to diversification. Deeper analysis therefore required to reliably attribute the diversification to legalization policy.	**Correlation of Business Losses Due to Organized Crime and Number of Extortions, 2013-2015 (Economic Instability Related to Extortion)[d]**	INEGI ENVE Survey: Economic entities by state, according to their perception of the factors that affect them
(1.3) Investment in legal business resulting from legalization policy	**Insufficient quantitative data,** but Sinaloa cartel's historical patterns of operation indicate "legal" investment as a possibility for recovering lost marijuana revenues.	N/A	N/A

a. This column represents the outcomes of Chapter IV's quantitative analysis on alternative policy-driven behaviors.

b. The Sinaloa cartel is the most likely DTO for market diversification because it is loyal to drug trafficking and has the largest market share of marijuana trafficking. The cartel also supplies the majority of U.S. cocaine, which was the drug with largest increase since 2012.

c. I create the OCPSI as a composite of the Low Levels of Corruption and Good Relations with Neighbors pillars of IEP's 2018 MPPI (see Table 15). The IEP weights the pillar Low Levels of Corruption as 15.7 percent of the total index, and Good Relations with Neighbors as 11.2 percent. In computing the OCPSI, I weight the two columns relative to each other: Low Levels of Corruption is therefore weighted at 58.4 percent and Good Relations with Neighbors at 41.6 percent. See embedded note on Table 15 for weights of each pillar. The OCPSI data values are sourced from the MPPI, which provides quantitative values for each pillar by Mexican state by year.

d. Business insecurity perception accounts for the effects of extortion. Extortion is much more common than kidnapping, and therefore, I analyze it the primary driver of instability.

1. Instability Related to Behavioral Trend (1.1): DTO Market Diversification Resulting from Legalization Policy

Chapter IV identified that legalization has potentially caused significant market diversification from marijuana to cocaine trafficking, particularly in the case of the Sinaloa cartel. Chapter IV also discusses marijuana cultivation, trafficking, and border smuggling routes, which are more likely to see stability shifts due to legalization. Figure 20 depicts organized crime-driven stability trends by state according my derived OCPSI.[406]

[406] See note c on Table 15 for a detailed description of my calculation of the OCPSI.

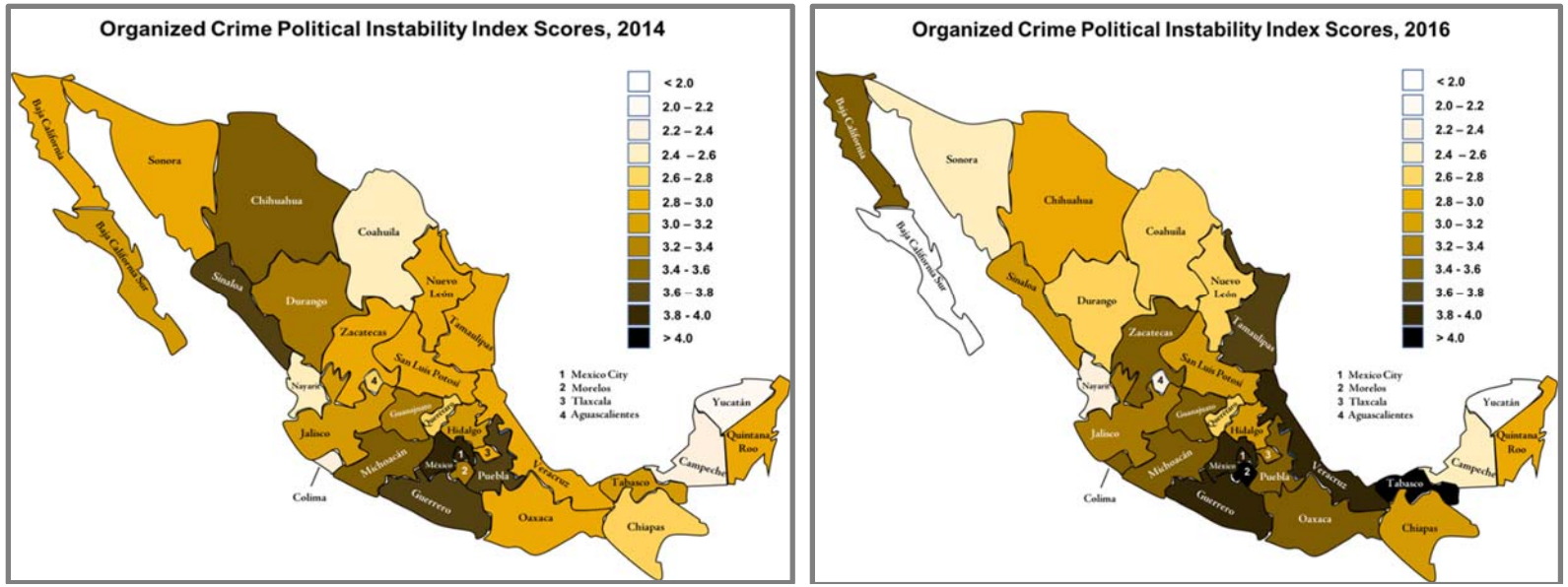


Figure 20. Comparison of Organized Crime-Driven Political Instability by Mexican State, 2014 versus 2016[407]

[407] Based on my derived OCPSI, which was adapted from IEP's MPPI. See note c on Table 15.

One of the primary trends depicted in Figure 20 is the southward shift of political instability. All of the states north of Zacatecas increased in stability between 2014 and 2016 with the exception of Baja California. Baja California is one of the two top border smuggling regions for cocaine,[408] and it is also where much of the fighting between the Sinaloa cartel and the CJNG/Tijuana cartels has occurred. Some of it occurred prior to the extradition of El Chapo in January 2017.[409] Figure 20 points to increased stabilization in the Golden Triangle, the historical stronghold of the Sinaloa cartel, which includes the states of Sinaloa, Durango, and Chihuahua.[410] Instability in Sonora, one of the top two border smuggling states for marijuana, also decreased from 2014 to 2016, while instability increased in Baja California and Tamaulipas, the top two border smuggling states for cocaine.[411] Figure 21 provides more granularity on the instability in Mexico's southern states.

[408] Based on border seizure trends depicted in Chapter IV.B.2.b: Territorial Characteristics.

[409] "El CJNG podría controlar las Zonas de los Zetas en Tamaulipas [CJNG Could Potentially Control the Areas of the Zetas in Tamaulipas]," January 31, 2018, http://www.elclarinete.com.mx/el-cjng-podria-controlar-las-zonas-de-los-zetas-en-tamaulipas/.

[410] Darren Foster, "The Sinaloa Cartel Is Alive and Thriving without El Chapo," *Vice News*, February 1, 2017, https://news.vice.com/en_ca/article/8xmzax/the-sinaloa-cartel-is-alive-and-thriving-without-el-chapo.

[411] Figure 13 in Chapter IV depicts the top border smuggling states for marijuana and cocaine.

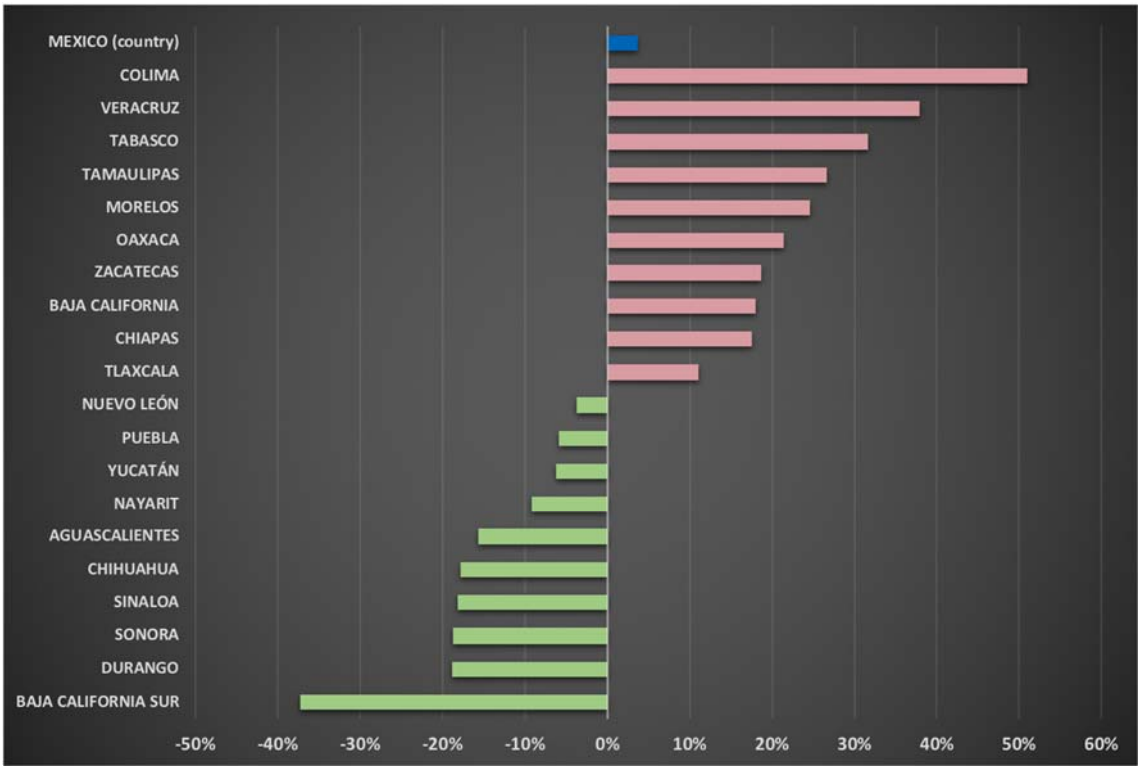


Figure 21. Mexican States with the Most Substantial Shifts in Organized Crime-Driven Political Instability, 2014–2016[412]

Figure 21 shows that Golden Triangle states of Sinaloa, Chihuahua, and Durango, typically controlled by the Sinaloa cartel, have become significantly more politically stable since legalization. Distinguishing the specific role of legalization in bringing about this stabilization would require a deeper analysis of other factors, such as judicial or security reform and/or rule of law within the state, which may contribute to stabilization. While this level of analysis is beyond the scope of this study, the stabilization of all three Golden Triangle states is still promising regarding the success of legalization policy.

Figure 21 also shows that the most substantial upticks in political instability occurred in Colima, Veracruz, Tabasco, and Tamaulipas. Colima was Mexico's most violent state in 2016.[413] A 2017 Wilson Center Mexico Institute article on violence in

[412] Based on my derived OCPSI, which was adapted from IEP's MPPI. See note c on Table 16.

[413] Eric L. Olson, "What's Behind Rising Violence in Colima?: A Brief Look at 2016's Most Violent Mexican State," Wilson Center, July 12, 2017, https://www.wilsoncenter.org/article/whats-behind-rising-violence-colima-brief-look-2016s-most-violent-mexican-state.

Colima assesses that the uptick in homicides correlated strongly with El Chapo's escape from prison in the summer of 2015 and also that "nearly a third of Colima's homicides occurred in the port city of Manzanillo."[414] The report also mentions that El Chapo's escape has resulted in an uptick in conflict between the Sinaloa cartel and CJNG for territory in Colima.

Although one could point to the changing power dynamics between cartels corresponding with El Chapo's release for the increase in political instability, one could also make the case that the instability is linked to methamphetamine's substitution of marijuana. Manzanillo is the primary entry point of methamphetamine precursor chemicals arriving from Asia, and subsequently, a concentration of processing laboratories has emerged between Manzanillo and Guajajara, Jalisco.[415] The involvement of the Sinaloa cartel in Colima's instability uptick adds weight to the correlation of Colima's instability and legalization. In the grand scheme of Mexican instability, however, Colima's instability rise may be relatively insignificant. Colima is a relatively small state,[416] and methamphetamine revenues only accounted for four percent of overall Mexican DTO drug revenues in 2016.[417]

Veracruz and Tabasco saw the second and third highest increases in political instability, respectively. The instability increase in these states is not easily linked to drug trafficking, however. Both states have seen a significant uptick in migration from Central America, and the exploitation of these migrants by criminal groups.[418] In response to the migrant crisis, the Mexican Commission for Refugee Assistance has increased the staffing in its offices in Tabasco and Veracruz.[419] Interestingly, one prominent migrant shelter along the primary migration route in Tabasco noted the "alarming increase in rape and

---

[414] Olson.

[415] Olson.

[416] The IEP 2016 *Mexico Peace Index* mention's that Colima's population is only 736,000.

[417] See Figure 9 in Chapter IV for information on drug revenues.

[418] Adam Isacson, Maureen Meyer, and Hannah Smith, *Mexico's Southern Border: Security, Central American Migration, and U.S. Policy* (Washington, DC: Washington Office on Latin America, 2017), https://www.wola.org/wp-content/uploads/2017/06/WOLA_Mexicos-Southern-Border-2017-1.pdf.

[419] Isacson, Meyer, and Smith, 16.

sexual assault cases that began in mid-2015," which was around the same timeframe of El Chapo's escape from prison.[420] Many of these crimes were most likely committed by Central American gangs, however, rather than Mexican DTOs.[421]

Reports on drug flows through Tabasco vary. Mexican federal police officials have reported that cocaine does not flow through Tabasco. They mention that traffickers prefer routes other than the minimally-governed Petén jungle of Guatemala, the smuggling route to Tabasco.[422] This claim appears to conflict with reporting on the DTO establishment of new airfields in the Petén for logistical cocaine movements, however.[423] This particular discrepancy in reporting is significant with regard to Chapter IV's finding that cocaine trafficking has potentially substituted for marijuana. If Tabasco is indeed a drug corridor, then political instability could potentially be linked with legalization. Deeper analysis is necessary to determine whether the instability has been caused by market diversification, or rather, by crimes against migrants.

The upticks in instability in Veracruz and Tamaulipas may also be associated with ongoing conflicts between DTOs. The Zetas and CJNG once again resumed violence in 2016 after initially committing gruesome mass killings while competing for control of Veracruz in 2011 and 2012.[424] In Tamaulipas, the Zetas have historically challenged the Gulf cartel for control of border crossings. The two DTOs have also engaged in cartel-on-cartel violence for control of Veracruz.[425] As discussed in Chapter IV, the organizational culture of the Zetas and CJNG is such that they readily engage in violence and diversification into organized crime activities other than drug trafficking. Therefore, the

---

[420] Isacson, Meyer, and Smith, 13.

[421] Isacson, Meyer, and Smith, 13.

[422] Isacson, Meyer, and Smith, 13.

[423] "Why Are Drug Cartels Starting Forest Fires in Guatemala?," June 8, 2016, https://www.telesurtv.net/english/news/Why-Are-Drug-Cartels-Starting-Forest-Fires-in-Guatemala-20160608-0007.html.

[424] Borderland Beat Reporter Lucio, "Veracruz: 5 Dismembered Zetas with Messages from CJNG, and 6 Killed in Bar," accessed June 8, 2018, http://www.borderlandbeat.com/2016/05/veracruz-5-dismembered-zetas-with.html.

[425] "El CJNG podría controlar las Zonas de los Zetas en Tamaulipas." CJNG could control the areas of the Zetas in Tamaulipas

link between legalization and instability in states like Veracruz and Tamaulipas, while possible, remains opaque.

In sum, market diversification's effects on stability indeed correlate with drug substitution. The key marijuana cultivation region of the Golden Triangle[426] has stabilized. Cocaine, being marijuana's most significant substitution drug, has perhaps caused the most significant instability shifts. Primary cocaine border smuggling states of Tamaulipas and Baja California have destabilized, as has the supposed cocaine corridor of Tabasco-Veracruz-Tamaulipas stemming from Guatemala's Petén jungle. However, these regions have also been home to turf wars and increased migration from Central American countries, which are also destabilizing. The most substantial destabilization occurred in Colima, the main source of Mexico's methamphetamine. Although Guerrero, Mexico's center for heroin trafficking, did not see a significant *change* in stability, it remains one of Mexico's most unstable states. However, what impact the instability in Guerrero and Colima has meant for Mexican stability as a whole remains to be analyzed.

2. Instability Related to Behavioral Trend (1.2): DTO Industry Diversification Resulting from Legalization Policy

Chapter IV's analysis of this same behavioral trend revealed that legalization most likely did not cause an increase in industry diversification between 2013 and 2015. This means that whatever marijuana revenues were lost by DTOs due to legalization were most likely not recovered by shifting to different types of organized crime, at least not kidnapping or extortion specifically. I analyze potential increases related to industry diversification—extortion in particular—in this section.

Since extortion is significantly more prevalent than kidnapping as a type of industry diversification in Mexico,[427] I focus on extortion for analysis of industry diversification's effect on destabilization. Extortion in Mexican business as a primary measure of instability. I utilize data from INEGI's ENVE on business losses. Business losses equate to the decisions of business owners to either invest in business security upgrades or decrease the

[426] The Golden Triangle refers to the states of Sinaloa, Durango, and Chihuahua.

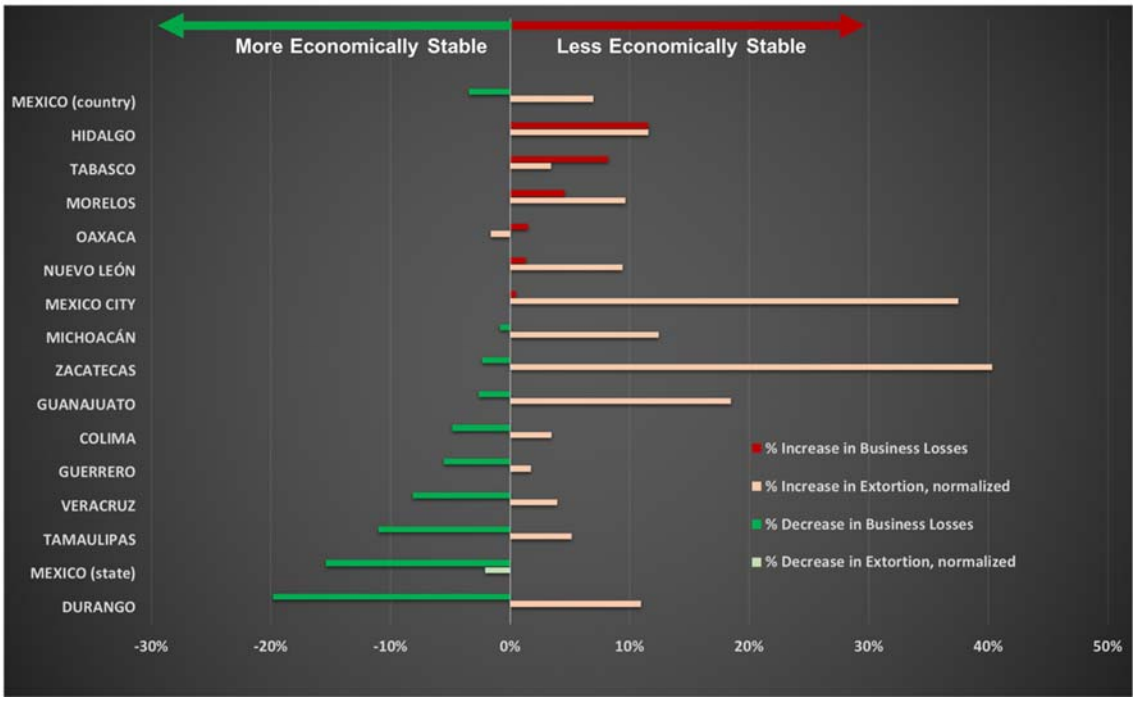
[427] Institute for Economics and Peace, *Mexico Peace Index 2018*, 82.

scope of business due to delinquency. I reason that the decision to forego business profits for security purposes indicates a perception of business insecurity. The rates of business losses equate to overall business insecurity. This method is similar to the IEP's calculation of the cost of organized crime to business.[428]

Business insecurity is not necessarily the result of extortion, however, since robbery and fraud are also common in Mexico.[429] I reason that robbery or fraud normally catch the victim off guard, whereas the victim often expects or foresees business extortion, which is typically carried out on a recurring basis. However, if the victim foresees his or her victimization but is still victimized (and unprotected from victimization by the authorities) on a recurring basis, I argue that the victim must face a relatively large threat for noncompliance—the type of threat issued by an organized crime organization. On the other hand, individual actors or small criminal bands without a large threat backing and who rely on the element of "surprise" can feasibly carry out "unexpected" crimes. Therefore, correlating business losses with business extortions distinguishes the perception of insecurity due to organized crime vice that due to smaller-scale delinquency. Figure 22 shows the correlation between business losses and extortion rates by Mexican state.

[428] Institute for Economics and Peace, *Mexico Peace Index 2015*, 83.

[429] Based on percentages in the ENVE survey.



For ease of viewing, extortion percentages have been scaled by a ratio of 0.118. This was the ratio of percentage increase in business losses to percentage increase in extortion in Hidalgo, the state with the largest increase in business losses.

Figure 22. Correlation of Business Losses Due to Organized Crime and Number of Extortions, 2013–2015[430]

While extortion has increased in the majority of the states listed in Figure 22, it has only correlated with significant increases in business losses in three of the states: Hidalgo, Tabasco, and Morelos. Out of these three states, Tabasco is one most likely to be affected by marijuana legalization.[431] Figure 22 clearly indicates that it is unlikely that industry diversification has substantially increased economic instability. It also indicates that economic instability has most likely decreased significantly in several states. Yet only one of these states—Durango—is a Sinaloa cartel stronghold. Overall, this section's findings align with the findings of Chapter IV's analysis of behavioral trend (1.2) that legalization

[430] Business losses adapted from Instituto Nacional de Estadística y Geografía, "Modulo I—Nivel de victimización [Module 6—Losses as a Consequence of Insecurity]," In *Encuesta Nacional de Victimización de Empresas (ENVE) [National Survey of Business Victimization] 2017* (Aguascalientes, Mexico: Instituto Nacional de Estadística y Geografía, 2017), Table 6.4, http://www.beta.inegi.org.mx/proyectos/enchogares/regulares/envipe/2017/default.html. Business extortion rates adapted from the same sources as Figures 17 and 18 in Chapter IV.B.2.d: Extortion.

[431] See Figure 14 of Chapter IV for the states likely to be affected by marijuana legalization.

has most likely not caused an increase in industry diversification. In turn, industry diversification has not likely caused a substantial uptick in instability.

Perhaps surprising is the decrease in business losses (equating to an uptick in economic stability) in states such as Tamaulipas and Veracruz. Cartels that typically diversify into extortion, such as the Zetas and CJNG, are present in these states. These states also saw a significant decrease in political stability in this chapter's instability analysis of behavioral trend (1.1). This could potentially mean that the instability uptick resulted from cocaine trafficking or turf wars between the Zetas, Gulf, and CJNG cartels. It could also potentially mean that business owners are less vocal in their reporting on extortion due to threats of retribution from outwardly violent cartels, such as the Zetas and CJNG. Another consideration is that there may be a better indicator than business losses for measuring the economic instability related to extortion. A final consideration is that business losses may not the appropriate indicator for gauging economic instability stemming from extortions. INEGI ENVE also provides a number of perception surveys related to business. However, none of the surveys pertains directly to organized crime, and therefore the development of an applicable index from the existing information would require further derivation and tailoring of data.

3. Instability Related to Behavioral Trend (1.3): Investment in Legal Business Resulting from Legalization Policy

Analysis of instability related to DTO "legal" investments requires further data on DTO revenues from those investments. Also, without knowledge on the extent and geography of collaboration between DTOs and legitimate political and economic structures, the effects on stabilization are unknown. In this vein, data on the role of drug money within economic structures could inform long-term stability prospects. For example, the surge of drug money into legitimate business structures may spur economic growth and infrastructure development, as in the case of Miami in the 1980s.[432] However,

[432] Art Harris, "Bedecked in Gold, Miami Drug Lords Buy Luxuries for Cash," *The Washington Post*, August 6, 1981, https://www.washingtonpost.com/archive/politics/1981/08/06/bedecked-in-gold-miami-drug-lords-buy-luxuries-for-cash/6059cb26-4fbf-49f6-a07a-7263d82bd6ff/?noredirect=on&utm_term=.6aab30092f6b.

what could transpire is a situation in which crackdowns on DTO operations could actually hinder economic growth and stability, at least in the short run. Additionally, DTO-government collaboration could also decrease political stability by increasing perceptions of government corruption.

C. INSTABILITY DUE TO DECRIMINALIZATION

This section follows the same format as Chapter IV's analysis of behavior, but for analyzing instability. For each behavioral trend analyzed in Chapter IV, Table 17 displays the quantitively verified outcomes and the specific indicator or indicators measuring the instability related to each behavioral trend. Each behavioral trend is aligned with a best suited instability indicator. Instability indicators stem from three root sources: the IEP MPI, the INEGI ENVE, and the Mexico Global Impunity Index. As detailed in the previous section, I derive the OCPSI from the MPI.

Table 17. Verified Behaviors and Instability Indicators of Decriminalization Policy

Decriminalization[a]			
Behavioral Trend	**Quantitative Verification (Chp. IV)[b]**	**Instability Indicator(s)**	**Source(s) of Indicator**
(2.1) Shift in prioritization of incarceration vs. treatment as a penalty for drug use	**Possible shift toward incarceration, but maybe only in the short term.** States implementing decriminalization policy more recently saw an increase in prisoners, while states with a longer policy trial run saw a decrease.[c] The proportion of incarcerations attributed to drug-related offenses is unknown, however, undermining attribution of drug enforcement trends to decriminalization policy.	**Perception of State Corruption in Decriminalized States, Relative to Mexican Average, 2014 vs. 2016**	MPI Positive Peace Index: *Low Levels of Corruption* Pillar
(2.2) Shift in enforcemet of individual drug offenses vs. drug trafficking	**Possible shift toward individual drug offenses, but results inconclusive.** Prison budgets for decriminalized states have increased significantly more than the Mexican average. However, no countertrafficking budget exists for comparison of government priorities. Nor does data exist on trafficking-related prosecution trends to inform a possible enforcement shift.	**Political Instability of Decriminalized States Relative to the Mexican Average, 2014 vs. 2016**	Organized Crime Political Stability Index (OCPSI)[d]
		Impunity in Decriminalized States Relative to Mexican Average, 2014 vs. 2016	Mexico Global Impunity Index, 2018
(2.3) DTO market diversification resulting from decriminalization policy	**Insufficient quantitative data** Determining the effect of decriminalization on DTO drug revenues requires more data on either drug consumption patterns or numbers of drug offenders in treatment within decriminalized states (DTO revenue trends can indicate "drug substitution," which equates to market diversification).	**Instability analysis of market diversification not feasible without sufficient knowledge of "drug substitution" trends.**	N/A
(2.4) DTO industry diversification resulting from decriminalization policy	**Insufficient quantitative data.** Drug consumption patterns and numbers of drug treatments in decriminalized states for determining DTO losses would be helpful in determining the level of industry diversification attributed to decriminalization policy. Instability analysis may shed light, however, on the occurrence of industry diversification.	**Correlation of Business Loss and Extortion in Decriminalized States Relative to Mexican Average, 2013-2015[e] (Economic Instability Related to Extortion)**	INEGI ENVE Survey: Economic entities by state, according to their perception of the factors that affect them

a. Data analyzed only for the five states that are decriminalized and have a functioning drug court system, which includes Chihuahua, Durango, the state of Mexico, Morelos, and Nuevo León.

b. This column represents the outcomes of Chapter IV's quantitative analysis of alternative drug policy-driven behaviors.

c. Nuevo León was first to implement decriminalization policy in 2009, whereas the other states implemented the policy in 2014; Nuevo Leon's drop in number of prisoners between 2012 and 2016 indicates a possible shift away from incarceration in the long term.

d. I create the OCPSI as a composite of the Low Levels of Corruption and Good Relations with Neighbors pillars of IEP's 2018 MPPI (see Table 15). The IEP weights Low Levels of Corruption pillar as 15.7 percent of the total index and Good Relations with Neighbors pillar as 11.2 percent. In computing the OCPSI, I weight the two columns relative to each other: Low Levels of Corruption is therefore weighted at 58.4 percent and Good Relations with Neighbors at 41.6 percent. See embedded note on Table 14 for weights of each pillar. The OCPSI data values are sourced from the MPPI, which provides quantitative values for each pillar by Mexican state by year.

e. Business insecurity perception accounts for the effects of extortion. Extortion is much more common than kidnapping, and therefore, I analyze it the primary driver of instability.

1. Instability Related to Behavioral Trend (2.1) Shift in Prioritization of Incarceration versus Treatment as a Penalty for Drug Use

Chapter IV's analysis of this same behavioral trend indicates some likelihood that Mexican authorities have raised the priority of treatment in Nuevo León, but that this is less likely in the other decriminalized states of Chihuahua, Durango, México, Morelos, and Nuevo León. Since Nuevo León has had the longest-running decriminalization policy; however, its case carries validity. It is possible that, in time, the number of prisoners will also decrease in the other decriminalized states.

I use the IEP's Low Levels of Corruption pillar as a metric of political stability for this behavioral trend. While the use of a "corruption" measure to gauge treatment versus incarceration levels may be counterintuitive, I provide an explanation in the following paragraphs. I examine two cases of instability for this behavioral trend. The first is Nuevo León, which has seen a reduced number of prisoners and should therefore result in lower corruption levels. The second is the other four decriminalized states, which have seen increases in incarceration and therefore should result in higher corruption levels.

Prison overcrowding relates to corruption due to the nature of drug possession laws and the way they are enforced. As explained in Chapter III, overcrowding is likely to correlate with higher levels of corruption based on three primary factors: low non-punishable possession limits, high penalties for surpassing those limits, and the delegation of enforcement of those limits down to state and local authorities. The 2013 reforms to the Narcomenudo law enacted the conditions of the three factors, which all contribute to increased violations for drug possession.

The 2013 reforms established the three above-mentioned factors to decriminalization policy incentivize corruption. Drug users face higher penalties for lesser crimes and are caught more often by state or local forces, which are better dispersed that federal forces previously. Therefore, they are more likely to offer bribes. Local police forces have power to punish virtually any drug crime, and since virtually any possession amount is incarcerable, they have leverage for which to extract bribes. As the numbers of drug offenders awaiting trial increases, the judicial system, unable to manage the increased number of court cases, would most likely be willing to accept bribes to lower its caseload.

The Low Levels of Corruption pillar should correlate with the increased public perception of corruption in the police and judicial systems associated with increase drug crimes. I reason that corruption is a fitting measurement for incarceration of drug criminals because the drug criminals facing incarceration would be more willing to pay bribes than those assigned to rehabilitation treatment. Therefore, I use the Low Levels of Corruption pillar from the IEP's MPPI to assess the instability resulting from increased priority on drug offender incarceration versus treatment in Figure 23.

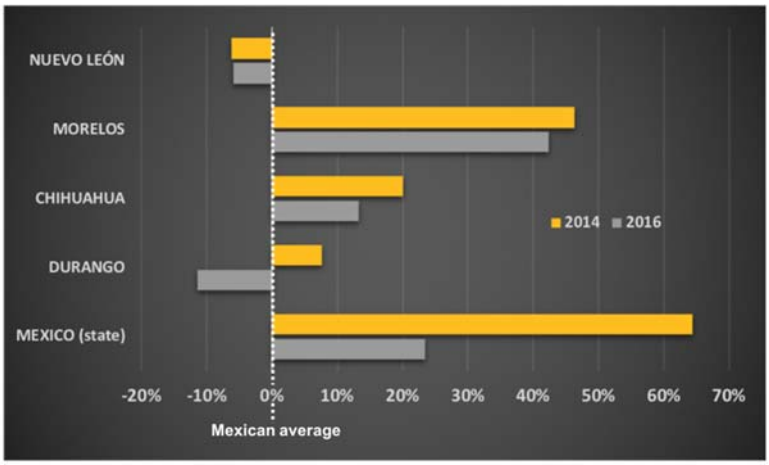


Figure 23. Perception of State Corruption in Decriminalized States, Relative to Mexican Average, 2014 versus 2016[433]

Figure 23 shows that in 2014, public perception of corruption was higher than the Mexican average in all decriminalized states except for Nuevo León. This aligns with the expectation of successful decriminalization policy. In 2014, Nuevo León had been implementing decriminalization for five years, and most of this period was prior to the 2013 reforms. Since pre-reform law most likely generated fewer prisoners and the penalties for low-level possession were less harsh, levels of corruption in Nuevo León were very close to the Mexican average. The 2014 corruption levels of the other four decriminalized states is relatively arbitrary, except in their use as a baseline measurement of corruption. I

[433] Adapted from the Low Levels of Corruption pillar in the IEP's MPPI Positive Peace Scores Across States Pillar for 2014 and 2016 in Institute for Economics and Peace, *Mexico Peace Index 2015*; Institute for Economics and Peace, *Mexico Peace Index 2017*.

claim that the 2014 levels were arbitrary because policy was too newly established in those states to provide any reliable data on effects.

The 2016 corruption measures do not align with the expected instability results that are based on Chapter IV's analysis of overcrowding. Whereas Nuevo León's decrease in crowdedness should have caused a decrease in corruption perceptions between 2014 and 2016, corruption remains virtually unchanged relative to the Mexican average. On the other hand, the four remaining decriminalized states increased in crowdedness, yet all of them decreased in corruption relative to the Mexican average, the states and Mexico and Durango showing significant decreases.

This section's data presents several possible conclusions. It is possible that the premise of the indicator is incorrect in that overcrowding does not correlate with corruption as expected. If the premise was correct, however, then it is possible that the increase in prison crowdedness in Chihuahua, Durango, Mexico, and Morelos is because of crimes other than drug crime. As mentioned in Chapter IV's analysis of multiple behavioral trends, incarceration data specifically pertaining to drug crimes and data regarding the rates of drug offenders treated for addiction could help to clarify the remaining unknowns in this assessment.

2. Instability Related to Behavioral Trend (2.2): Shift in Enforcement of Individual Drug Offenses versus Drug Trafficking

Chapter IV's analysis of this behavioral trend indicates that while prison budgets have increased in the five decriminalized states, there is no reliable data on the Mexican countertrafficking budget for comparison. This section uses instability data to examine the Mexican government priority on counter-trafficking and the potential implications for instability. One of Mexico's primary goals in applying decriminalization policy is to delegate the enforcement of drug consumption and minor possession crimes to state and local levels to increase available federal resources for countertrafficking. If federal countertrafficking resources remain at the status quo, I expect instability to remain more or less status quo. If the increased prison budgets in decriminalized states are taking from the pool of available countertrafficking resources, instability should increase due to increased

freedom of movement and impunity of traffickers. Although budget data is not available, assessing certain instability indicators could provide insight into whether a resource "tradeoff" is occurring and what type of instability it may cause.

a. Political Stability of Decriminalized States

I utilize two indicators to measure potential shifts in instability of decriminalized states: the OCPSI for organized crime-related political instability and the Universidad de las Américas Puebla's Subnational Impunity Index. Figure 24 shows change in organized crime-related political stability of decriminalized states relative to the Mexican average.

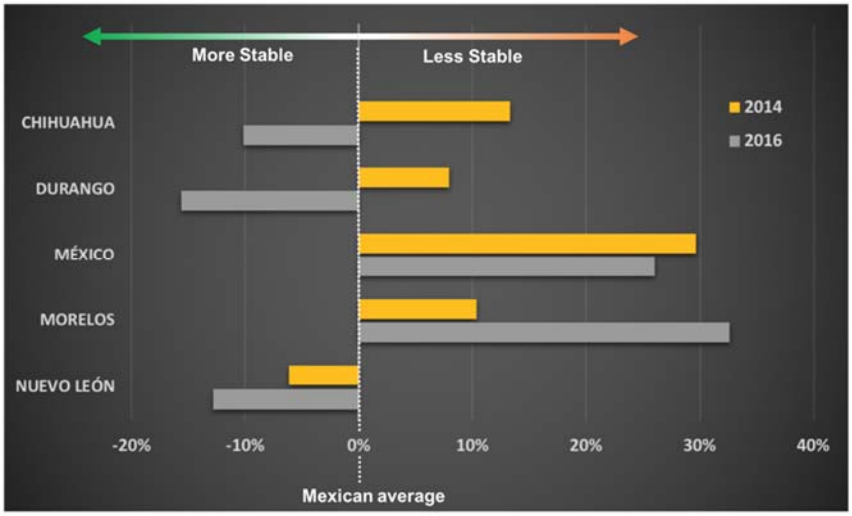


Figure 24. Political Instability of Decriminalized States Relative to the Mexican Average, 2014 versus 2016

Instability for all decriminalized states, except for Morelos, decreased in organized crime-related political stability between 2014 and 2016. Collectively, the decriminalized states became seven percent more politically stable than the Mexican average. Based on the criteria outlined at the beginning of this section, increased stability does not align with DTO freedom of operation that would result from the government's lack of counterterrorism resources. As mentioned at the beginning of this chapter, Nuevo León is the most reliable test case for decriminalization policy because it was the first to implement the policy and is less likely to be affected by legalization policy. I refer to Nuevo León as

a "first wave" decriminalization state, and the states of Chihuahua, Durango, Mexico, and Morelos that implement the policy in 2013 and 2014 as "second wave" states.[434]

In 2014, Nuevo León was the most stable of the five states, which would indicate that the Mexican government had adequate resources to contribute to combatting organized crime. Of the second wave states, Chihuahua and Durango saw the most substantial stabilization. Their stabilization increased 23 and 24 percent relative to the Mexican average, respectively, in the first two years of the "new" policy. It is important to consider that legalization has also likely increased stability in Chihuahua and Durango based on this chapter's analysis of industry diversification due to legalization, which clouds the link of those states' trends with instability. The state of Mexico also saw a minor level of stabilization. Stabilization in second wave states also indicates that the government applied adequate resources for which to combat organized crime in those states.

In contrast to Chihuahua, Durango, Mexico, and Nuevo León, the state of Morelos decreased in stability since 2014, and thus it is an outlier. With Morelos situated along the main supply route between heroin-stricken Guerrero and Mexico City, however, I argue that the state has an inherent presence of organized crime that raises levels of instability and clouds the measurable effects of decriminalization policy on instability. Organized crime groups in Morelos are threating local authorities against the adoption of *mando único*, or "single command,"[435] a "constitutional reform that would *require* states to remove the command of police forces from municipalities to the state level."[436] The governor of Morelos commented that the murder of the mayor of Temixco, Morelos on her second day of office in 2016 was a "'clear threat' to pressure [local] politicians not to

[434] See Figure 14 in Chapter IV for a map of the states most likely to be affected by each alternative drug policy.

[435] The single command policy is part of the bilateral Merida Initiative between the United States and Mexico, a developmental approach to address the North American drug problem. As discussed in Chapter II Chapter II.E, decentralized control of government structures provides more and varied opportunities for DTOs to facilitate operations through corruption. Less corruptibility raises the risk of DTO operations in the illicit environment, which motivates DTO action to reduce risk.

[436] Clare Ribando Seelke and Kristin Finklea, *U.S.-Mexican Security Cooperation: The Mérida Initiative and Beyond*, CRS Report No. R41349 (Washington, DC: Congressional Research Service, 2017), 8, https://fas.org/sgp/crs/row/R41349.pdf.

accept the [Single Command] policy designed to crack down on organized crime."[437] This also raised suspicion among the population that Temixco's "replacement mayor" was in cahoots with organized crime. Additionally, the IEP notes that Morelos is only one of nine states that lacks an "anti-corruption training program for public administration personnel."[438]

I argue the uptick in instability in Morelos is likely linked to organized crime, which is effectively masking any "good" that decriminalization might do in terms stability. Morelos's recent trends are evidence that the government lacks either the means or the will to effectively combat organized crime. Given Morelos's prison budget, it does not appear that a lack of "means" does equates to drop in counter-trafficking funds due to decriminalization policy. According to Chapter IV's analysis of behavioral trend (2.2), Morelos saw the smallest increase (39 percent) in prison budget of the five decriminalized states.

b. Impunity in Decriminalized States

In pursuit of stronger analysis on whether decriminalization has reduced Mexico's countertrafficking budget, thereby increasing instability, I examine impunity trends in the five decriminalized states. Impunity trends indicate whether crime, including organized crime, goes unpunished due to fewer available countertrafficking resources. It may also shed light on whether decriminalization has likely overloaded the justice system, as examined previously in behavioral trend (2.1). Figure 23 displays impunity trends in decriminalized states. An increase in impunity would correlate to a decrease in countertrafficking budget, and vice-versa.

[437] "Protests Against Crime in Morelos, Mexico, after Mayor Murdered," Telesur, January 9, 2016, https://www.telesurtv.net/english/news/Protests-Against-Crime-in-Morelos-Mexico-after-Mayor-Murdered-20160109-0012.html.

[438] Institute of Economics and Peace, *Mexico Peace Index 2018*, 50.

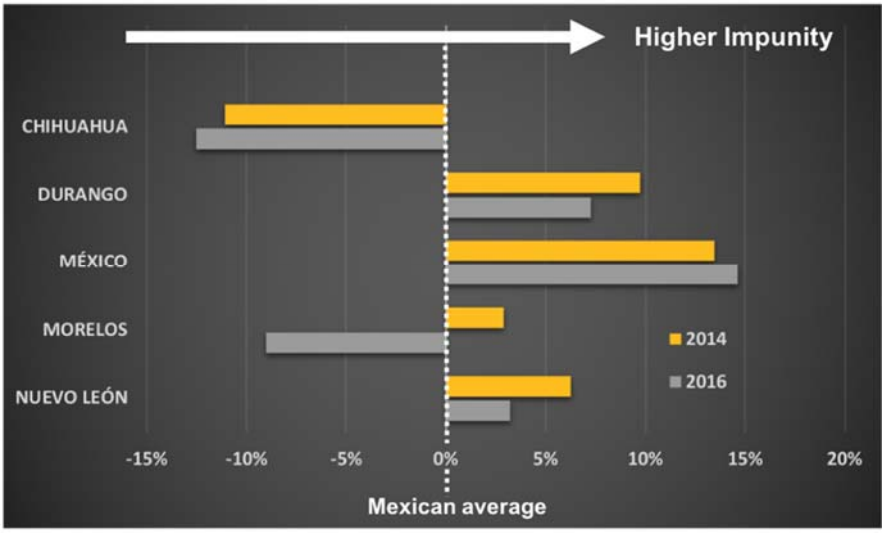


Figure 25. Impunity in Decriminalized States Relative to Mexican Average, 2014 versus 2016[439]

The impunity trends shown in Figure 25 show only minimal correlation with stability trends earlier in this section and with prison budget trends from Chapter IV's analysis of behavioral trend (2.2). Nuevo León, the most reliable test case, saw a small decrease in impunity between 2014 and 2016. However, it also had the highest prison budget increase from 2012 to 2016 (415 percent), which does not indicate a supposed resource "tradeoff" between decriminalization and countertrafficking. Morelos saw a significant drop in impunity, but it also had the smallest increase in prison budget (39 percent) between 2012 and 2016. This is potentially evidence of a "reverse tradeoff" in which decriminalization has not been implemented as thoroughly in that state and therefore more resources have been available for prosecution of criminals. Chihuahua and Durango both saw minimal changes in impunity between 2014 and 2016.

Overall, the effects of decriminalization on relative government resources is unclear. As the most reliable test case of decriminalization policy, Nuevo León, has

[439] Universidad de las Américas Puebla, "La Impunidad Subnacional En México y Sus Dimensiones [Subnational Impunity in Mexico and Its Dimensions]," in *Índice Global de Impunidad México [Global Index of Impunity Mexico] 2016* (San Andrés Cholula, Mexico: Universidad de las Américas Puebla, 2016); Universidad de las Américas Puebla, "La Impunidad Subnacional En México y Sus Dimensiones [Subnational Impunity in Mexico and Its Dimensions]," in *Índice Global de Impunidad México [Global Index of Impunity Mexico] 2018* (San Andrés Cholula, Mexico: Universidad de las Américas Puebla, 2018).

increased in stabilization, which should indicate that the government has increased counter-trafficking resources for which to contain organized crime. It has also decreased in impunity, relating to the government's increased ability to prosecute crimes, although it still remains higher than the Mexican average. However, its prison budget has also greatly increased since 2012 (415 percent), which most likely precludes the possibility of a resource tradeoff. Unknown countertrafficking budget trends hold this claim in question; however, since there is a possibility, albeit unlikely, that Nuevo León could have increased its countertrafficking budget by a higher percentage than its prison budget. Data on numbers of drug possession crimes prosecuted and portion of the federal budget allocated specifically to countertrafficking would likely provide further granularity on policy affects. In sum, the lack of clarity of the analysis means that the verdict is still out on whether Mexico is achieving its goal of freeing up resources for countertrafficking operations through decriminalization policy.

3. Instability Related to Behavioral Trend (2.3): DTO Market Diversification Resulting from Decriminalization Policy

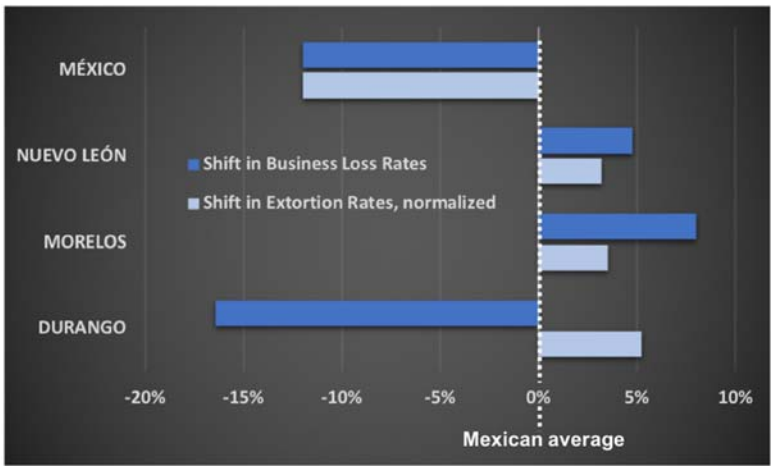
Chapter IV's analysis of behavioral trend (2.3) indicates that the Sinaloa cartel is one of the primary DTOs operating in all decriminalized states except for Nuevo León. The Sinaloa cartel is the DTO most likely to engage in market diversification. Chapter IV's analysis lacks data sources on drug use trends in Mexican states by drug and the number of drug offenders undergoing treatment, however. If these data sources were available, I could make a stronger link between decriminalization and market diversification that would facilitate this section's analysis of instability. With sufficient available data, I would carry out analysis of political stability similar to this chapter's analysis of behavioral trend (1.1). The analysis would compare organized crime-related instability in the five decriminalized states, and I would use a deeper analysis of each state's dynamics to distinguish stability trends resulting from decriminalization versus other policies and factors. Analysis of municipal-level case studies in states less likely to be affected by legalization policy, such as Nuevo Leon, might offer the level of granularity required to filter out the data distortions due to organized crime in general in Mexico.

4. Instability Related to Behavioral Trend (2.4): DTO Industry Diversification Resulting from Decriminalization Policy

This section uses instability indicators to analyze industry diversification caused by decriminalization and the resulting political and economic instability. The premise is that if drug treatment programs provide legal drugs to those undergoing treatment, the legal product may displace the product of organized crime groups selling drugs within Mexico. Chapter IV's analysis of behavioral trend (2.4) shows that evidence for the causal link between decriminalization and industry diversification is inconclusive. Additionally, it shows that extortion increased in all decriminalized states except for the state of Mexico. Finally, it also reveals a decrease in kidnapping in Morelos and Nuevo León relative to the Mexican average, while kidnapping in Durango, Chihuahua, and the state of Mexico decreased relative to the Mexican average.

Chapter IV's analysis of behavioral trend (1.2) shows that extortion is one of the three most common business crimes in all five decriminalized states except for Chihuahua. Extortion is more common than kidnapping in Mexico,[440] and therefore I assess it to be a more suitable measurement for related instability. I use the same data pool to show the correlation of business losses and extortion rates of decriminalized states in Figure 26, relative to the Mexican average.

[440] Institute of Economics and Peace, *Mexico Peace Index 2017*, 82.



For ease of viewing, extortion percentages have been scaled by a ratio of 0.152. This was the ratio of percentage increase in business losses to percentage increase in extortion in the state of Mexico, which had the largest correlated shift in extortion and business losses.

Figure 26. Correlation of Shifts in Rates of Business Loss and Extortion in Decriminalized States Relative to Mexican Average, 2013–2015[441]

Figure 26 shows that Nuevo León and Morelos saw relative increases in business losses between 2014 to 2016 that correlated to business extortions, the shift in Morelos is the more significant. Whether these rises in extortion can be attributed to decriminalization policy requires a deeper study into the crime dynamics of each state. This chapter's analysis of the instability related to behavioral trend (1.1) shows that Nuevo León was in the top half of Mexican states for increases in stabilization between 2014 and 2016. The IEP claims that because it a border state, Nuevo León experiences high levels of crime; however, it also has strong institutional development and governance because it is one of Mexico's primary industrial and information technology hubs.[442] Other than the organized crime inherent in border states, I find no other significant explanation for Nuevo León's rise in extortion rates. In the broader picture, however, the small rise in extortion may be due to nothing more than normal crime fluctuations.

[441] Based on the same data sources as this chapter's analysis of behavioral trend (1.2). Chihuahua not included because extortion was not one of the three primary types of business crimes in Chihuahua in 2016. For enhanced graphical representation, extortion rates normalized to match an equal rate of business loss in the state of Mexico. Depictions of extortion rates in other states are normalized by the same scale.

[442] Institute for Economics and Peace, *Mexico Peace Index 2018*, 48.

On the other hand, Morelos has experienced a wave of negative DTO reactions to the consolidation of police command under at the state level. This chapter's instability analysis of behavioral trend (2.2) discusses the recent uptick of organized crime in Morelos and the single command mandate associated with it. Morelos is also along the only main supply route into and out of the state of Guerrero—Mexico's heroin hub. It is possible that DTOs in Morelos are looking to extortion to hedge revenues in the case that police control is consolidated at the state level. It is also possible that the rise of heroin trafficking out of Guerrero has caused a general increase in organized crime. In any case, the rise in extortions in Morelos could have many causes. Data on the numbers of drug offenders undergoing drug treatment is necessary to understand the dynamics of Mexican drug consumption in Morelos that might lead DTOs to industry diversification.

Durango saw a substantial decrease in business losses, even though extortions of businesses increased. Durango presents an outlying case that may symbolize less general concern over business extortions, business owners' resignation to extortion by organized crime groups, or unrepresentative data. The state of Mexico saw a significant decrease in organized-crime related extortions. While several Mexican news outlets claimed that the state of Mexico was the most insecure state in Mexico in 2016, based on the number of total crimes per capita, most of these crimes were not associated with organized crime.[443] The state of Mexico's drop in business extortions remains unclear, but it discounts a correlation between decriminalization and an increase in economic and political instability caused by industry diversification.

In sum, based on stability data, the substitution of government supplied drugs for illicit drugs has most likely not caused significant industry diversification nor a significant increase in instability in decriminalized states. Again, to validate these requires specific figures on the number of drug offenders undergoing drug treatment by state. These figures would provide information on the numbers of drug clients lost by DTOs and other groups

[443] Eduardo Guerrero Gutiérrez, "¿Es El Estado de México El Más Inseguro Del País [Is the State of Mexico the Most Insecure in the Country]?," *El Financiero*, May 29, 2017, http://www.elfinanciero.com.mx/opinion/eduardo-guerrero-gutierrez/es-el-estado-de-mexico-el-mas-inseguro-del-pais.

selling illicit narcotics and possible insights into the resulting shifts in stability. Furthermore, analysis of municipal-level case studies might offer the level of granularity required to properly address the intricacies of this problem set.

D. CONCLUDING THOUGHTS ON INSTABILITY CAUSED BY ALTERNATIVE DRUG POLICIES

All findings in this chapter are correlations at best. Shifts in stability are complex and involve a confluence of structural and relational factors. The key challenge in this chapter, and also in Chapter IV, has been distinguishing which instability trends are attributed to alternative drug policy versus other factors affecting Mexico's illicit environment. Key among these additional factors, but not all-inclusive, are the removal or return of cartel kingpins, turf wars between DTOs, reactions of DTOs to proposed security reform, and the inherent tendency for some DTOs to diversify into types of organized crime other than drug trafficking. Any of these additional factors may affect DTO and/or drug enforcement behaviors and are therefore likely to cause shifts in stability. Their effects distort the causality between alternative drug policy and instability. The sifting of these distortions underscores the limiting of my data timeframe to the end of 2016, just before El Chapo's extradition to the United States.

Although I provide certain insights on other destabilizing factors in some cases—particularly the cases of decentralization—I acknowledge that my study may lack the additional depth of analysis required for distinguishing alternative policy's role in stability/instability shifts. The further one pursues a comprehensive picture of all potential factors contributing to or detracting from instability, the better one can distinguish the causality of a single factor. Considering the breadth possible policy effects this study examines, undertaking an in-depth analysis with regard to specific states or municipalities was beyond the scope. For purposes of simplicity, I have held the political economic environment described in Chapter II more or less as a constant. I have identified several areas where a focused study would benefit the problem set. This aligns with one of the key objectives this thesis, which is to provide a general framework that facilitates deeper case studies.

This chapter has yielded some key findings with regard to political stability. In general, legalization has most likely influenced a southward shift of Mexican instability between 2014 and 2016. This shift aligns with the drug substitution, or market diversification, described in behavioral trend (1.1). The Sinaloa cartel-controlled marijuana cultivation states of the Golden Triangle—Sinaloa, Durango, and Chihuahua—became more stable, as did Sonora, one of the top marijuana border smuggling states. States centered on heroin or methamphetamine production—Colima and Guerrero—saw instability upticks or remained significantly destabilized, as did Baja California, the primary border smuggling state for cocaine. Caribbean coastal states of Tabasco, Veracruz, and Tamaulipas also saw upticks in instability. Since the Caribbean coastal states have been grounds for violent turf wars between violent DTOs such as the Zetas and CJNG, it is challenging to distinguish the role of legalization in their destabilization is challenging. Thus, a deeper study into the dynamics of illicit crime in these states is necessary.

Although political stability trends can be partially attributed to legalization, my analysis of economic stability shows there is less of a relationship. I use the metric of business losses to measure economic instability. This corresponds the number of security upgrades or reductions in business hours that business owners make due to security concerns. Essentially, business losses are a measure of a perception of insecurity within the business environment—a measure of economic instability. I correlate business losses with the number of business extortions to demonstrate the economic instability associated with industry diversification. However, business losses did not correlate with high levels of business extortions; rather, business losses decreased many of the same states that extortions increased. In this case, the accuracy of my analysis was most likely held back by the quality of my stability indicator.

My examination of decriminalization policy effect yields several findings. However, the reliability of these findings is hindered by a lack of pertinent data as well as the organized crime-related distortions mentioned above. The primary finding of my decriminalization analysis is that the policy may facilitate a decrease in prisoners and an uptick in political stability. My analysis also supports the additional finding that decriminalization has most likely not been responsible for increased incarcerations.

The determination as to whether Mexico is progressing in its aim of freeing up resources for countertrafficking requires additional budget data specific to drug incarceration and countertrafficking operations. However, stability increased more than the Mexican average in the same four states with prison budget increases. Despite the uptick in prison spending, therefore, countertrafficking operations in these states have apparently not suffered.

The effects of decriminalization on DTO diversification and the resulting stability is unclear. Completion of these analyses would require knowledge of the quantity of drugs, which was once supplied by organized crime but that has now been replaced by legal sources supplying the treatment of drug offenders under decriminalization law. I recommend a municipal level study for this analysis because it would likely be easier to obtain data on local drug sales and the number of drug offenders in treatment from a single municipality rather than an entire state. As mentioned at the beginning of this chapter, Nuevo León is the most reliable test case of decriminalization because it was the first to implement the policy and the effects of decriminalization in that state are the least prone to distortion from legalization' effects. Therefore, I recommend that a future study of diversification caused by decriminalization policy and the resulting instability be conducted on a specific municipality within Nuevo León.

In conclusion, I some of this chapter's findings are more reliable than others. The reliability of the findings has been hindered by three primary elements. These elements include other organized crime-related factors distorting alternative policy's effects, the lack of needed budget and incarceration data, and the potential lack of suitability of some instability indicators.

The concluding chapter, Chapter VI, provides a comprehensive summary of the outcomes and implications of the findings of this chapter and those of Chapter IV in Tables 18 and 19 as well as the drawbacks of distortion, data, and indicators discussed in this section.

VI. CONCLUSIONS AND RECOMMENDATIONS

A. INTRODUCTION

The purpose of this thesis has been twofold. The first purpose has been to determine whether alternative drug policies of marijuana legalization in the United States and decriminalization in Mexico have been successful in facilitating Mexican stability. The second is to establish of a scalable and moldable framework for assessing stability outcomes of alternative policy. In this concluding chapter, I examine the findings with regard to the two purposes mentioned. I also provide suggestions for utilization, expansion, and refinement of this thesis in current and future drug policy contexts.

B. WHAT THIS STUDY HAS DETERMINED

This thesis has produced limited, yet significant, findings on the success of alternative drug policies in facilitating stability in North America. The underlying premise of these determinations is that stability is, or at least should be, the goal of North American counternarcotics policy. Mexico and the United States are politically, economically, and culturally interdependent countries. Therefore, the significance of the physical land border between two counties diminishes as the policy outcomes of one country inherently affect the other. I focus particularly on the Mexican side of policy outcomes. However, the North American drug market encapsulates both the United States and Mexico. Therefore, a sufficiently comprehensive study would also describe the stability interworkings of the United States, including U.S. public health, public opinion, and infiltration of DTOs into formal U.S. structures. Thus, the primarily Mexican focus is a limiting factor of this study; however, this chapter does dedicate discussion to the significance of key U.S. stability considerations within the broader regional context.

This thesis incorporates a two-tier process to analyze the effects of alternative drug policy on instability in which policy affects behavior, and in turn, behavior affects instability. The causal sequence of drug policy (1) $\Rightarrow$ resulting behaviors (2) $\Rightarrow$ stability/ instability (3) reflects this analytical process. As described in Chapter II, the policy-behavior model details the complex web of relationships between (1) and (2), while

quantitative analysis provides evidence for the links between (1) and (2) as well as (2) and (3). My analysis of this problem set has three primary limitations: scope, depth, and availability of data. All findings on alternative drug policy effects are therefore correlations at best and vary in their levels of applicability to alternative drug policies. This section highlights the most significant correlations between policy, behavior, and instability. Tables 18 and 19 also provide a concise overview of the findings of this thesis and their implications.

1. Legalization Policy Findings

U.S. legalization policy has affected DTO revenues and has therefore most likely caused a diversification of DTO activities into other drug trafficking markets. Stability outcomes have also correlated with the drug substitution (i.e., market diversification), which have taken place as DTOs vie for new revenue streams. The first U.S. statewide recreational marijuana legalizations in 2012 transformed the North American illicit drug market forever. Clusters of intense competition and innovation among legal suppliers entering the U.S. legal cultivation and retail market left behind competitors south of the border. As long as the gap in innovation remains, Mexican DTOs will not recover lost marijuana revenues unless they diversify into profitable activities other than marijuana trafficking. Illicit markets function largely as normal capitalist markets, and therefore DTOs will attempt to recoup lost revenues through diversification of their revenue-seeking activities across both licit and illicit markets and industries.

Since the Sinaloa cartel has historically remained loyal to drug trafficking activities and has owned the largest share of the drug trafficking market, its revenues have probably been the most critically affected by legalization and decriminalization of marijuana in select U.S. states; therefore, the activities of the Sinaloa cartel warrant particular attention. Based on the historical *modus operandi* of the Sinaloa cartel, it is possible that the cartel has attempted to expand its "legal" business investments and networks in Mexico and the United States to compensate for its loss of marijuana trafficking revenue.[444] For DTOs less

[444] See Table 9 in Chapter IV for identification of typical DTO activities.

loyal to drug trafficking and with less marijuana market share, such as CJNG and the Zetas, conclusions are opaquer.

An important conclusion of my analysis is that the reduction of net DTO drug trafficking profits due to legalization has likely made organized crime less profitable in general. The net DTO marijuana trafficking losses of $300 billion pesos from 2014 to 2016 are not easily recovered. Cocaine revenues have amounted to the largest corresponding uptick—on the order of $50 billion pesos. The estimated values of DTO revenue gaps are not as important as what they represent in terms of DTO behavioral incentives. Whether or not DTOs recover lost revenues is somewhat arbitrary. What does matter, however, is that revenue gaps are likely correlate with DTO attempts to recover revenues by other means, which changes the Mexican stability landscape.

As mentioned, stability trends have correlated with marijuana drug substitution trends. Correspondingly, legalization has most likely had a stabilizing effect on states with a significant Sinaloa presence, particularly the Golden Triangle states of Sinaloa, Durango, and Chihuahua. Instability has shifted south and is concentrated in heroin and methamphetamine sourcing areas, such as Guerrero and Colima and territories known for cocaine smuggling, and trafficking areas, such as Baja California and certain Caribbean coastal states. Some of these destabilized areas are influenced by several organized crime-related factors in addition to legalization, and this distorts the attribution of instability to alternative drug policies. The distortion caused by additional destabilizing factors is a key limitation of this study that I address in subsequent sections. Table 18 provides a comprehensive overview of the outcomes and implications of legalization policy.

Table 18. Outcomes and Implications of Legalization Policy Analysis

Legalization			
Behavioral Trend	**Behavioral Outcomes (Chp. IV)**	**Instability Outcomes (Chp. V)**	**Implications**
(1.1) DTO market diversification resulting from legalization policy	**Diversification to other drug markets (i.e., drug substitution) is likely occurring.** Diminishing marijuana revenues has coincided with a significant rise in cocaine revenues and lesser rises in heroin and methamphetamine revenues. The Sinaloa cartel is the DTO most likely to diversify across drug trafficking markets and to benefit from cocaine upticks.[a]	**DTO market diversification has likely affected Mexican stability.** Political stability aligns closely with drug substitution patterns. Political stability increased in marijuana cultivation states, but decreased in territories sourcing other types of drugs. However, many destabilizing factors exist in the "other than marijuana" territories that distort the ability to attribute instability to legalization policy.	**Recreation legalization of marijuana has most likely made drug trafficking is less profitable for DTOs in general. It has likely been successful in increasing the stability within the "Golden Triangle" of Sinaloa, Durango, and Chihuahua; its implications for other states, however, are uncertain.** Meth and heroin are having localized destabilizing results in Guerrero and Colima but requires further analysis on Mexico's net stability. Determining cocaine-related effects require a deeper analysis of the confluence of destabilizing factors in known cocaine trafficking regions. The analysis of market diversification should be coupled with that of industry diversification in Behavioral Trend (1.2) for more clarity on net stability outcomes.
(1.2) DTO industry diversification resulting from legalization policy	**Diversification to other illicit crime industries is likely occurring, but the attribution of this trend to legalization is inconclusive.** Industry diversification is occurring primarily among DTOs that are already predisposed to diversification. More depth of analysis required to attribute diversification to legalization policy.	**The link between industry diversification and shifts in stability is inconclusive.** Although several states saw destabilizaton correlating to extortion rates, several states with rising extortion rates actually *stabilized.*	**Organized crime in general has likely become less profitable for the Sinaloa cartel because it has not recovered lost marijuana revenues by trafficking other drugs nor by committing types of illicit crime. The profitability of organized crime for other DTOs is uncertain.** Industry diversification of DTOs other than Sinaloa cartel requires deeper analysis due to a confluence of destabilizing factors.[b] Additional industries of illicit crime such as oil theft, human trafficking, etc., should also be analyzed. The lack of correlation between extortion and economic instability in my analysis indicates that "business losses" may not be best suited as an economic instability indicator.
(1.3) Investment in legal business resulting from legalization policy	**Insufficient quantitative data**, but Sinaloa cartel's historical patterns of operation indicate "legal" investment as a possibility for recovering lost marijuana revenues.	The economic infusion of drug money could potentially enhance economic growth and stability in the short term, but could eventually cause shocks in the case of a crackdown on drugs. Public perception of collaboration between formal political and economic structures may result in a decrease of political stability.	**The Sinaloa cartel may attempt to strengthen investments in legal business to recover drug trafficking losses, which has the potential to link formal structures to drug money.** The US and Mexico must stay informed of Sinaloa's activities. If Sinaloa's financing is sufficiently embedded in the legitimate economy, then a crackdown on corruption or drug trafficking could also equate to economic instability or decline.

a. Sinaloa cartel is the most likely DTO for market diversification because it is loyal to drug trafficking and has the largest market share of marijuana trafficking.

b. DTOs such as the Zetas and CJNG cartels are more naturally prone engage in diversification and violence, and thus, it is challenging to distinguish the role of legalization in their destabilization.

2. Decriminalization Policy Findings

My findings on decriminalization correlate, albeit very loosely, with policy success in decreasing the number of incarcerations and increasing political stability. The reliability of my findings is lower than those of legalization policy due to lack of applicable data and lack of depth of analysis. Although decriminalization has coincided with an overall increase in both incarcerations and prison budgets, the number of prisoners in the most reliable test case—the state of Nuevo León[445]—has significantly decreased. The number of incarcerations in decriminalized states has increased 42 percent relative to the Mexican average, while Nuevo León has seen a 14 percent relative decrease. Since Nuevo León was the first to implement decriminalization policy, I view the decrease in prisoners as a possible long-term outcome, in contrast to the states that have implemented policy recently and have seen an increase in incarcerations. This may point to the long-term success of policy.

Trends in Mexico's state prison budgets reflect Mexico's prioritization of enforcement of individual drug crimes versus drug trafficking crimes. Prison budgets increased in four out of the five decriminalized states, with Nuevo León seeing the largest increase of 362 percent relative to the Mexican average. The increased prison budgets have most likely not drawn from the pool of available counter-trafficking resources, however.[446] Political instability has decreased in same four states with prison budget increases. This implies that security structures most likely remaining competent in countertrafficking operations. It may also imply increases in the quality of the prison system in general resulting from increased investment. Whether countertrafficking resources have actually *increased* as Mexico has hoped,[447] however, remains unclear because Mexican countertrafficking budget data is unavailable.

---

[445] Nuevo León is the most reliable test case because it was first to implement decriminalization policy (2009 versus 2014 in other states), and its stability shifts are less likely to be attributed to legalization policy (the Sinaloa cartel is not one of the primary DTOs operating in Nuevo León).

[446] One of Mexico's primary goals in decriminalization policy has been the free of federal resources to focus on countertrafficking operations. See Chapter III.C.3.

[447] Russoniello, "The Devil (and Drugs) in the Details."

A general lack of data hinders greater clarity regarding decriminalization policy's effects. In addition to the lack of data on the Mexican countertrafficking budget mentioned above, there is also a lack of data on the numbers of criminal drug convictions and numbers of drug offenders undergoing treatment. This data would increase clarity concerning the drug treatment prioritization. It would also provide a basis for what level of DTO diversification is caused by decriminalization. Without knowledge of how many drug users are undergoing treatment and for which drugs, analysis of the loss of DTO drug clientele and revenues due to decriminalization is significantly hindered. This precludes the analysis on DTO diversification resulting from decriminalization and the resulting instability. Case studies at the municipal levels may be better suited for gathering specific required metrics, such as the number of drug offenders undergoing treatment to better inform whether decriminalization has caused DTO diversification in Mexico. Table 19 provides a comprehensive overview of this study's findings on decriminalization policy outcomes and their implications.

Table 19. Outcomes and Implications of Decriminalization Policy Analysis

Decriminalization[a]			
Behavioral Trend	**Behavioral Outcomes (Chp. IV)**	**Instability Outcomes (Chp. V)**	**Implications**
(2.1) Shift in prioritization of incarceration vs. treatment as a penalty for drug use	**Possible shift toward incarceration, yet maybe only in the short term.** States implementing decriminalization policy more recently saw an increase in prisoners, while states with a longer policy trial run saw a decrease.[b] The proportion of incarcerations attributed to drug-related offenses is unknown, however, undermining attribution of drug enforcement trends to decriminalization policy.	**Corruption was lower in states that implemented policy first, but perception of corruption police and the judicial system is generally decreasing.** However, the number of "incarcerations" due to drug crimes is unknown, as specific data on the numbers of drug crimes prosecuted or the numbers of drug offenders undergoing treatment was not available.	**Decriminalization may decrease the number of prisoners in the long term, but this requires confirmation.** Whether it increases prisoners in the short term is unclear, as no data exists on whether drug offenses are causing the uptick. Harsher drug sentences and more frequent enforcement of individual drug crimes are most likely not causing criminals to bribe authorities because perception of corruption has generally decreased in decriminalized states. Mexico should provide data on: budgets and success rates specific to treatment of drug offenders under decriminalization and specific data on numbers of drug offenses to facilitate better analysis of the policy's overall effects.
(2.2) Shift in prioritization of drug possession enforcement vs. countertrafficking	**Possible shift toward individual drug offenses, but results inconclusive.** Prison budgets for decriminalized states have increased significantly more than the Mexican average. However, no countertrafficking budget exists for comparison of government priorities. Nor does data exist on trafficking-related prosecution trends to inform a possible enforcement shift.	**The link between shifts in drug enforcement prioritization and stability trends and is inconclusive.** Stability trends directly correlated with prison budgets, yet results require deeper analysis. A confluence of destabilizing factors exists in the "destabilized" states that distorts the attribution of instability to decriminalization policy. **Impunity did not correlate with stability trends or budget and therefore did not provide clarity regarding stability trends.**	**Whether Mexico is achieving its goal of freeing up countertrafficking resources through decriminalization policy remains unknown.** Despite large investment in prisons, states have maintained competence in countertrafficking operations. Whether this coincided with an *increase* in countertrafficking operations unclear due to lack of budget data. Decriminalization policy may potentially have an overall stabilizing effect. This underscores the need for Mexico to further assess its decriminalization policy for possible expansion to additional states. The impunity metric is an outlier and does not serve to clarify. Mexico should clarify counternarcotics budget as well as the prison budget allocated to drug crimes.
(2.3) DTO market diversification resulting from decriminalization policy	**Insufficient quantitative data.** Determining the effect of decriminalization on DTO drug revenues requires more data on either drug consumption patterns or numbers of drug offenders in treatment within decriminalized states (DTO revenue trends can indicate drug substitution, which equates to market diversification).	**Instability analysis of market diversification not feasible without sufficient knowledge of drug substitution trends.**	**Whether decriminalization causes DTO market diversification may require an assessment at the municipal, rather than the state level.** Mexican domestic drug consumption and treatment data may potentially be obtained more easily at the municipal than the state level. Municipalities in Nuevo León, would perhaps provide the best case studies.[b]
(2.4) DTO industry diversification resulting from decriminalization policy	**Insufficient quantitative data.** Drug consumption patterns and numbers of drug treatments in decriminalized states for determining DTO losses would be helpful in determining the level of industry diversification attributed to decriminalization policy. Instability analysis may shed light, however, on the occurrence of industry diversification.	**It is unlikely that DTO industry diversification in decriminalized states has affected stability.** Extortion trends in decriminalized states coincided with only minor shifts in economic instability. A confluence of destabilizing factors exists in the destabilized states that distorts the attribution of instability to decriminalization policy.	**Decriminalization's effect on DTO industry diversification requires further assessment at the municipal level.** A municipal level analysis, particularly in the state of Nuevo León, would perhaps provide localized information giving more insight on whether decriminalization is contributing to DTOs' diversification into additional illicit crime industries.

a. Data analyzed only for decriminalized states that have a functioning drug court system, which includes the states of Chihuahua, Durango, Mexico, Morelos, and Nuevo León.

b. Nuevo León is the most reliable test case because it was first to implement decriminalization policy (in 2009 versus 2014 in other states) and its stability shifts are less likely to be attributed to legalization policy (the Sinaloa cartel is not one of the primary DTOs operating in Nuevo León).

C. WHAT THIS THESIS HAS CONTRIBUTED TO THE ALTERNATIVE POLICY PROBLEM SET: THE POLICY-BEHAVIOR MODEL FRAMEWORK

The dynamics of the illicit environment are constantly morphing. DTOs respond to changes in risk and revenues, adjusting their operational tactics and territories accordingly. Drug enforcement operations and political elections may increase the risk to DTO operations. Kingpin operations cause DTO splintering, which makes the environment all the more unpredictable for DTOs. Legalization and decriminalization policies and changes in U.S. drug demand affect the profitability of drug trafficking. The underlying point is that any analysis conducted on the illicit environment is timeframe-dependent. My analysis herein may suffice as a partial description of the illicit environment from 2012 to 2016, but aspects of it may already be obsolete. This is especially true considering the effects of recent disruptions, such as the extradition of Sinaloa Cartel leader El Chapo to the United States in early 2017.[448]

Therefore, the long-term value of this study does not necessarily lie in the findings themselves, but rather the method of analysis I have developed. Whereas the explanation of a single causal chain of events offers a snapshot of the illicit environment at a given point in time, an established comprehensive, moldable framework of analysis based on the *incentives* of each involved actor, rather than simply the actions themselves, and incorporating iterative feedback loops would serve as an ideal, albeit still imperfect, tool for analyzing the illicit drug environment. This type of tool would be best harnessed within a systems framework. Additionally, it would support the calculation of a net stability effect, for which I advocate later in this chapter. While falling far short of the scope of the ambitious analytical undertaking I described, I offer that this thesis may serve as a foundational framework for a more comprehensive analysis. I summarize this study's method in the following paragraphs.

[448] Darren Foster, "The Sinaloa Cartel Is Alive and Thriving without El Chapo," *Vice News*, February 1, 2017, https://news.vice.com/en_ca/article/8xmzax/the-sinaloa-cartel-is-alive-and-thriving-without-el-chapo.

This thesis uses historical analyses of the incentives of actors within the illicit drug environment to populate a web of behavioral dynamics to inform instability outcomes with regard to the war on drugs and organized crime in general. The causal sequence of drug policy (1) $\Rightarrow$ resulting behaviors (2) $\Rightarrow$ stability/instability (3) and the corresponding policy-behavior model detailed in Chapter III describes the web of interaction between (1) and (2). The policy-behavior model facilitates a granular, localized analysis of each policy-behavior relationship and interaction of behaviors themselves. Additional types of alternative drug policy, such as development as part of the Merida Initiative, and additional behavioral dynamics can be incorporated into the web of interactions between policy and behavior. Chapter III demonstrates the adaptability of the model by incorporating legalization and decriminalization into the initial framework populated by historical analysis.

If designed appropriately, a tool for calculating net stability effect could incorporate the web of relationships within the policy-behavior model. It would allow for the manipulation or update of each localized node of interaction in accordance with updated knowledge or new discoveries pertaining to the illicit environment. The effects resulting from the updated dynamics would automatically permeate the entire web of interactions through iterative feedback loops as the system adjusts toward equilibrium.

While Chapters II and III populate the model using qualitative examples, Chapter IV examines specific dynamics of the model quantitatively. The quantitative analysis verifies certain alternative policy dynamics of the policy-behavior model and also provides insight into new potential behavioral outcomes. Chapter IV also incorporates the territorial and operational characteristics of specific DTOs. These are key refining aspects pertaining DTO incentives within the illicit environment that facilitate a more accurate analysis of DTO behavior.

Chapter V applies quantitative instability analysis to the alternative policy behaviors identified in the model and in Chapter IV's analysis, and it describes the causal relationship between DTO and law enforcement behavior and instability. The instability indicators used in Chapter V are based on Chapter II's explanations of behavior-instability

dynamics well as stability metrics Chapter I identifies. I paired one or several instability indicators with each behavioral trend, depending on availability.

As is common in stability indexes and related problem sets, the available data do not represent a perfect match of the desired metric. Capturing real-world trends numerically also carries inherent challenges and is a known difficulty in the development world. Additionally, there is a limited number of available indicators and for varying timeframes. While applying available indicators to stability analysis, I also identify key missing indicators that would strengthen the correlation between (2) and (3), were they available. The data gaps are identified in Chapters IV and V and also in Tables 18 and 19 in this chapter.

The unidirectionality of my causal sequence is a limitation that precludes the type of iterative systems analysis this section previously discussed. Although I incorporate feedback loops into my initial policy-behavior model, I limit the model to a unidirectional causal sequence for simplicity of analysis, in which alternative policy (1) affects DTO and drug enforcement behavior (2) and (2), which in turn affects changes in stability (3). Since in reality (2) affects (1), and (3) also affects (2) and (1), a systems analysis could provide a closer approximation of the web of real-world relationship dynamics. A systems analysis could also assign a weight to each causal factor based on level of correlation to instability. For example, the analysis could attribute more weight to Sinaloa cartel behavior in the case of legalization policy due to its dominance of marijuana markets and heavy reliance on drug trafficking revenues. The analysis could also attribute more weight to the state of Nuevo León in the case of decriminalization since it was the first to implement the policy and therefore a more reliable and time-tested case study.

D. OPPORTUNITIES FOR EXPANSION AND REFINEMENT OF THIS STUDY

Since the study of instability is limited to the availability of data sets, the type and quality of the data has a lot of bearing on outcomes. The future is promising for new or refined datasets that could enhance analysis of drug policy effects. The World Justice

Project is set to release its first subnational index on the rule of law in Mexico in 2018.[449] Moreover, SESNSP incorporated an enhanced dataset for drug crimes in 2017 that is far more accurate than previous years.[450] The IEP's MPI will utilize SESNSP's enhanced dataset to compare the prevalence of drug crimes with kidnapping and extortion, essentially a measure of industry diversification. Additionally, Rand Corporation is developing an updated model for calculating DTO marijuana revenues as of mid-2018.[451] Since the calculation of DTO revenues by drug is central to the study on the effects of legalization, Rand's updated model could significantly affect the findings of this thesis. In any case, as data undergoes expansion and refinement in coming years, the scope and reliability of policy effect metrics will continue to improve.

As previously mentioned in this chapter, I advocate that the measurement of a net stability effect would perhaps best represent the success of alternative drug policy in terms of stability. Policies and their related behaviors may have stabilizing effects with respect to certain behaviors and geographical areas, while concurrently having destabilizing effects in others. A net effect analysis would provide insight, for example, on whether the political stability benefits of the Sinaloa cartel's diversification away from marijuana trafficking would outweigh the economic and political destabilization caused by the diversification of the Zetas and CJNG cartels into extortion.

The incorporation of a single medium for net effect measurement on Mexican stability would provide better clarity on the success of policy. The medium could potentially be expressed in terms of monetary value, such as in the case of the IEP's Economic Value of Peace within its MPI. The medium could also be a "points-based" system aligned toward long-term stabilization, similar to the OCPSI[452] derived from IEP's MPPI.[453] However, the medium would need to encompass all types of stability. A single

---

[449] "The Rule of Law in Mexico," World Justice Project, accessed March 4, 2018, https://worldjusticeproject.org/our-work/wjp-rule-law-index/special-reports/rule-law-mexico.

[450] Institute for Economics and Peace, *Mexico Peace Index 2018*, 82.

[451] Based on a conversation author had with Beau Kilmer of Rand Corporation on April 17, 2018.

[452] From the MPPI, I derived the particular indicators that applied to organized crime to create the OCPSI. See Chapter V: Instability Related to Behavioral Trend 1.1.

[453] Institute for Economics and Peace, *Mexico Peace Index 2018*, 41.

index encompassing all instability and tailored specifically to alternative drug policy could speak to overall policy success in terms of net effect. As I discuss later, a net stability effect analysis should also be applied regionally as a tool for discerning the most collectively stable outcome for both Mexico and the United States.

Further refinement of behavioral and instability analyses on DTOs other than Sinaloa could also provide more granularity on alternative drug policy effects. Sinaloa presents a relatively straightforward case study because it's revenues are most affected by drug legalization, it has remained a dominant cartel in recent years—particularly prior to El Chapo's extradition—and is less likely than other cartels to diversify into types of organized crime other than drug trafficking. By the inherent nature of their operations, the CJNG and the Zeta cartels, are more prone to diversification. This means they are less dependent on drug trafficking in the first place and therefore less affected by legalization policy. The distortion of legalization's effects that this presents is especially pertinent to my findings because the areas under the influence of the CJNG and the Zetas (i.e., the Caribbean coastal states of Tabasco, Veracruz, and Tamaulipas) have seen some of the most significant upticks in organized-crime related political instability since legalization. More scope and depth of analysis is needed to distinguish the particular role of legalization in the instability uptick.

As I argue in the conclusion of Chapter V, the more comprehensive the analysis of the stabilizing and destabilizing factors related to organized crime, the easier it is to distinguish the effects of each factor. There are several destabilizing factors at play in addition to legalization policy. Such destabilizing factors may include the removal or return of DTO kingpins, certain DTOs' natural tendencies to diversify from drug trafficking to other destabilizing organized crime industries, DTO turf wars, vigilantism, human rights abuses by security forces, and DTO reactions to certain security reform measures. Honing in on the activities of DTOs, such as the Zetas and CJNG, as well as the scope of destabilizing factors in Caribbean coastal states corridor would serve to clarify the effect of policy in these regions.

Additionally, I have analyzed extortion and kidnapping as DTOs' primary industry diversification activities. However, DTOs participate in several other industries of illicit

crime, including prostitution, human trafficking, oil theft, and auto theft. In particular, oil theft has been on the uptick and has had significant economic implications. PEMEX, Mexico's national oil company, lost $1.6 billion (30.2 billion MXN) to oil theft in 2017.[454] This is roughly equivalent to total DTO heroin revenues in 2016. While incorporation oil theft is beyond the scope of this study, the revenues generated and the resulting shifts in economic instability should be incorporated in future analyses.

While not specifically analyzed in this thesis, one additional area of alternative drug policy requiring net stability analysis is alternative development policy under the bilateral Merida Initiative. Initiated by Presidents George W. Bush and Felipe Calderón in 2008,[455] the Merida Initiative entered a second, more development-focused phase of "war on drugs" operations in 2011.[456] Although a welcome alternative to U.S. prohibition policy, Merida has had mixed effects on Mexican stability. As described in Chapter V, DTOs in the state of Morelos have lashed out against local government authorities in an attempt to dissuade them from adopting Merida's mandated security reforms.[457] Merida also prioritizes the incorporation of community-based security forces into Mexico's national security apparatus as part of its civil society initiatives. However, some of these incorporated vigilante community policing groups are infiltrated by criminal organizations involved in organized crime.[458] The United States and Mexico should collaborate in conducting a net stability analysis of the Merida Initiative as the first step toward gauging its success and mitigating its potentially destabilizing aspects.

---

[454] Christopher Woody, "Mexico's Oil Company Is Losing More Than a Billion Dollars a Year to Cartels—and Its Own Employees Are Helping Them Out," *Business Insider*, April 13, 2018, http://www.businessinsider.com/cartels-mexico-oil-theft-pemex-2018-4.

[455] Starr and Delle, "Does the Merida Initiative Represent."

[456] Olson and Wilson, "Beyond Merida."

[457] "Protests Against Crime in Morelos," Telesur.

[458] Michael Hoopes, "The Mérida Initiative at 7 Years: Little Institutional Improvement amidst Increased Militarization," *The Small Wars Journal*, 2015, http://smallwarsjournal.com/jrnl/art/the-m%C3%A9rida-initiative-at-7-years-little-institutional-improvement-amidst-increased-militari.

E. IMPLICATIONS FOR ALTERNATIVE DRUG POLICIES IN THE UNITED STATES AND MEXICO

Discussion on the prospect of future of policy reform is essentially a discussion on government incentives and international relationships. Examining the past drivers, or triggers, of U.S. drug control policies may provide insight into the dynamics of current policies and the likelihood and potential form of future policies.

1. Historical Triggers of U.S. Counternarcotics Policies

As geographical neighbors, culturally-integrated societies, and key trading partners, the United States and Mexico are interdependent countries. Due to the sheer number of U.S. consumers of Mexican-trafficked product, U.S. domestic drug policy will inherently have a strong effect on the common North American illicit drug market. Current and future Mexican instability is therefore inseparable from the influence of U.S. counternarcotics policy trends. U.S. policy trends symbolize what matters most socially, politically, and economically to the U.S. population and government.

Two primary types of situations have historically triggered U.S. counternarcotics policy reactions that have resulted in pressure on Mexican drug enforcement: upticks in U.S. domestic narcotics consumption and increases in drug related violence in Mexico. The increase in U.S. marijuana and heroin consumption in the 1970s spurred Operation Condor—a massive eradication campaign—in Mexico.[459] The uptick in violence in Mexican border cities, such as Ciudad Juarez and Tijuana, in 2006 resulting from Felipe Calderón's *mano dura* policies motivated the establishment of the bilateral Merida Initiative in 2008.[460] These reactionary policy initiatives have mandated changes in Mexican drug enforcement behavior, thereby redefining the illicit environment.

---

[459] Nigel Inkster and Virginia Comolli, "Chp. 4: The Transit Regions," Adelphi Series 52, no. 428 (2012): 88, https://doi.org/10.1080/19445571.2012.677262.

[460] Barry Petersen, "Juarez, Mexico - Murder Capital of the World," CBS News, August 12, 2010, https://www.cbsnews.com/news/juarez-mexico-murder-capital-of-the-world/.

2. Policy Reactions to the Current "Opioid Crisis"

The U.S. opioid crisis is a recent example of the sensitivity of U.S. government policy to upticks in domestic drug consumption[461] that has led to U.S. pressure on Mexico. In response to increased prescription drug and heroin abuse, the Trump administration formed an opioid commission by executive order in March 2017 to investigate the issue. The commission recommended the government call a U.S. federal state of emergency.[462] The opioid crisis has also coincided with a wave of literature documenting the violence in the Mexican state of Guerrero, the origin of over 50 percent of U.S. heroin and Mexico's most violent state.[463]

Despite the uptick in recent media reporting on heroin cultivation, trafficking, and addiction, cocaine revenues, in absolute terms, have increased substantially more than heroin revenues since 2012.[464] Why, then, has there been an "opioid crisis" rather than a "cocaine crisis?" I argue that heroin addiction and the uptick of instability in Guerrero has activated U.S. policy triggers of consumption and violence. First, heroin is lumped in with the prescription opioid crisis, which is already on the U.S. public health threat radar. Heroin also triggers the U.S. violence threat radar because it happens to stem from the most violent state in Mexico, which has received growing media coverage. However, the splintering of the Beltran Leyva cartel in Guerrero and surrounding states[465] may be just as responsible, if not more responsible, for Guerrero's violence uptick as the U.S. demand for heroin. Nonetheless, association of heroin with the opioid crisis has most likely contributed to recent U.S. and international pressure on Mexico to eradicate opium poppies in cultivation areas.[466]

---

[461] For the theory on interdependence between countries, see Chapter I: Literature Review: Complex Interdependence

[462] Khazan, "Trump's Opioid."

[463] Partlow, "In Mexico, the Price of America's Hunger for Heroin."

[464] See Figure 9 in Chapter IV.

[465] Partlow, "In Mexico, The Price of America's Hunger for Heroin."

[466] Michael O'Boyle, "Exclusive: Mexico Opens Up Its Heroin Fight to U.S., U.N. Observers," Reuters, April 7, 2017, https://www.reuters.com/article/us-usa-mexico-heroin-idUSKBN1792WE.

In light of the recent U.S. policy response to the opioid crisis, what destabilizing effect does Guerrero violence have on Mexico as a whole? Although answering this question is beyond the scope of this thesis, it carries important implications with regard to U.S. drug policy. It essentially highlights the possibility that current U.S. and international pressures on Mexico related to heroin, if approached from an appropriate human rights, rule-of-law, and development standpoint, could potentially have a positive net effect on Mexican stability. The greater the correlation between instability in the state Guerrero and instability in Mexico as a whole, the more significance that counter-heroin operations in Guerrero will have for Mexico in general. Yet, to my knowledge, this correlation has not been analyzed. A net stability analysis on the "success" of counternarcotics policy in Mexico could assess how one particular type or territory of instability in Mexico affects another. Since it is likely that there is no such comprehensive analysis s, the success of U.S. and international pressures on DTO and Mexican drug enforcement behavior is unknown.

3. Additional Drug Policy "Unknowns" Potentially Addressed by Net Stability Analysis

Not only would net stability analysis provide better metrics on counternarcotics policy success, but its revelations about behavioral dynamics between actors could shed light on several outstanding questions with regard to the illicit environment pertaining to the war on drugs. One of the questions I refer to is *to what extent is drug consumption driven by supply versus demand?* This question is essentially a chicken or egg type of question with regard to both policy and regional politics, and it requires a deep understanding of the complexities of market behaviors and incentives. The question essentially asks whether increases in drug use rises because drugs are available, or conversely, whether drugs are available because drug use is increasing. Much literature supports the latter position and infers that drug demand drives drug trafficking. If so, then should prohibitionist eradication and interdiction (supply control) operations be completely abandoned? How, when, and to what extent should they be applied to facilitate the most long-term stable outcome?

Another question potentially informed by behavioral analysis is what level of force should the state (i.e., the Mexican government) use against organized crime, under what circumstances, and against which groups? This question addresses the incentives behind DTOs' decisions to use force against the state versus engaging in some other action, such as diversification, technological innovation, territorial reorientation, etc. If Felipe Calderón's use of military force for countertrafficking operations sparked DTO violence,[467] what should the optimum force application then be?[468]

F. FINAL THOUGHTS

This study reveals several overarching implications for North American counternarcotics policy, yet it also highlights unanswered questions and unfilled information gaps. A key overarching implication, perhaps obvious at first glance, is that the effects of policy, even better policy, extend well beyond first order policy objectives. For many, alternative drug policies are a welcome departure from destabilizing prohibition policies of past decades. Yet even alternative policies carry second and third order implications, some of them conflicting. The responsibility of comprehensive regional policy assessment that prioritizes long-term regional stability outcomes falls on both the United States and Mexico.

All idealism aside, however, is a regionally-focused policy based on stability as a success metric pragmatic? I argue that this question depends on the willingness of both the United States and Mexico to embrace the realities of their interdependencies. Since the United States is the world's largest drug consumer and the majority of the drugs flowing to the United States stem from Mexico, it is especially imperative that the United States admit that is its primary role in promoting regional stability, fair or not, it is paramount. The United States and Mexico must also be honest about the current status and characteristics of its security institutions, law enforcement structures, and judicial capabilities that facilitate its role as the key cultivator and/or waypoint of drugs entering

[467] Deare, *A Tale of Two Eagles*, 252.

[468] Angélica Durán Martinez analyzes DTO incentives for employing counter-state violence in her book *The Politics of Drug Violence*.

the United States. I reason that the incentive to address these sensitive questions depends on the priority that the United States and Mexico place on stability in general.

While even my presumed attempt to avoid idealism may appear idealistic, I offer that stability, in actuality, already occupies a key priority within U.S. counternarcotics policy. As explained earlier in this chapter, the United States has historically made drug policy choices on the grounds of public health and/or regional violence. I argue that these are legitimate concerns related to stability. Drug addiction affects the very social fabric of society and can reduce human capital. The prospect of an overflow of DTO violence or organized crime operations into the United States poses a perceived threat to citizen security and/or the legitimate U.S. institutions. DTO investment in legal U.S. businesses can cause political and economic instability by corrupting formal institutions and tying the economy to drug money.[469] Of course, one would be naïve not to account for public opinion as a driver of U.S. policy. Public opinion is also a matter of stability, however. The Chapter I's literature review on stability explains that instability occurs when a government fails adequately fulfill society's expectations. Even perceived threats such as the increase of U.S. heroin consumption reflect expectations of government action and should be accounted for through both education of the public, government transparency, and calculated strategic messaging of public policy initiatives.

Although the United States has demonstrated concern over factors related to domestic stability, its focus on international legitimacy has trumped the extension of this concern south of the border. Decades of prohibition policy has international legitimacy for the U.S. government. Angélica Durán Martinez states,

> To understand drug violence, one cannot overlook the role of the global prohibition regime in which drug trafficking flourishes. Explanations focused on international policy argue that violence in drug markets is the result of the global drug-prohibition regime and the U.S.-led war on drugs, which emerged during the early prohibitions of 1914 and was consolidated

[469] As discussed in the example of Miami in the 1980s. See Chapter V: Instability Related to Behavioral Trend (1.3).

> during the 1961 UN Single Convention on Narcotic Drugs and the 1969 declaration of the War on Drugs by U.S. president Richard Nixon.[470]

The global prohibition regime remains alive and well, reflected in the recent U.S. and UN joint observation of poppy eradication in Mexico noted previously in this chapter. The parameters set forth in the UN drug conventions may also be preventing the United States from legalizing marijuana at the federal level.[471] A comprehensive net assessment of the effects of drug prohibition policy on regional security could provide more definitive feedback to the UN on the second and third order effects of its mandates.

In conclusion, regional stability is an essential requirement for North America's long-term, resilient growth trajectory underscoring quality of life, peace, and the continued progress of both citizens and government institutions. Illicit narcotics trafficking is a primary disrupter of this regional stability. Although many practical obstacles stand in the way of drug policy reform, sustainable reform that facilitates the above-mentioned goals cannot happen at all without informed knowledge the illicit trafficking problem set. I can only hope that the methods, arguments, and results of this study will serve as a catalyst for further research that will collectively enlighten awareness on drug policy effects, and that the political environment ripen for their consideration.

---

[470] Durán-Martínez, *The Politics of Drug Violence*, 14.

[471] Keegan Hamilton, "Weed and the UN: Why International Drug Laws Won't Stop Legalization," *Vice News*, April 20, 2016, https://news.vice.com/article/weed-and-the-un-why-international-drug-laws-wont-stop-legalization.

THIS PAGE INTENTIONALLY LEFT BLANK

APPENDIX. DTO REVENUE SOURCE VALUES BY DRUG

	DTO Marijuana Revenues					
	Consumers (thousands)[a]	Consumption (grams)[b]	Wholesale Price (per gram) (USD)[c]	% Mexican supplied[d]	Total Revenue (billions of nominal USD)[e]	Total Revenue (billions of nominal MXN)[f]
1995	9800	912.5	$7.24	95.4	$93,614	$582,276
1996	9800	912.5	$7.24	95.4	$93,614	$582,276
1997	10100	912.5	$7.98	91.7	$99,211	$753,011
1998	11100	912.5	$6.02	84.4	$73,492	$581,325
1999	11000	912.5	$7.53	84.1	$89,549	$818,479
2000	11900	912.5	$10.42	85.0	$131,732	$1,256,727
2001	12100	912.5	$6.63	77.5	$75,644	$714,832
2002	13342	912.5	$7.28	73.8	$84,948	$791,711
2003	14584	912.5	$12.21	62.1	$129,429	$1,247,697
2004	14638	912.5	$10.07	61.5	$103,385	$1,113,459
2005	14576	912.5	$7.77	51.4	$64,793	$729,566
2006	14626	912.5	$9.56	51.6	$77,500	$843,196
2007	14849	912.5	$11.10	45.7	$78,106	$850,579
2008	14470	912.5	$10.36	37.9	$57,529	$627,638
2009	15269	912.5	$6.77	33.9	$33,967	$378,058
2010	16826	912.5	$11.54	34.9	$66,415	$895,270
2011	17409	912.5	$9.73	34.7	$56,442	$712,294
2012	18071	912.5	$12.16	31.3	$64,124	$795,781
2013	18855	912.5	$11.33	25.9	$50,449	$662,901
2014	19810	912.5	$9.48	24.0	$40,749	$519,550
2015	22188	912.5	$7.64	23.2	$34,455	$457,910
2016	22226	912.5	$5.79	21.8	$24,879	$394,331

Values determined empirically (see notes)

	DTO Heroin Revenues					
	Consumers (thousands)[g]	Consumption (grams)[h]	Wholesale Price (per gram) (USD)[i]	% Mexican supplied[j]	Total Revenue (billions of nominal USD)[e]	Total Revenue (billions of nominal MXN)[f]
1995	428	36.5	$366.00	5	$1,367	$8,504
1996	455	36.5	$366.00	5	$1,367	$8,504
1997	597	36.5	$399.00	20	$5,847	$44,377
1998	253	36.5	$328.00	14	$3,594	$28,428
1999	154	36.5	$284.00	17	$2,864	$26,179
2000	130	36.5	$272.00	24	$3,169	$30,236
2001	123	36.5	$238.00	17	$1,815	$17,156
2002	544	36.5	$215.00	30	$1,663	$15,502
2003	166	36.5	$216.00	9	$151	$1,456
2004	119	36.5	$213.00	3	$35	$374
2005	166	36.5	$245.00	14	$253	$2,854
2006	136	36.5	$228.00	14	$186	$2,028
2007	339	36.5	$219.00	20	$616	$6,707
2008	161	36.5	$197.00	25	$322	$3,508
2009	213	36.5	$166.00	38	$522	$5,807
2010	193	36.5	$205.00	34	$528	$7,117
2011	239	36.5	$230.00	33	$697	$8,796
2012	281	36.5	$211.00	50	$1,104	$13,702
2013	335	36.5	$193.00	45	$1,062	$13,954
2014	289	36.5	$155.75	54	$878	$11,200
2015	435	36.5	$158.87	79	$1,916	$25,464
2016	329	36.5	$128.36	93	$1,392	$22,060

Values determined empirically (see notes)

	DTO Cocaine Revenues					
	Consumers (thousands)[k]	Consumption (grams)[l]	Wholesale Price (per gram) (USD)[m]	% Mexican supplied[n]	Total Revenue (billions of nominal USD)[e]	Total Revenue (billions of nominal MXN)[f]
1995	2866	73	$81.78	80	$20,739	$128,998
1996	2866	73	$81.78	80	$20,739	$128,998
1997	2828	73	$72.21	80	$17,538	$133,114
1998	2847	73	$76.27	80	$18,116	$143,295
1999	2800	73	$66.48	80	$15,311	$139,943
2000	2755	73	$72.70	80	$16,023	$152,860
2001	2707	73	$80.56	80	$16,981	$160,469
2002	2363.5	73	$77.93	80	$13,970	$130,196
2003	2020	73	$69.93	80	$10,576	$101,955
2004	2281	73	$64.51	80	$10,742	$115,689
2005	2021	73	$59.68	80	$8,590	$96,724
2006	2397	73	$53.84	80	$8,867	$96,471
2007	2426	73	$47.76	80	$7,689	$83,736
2008	2077	73	$58.74	80	$7,917	$86,371
2009	1865	73	$74.73	80	$8,659	$96,373
2010	1642	73	$83.09	80	$8,567	$115,489
2011	1472	73	$78.72	80	$7,123	$89,896
2012	1369	73	$73.78	80	$6,019	$74,697
2013	1650	73	$84.43	80	$8,136	$106,903
2014	1549	73	$90.64	84	$8,524	$108,683
2015	1530	73	$96.80	87	$9,044	$120,199
2016	1876	73	$88.88	90	$10,636	$168,575

Values determined empirically (see notes)

	DTO Methamphetamine Revenues					
	Consumers (thousands)[o]	Consumption (grams)[p]	Wholesale Price (per gram) (USD)[q]	% Mexican supplied[r]	Total Revenue (billions of nominal USD)[e]	Total Revenue (billions of nominal MXN)[f]
1995	584	36.5	$192.00	77.5	$4,806	$29,892
1996	584	36.5	$192.00	77.5	$4,806	$29,892
1997	664	36.5	$201.00	77.5	$5,552	$42,140
1998	707	36.5	$152.00	77.5	$4,343	$34,351
1999	669	36.5	$271.00	77.5	$7,223	$66,020
2000	617	36.5	$239.00	77.5	$5,714	$54,513
2001	900	36.5	$191.00	77.5	$6,483	$61,269
2002	583	36.5	$157.00	77.5	$3,363	$31,339
2003	597	36.5	$143.00	77.5	$3,096	$29,846
2004	607	36.5	$116.00	77.5	$2,490	$26,814
2005	583	36.5	$103.00	77.5	$2,072	$23,325
2006	512	36.5	$86.00	77.5	$1,465	$15,943
2007	731	36.5	$122.00	77.5	$2,867	$31,219
2008	529	36.5	$139.00	77.5	$2,311	$25,214
2009	314	36.5	$131.00	77.5	$1,238	$13,777
2010	502	36.5	$111.00	77.5	$1,695	$22,847
2011	353	36.5	$89.00	79.6	$961	$12,123
2012	439	36.5	$77.00	81.7	$1,028	$12,760
2013	440	36.5	$70.00	83.8	$942	$12,372
2014	595	36.5	$66.25	85.8	$1,223	$15,590
2015	569	36.5	$64.00	87.9	$1,124	$14,933
2016	897	36.5	$62.25	90.0	$1,781	$28,227

Values determined empirically (see notes)

SOURCES FOR APPENDIX DATA

a. 1995–2000 Based on Abt and Associates, "Table 9. Calculation of Total Marijuana Consumption, 1988–2000," in *What America's Users Spend on Illegal Drugs* (Cambridge, MA: Office of National Drug Control Policy, 2001); 2001 based on linear interpolation; 2002–2016 adapted from "Table 7.3A: Types of Illicit Drug Use in Past Month among Persons Aged 12 or Older: Numbers in Thousands, 2002–2016," in *Results from the 2016 National Survey on Drug Use and Health: Detailed Tables* (Rockville, MD: Substance Abuse and Mental Health Services Administration, 2017).

b. Based on 25 grams of marijuana every 10 days given to addicts in drug treatment in Portugal. Adapted from Kellen Russoniello, "The Devil (and Drugs) in the Details: Portugal's Focus on Public Health as a Model for Decriminalization of Drugs in Mexico," *Yale Journal of Health Policy, Law, and Ethics* 12, no. 2 (April 26, 2013): 373–431.

c. 1995–2012 Based on "Purchases Greater than 10 and 2 up to 100 Grams: Price per bulk Gram ($)" column from "Table 76. Average Price of Marijuana in the United States, 1981–2012 (2012 Dollars)" in *National Drug Control Strategy Data Supplement 2016* (Washington, DC: Executive Office of the President of the United States, 2016); 2016–17 based on values from "Cannabis Benchmarks U.S. Spot Index 2015–2017" graph in Bruce Kennedy, "Wholesale Cannabis Prices Tumbled in 2017—and They Have yet to Hit Rock Bottom," The Cannabist, March 8, 2018, https://www.thecannabist.co/2018/03/08/marijuana–prices–2017–cannabis–benchmarks/100103/.

d. "1995–2014 Based on the sum of columns "Δ9–THC n < 3 %" and "Δ9–THC n = 3–7 %" from "Table 3: Prevalence of High Potency Cannabis Samples Confiscated by DEA from 1995 to 2014" in Mahmoud A. Elsohly, Mahmoud A., Zlatko Mehmedic, Susan Foster, Chanfrani Gon, Suman Chandra, and James C. Church, "Changes in Cannabis Potency over the Last Two Decades (1995–2014): Analysis of Current Data in the United States," *Biological Psychiatry* 79, no. 7 (April 2016): 613–619, https://doi.org/10.1016/j.biopsych.2016.01.004; 2015–2016 based on linear interpolation from the values from years 2012–2014."

e. Total Revue = Consumers x Consumption x Wholesale Price x Percent Mexican Supplied.

f. Adapted from the "real commodity price" conversion rate from the Measuring Worth website at https://www.measuringworth.com/calculators/uscompare/.

g. 1995–1998 adapted from the "Heroin Occasional" row of Abt and Associates, "Table 3 Estimated Number of Chronic an Occasional Users of Cocaine and Heroin (Thousands), 1988–2000," in *What America's Users Spend on Illegal Drugs* (Cambridge, MA: Office of National Drug Control Policy, 2001); 1999–2000 adapted from "Table F.1: Estimated Numbers (in Thousands) of Lifetime, Past Year, and Past Month Users of Illicit Drugs Among Persons Aged 12 or Older: 1999 and 2000," *Summary of Findings from the 2000 National Household Survey on Drug Abuse* (Rockville, MD: U.S. Department of

Health and Human Services, Office of Applied Studies, 2001), https://files.eric.ed.gov/fulltext/ED466907.pdf; 2001, adapted from *Results from the 2001 National Household Survey on Drug Abuse: Volume I. Summary of National Findings* (Rockville, MD: U.S. Department of Health and Human Services: Substance Abuse and Mental Health Services Administration, Office of Applied Studies, 2002), 13, https://archive.org/stream/ERIC_ED470404#page/n109/mode/2up/search/heroin; 2002–2016 adapted from "Table 7.3A: Types of Illicit Drug Use in Past Month among Persons Aged 12 or Older: Numbers in Thousands, 2002–2016," in *Results from the 2016 National Survey on Drug Use and Health: Detailed Tables* (Rockville, MD: Substance Abuse and Mental Health Services Administration, 2017).

h. Based on 1 gram of heroin every 10 days given to addicts in drug treatment in Portugal. Adapted from Kellen Russoniello, "The Devil (and Drugs) in the Details: Portugal's Focus on Public Health as a Model for Decriminalization of Drugs in Mexico," *Yale Journal of Health Policy, Law, and Ethics* 12, no. 2 (April 26, 2013): 373–431.

i. 1995–2012 Based on "Purchases Greater than 10 up 2 to 100 Grams: Price per Pure Gram ($)" column in "Table 74. Average Price and Purity of Heroin in the United States, 1981–2012" in *National Drug Control Strategy Data Supplement 2016* (Washington, DC: Executive Office of the President of the United States, 2016); 2013–2016 prices adapted from ratio of (current year retail price):(last year retail price) from "Figure 3: Heroin Exhibits: Origin, Purities, and Price." in *2015 Heroin Domestic Monitor Program* (U.S. Drug Enforcement Administration, 2017).

j. 2000–2015 Adapted from "Appendix A: Heroin Domestic Monitor Program Results 2000–2015," in *2015 Heroin Domestic Monitor Program* (U.S Drug Enforcement Administration, 2017). 2016 taken as same value as 2015. 1995–2015 adapted from "Appendix A: Heroin Source Area Distribution: 1977–2015" in *The 2015 Heroin Signature Program Report* (Washington, DC: U.S. Drug Enforcement Administration, 2017), https://www.dea.gov/docs/DEA–DCW–DIR–032–17%20The%202015%20Heroin 20Signature%20Report.pdf; 2016 listed as the same value as 2015.

k. 1995–2000 adapted from the "Composite: Cocaine Chronic" row of Abt and Associates, "Table 3 Estimated Number of Chronic an Occasional Users of Cocaine and Heroin (Thousands), 1988–2000," in *What America's Users Spend on Illegal Drugs* (Cambridge, Massachusetts: Office of National Drug Control Policy, 2001); 2001 based on linear interpolation of years 1995–2000; 2002–2016 adapted from "Table 7.3A: Types of Illicit Drug Use in Past Month among Persons Aged 12 or Older: Numbers in Thousands, 2002–2016," in *Results from the 2016 National Survey on Drug Use and Health: Detailed Tables* (Rockville, MD: Substance Abuse and Mental Health Services Administration, 2017).

l. Based on 2 grams of cocaine every 10 days given to addicts in drug treatment in Portugal. Adapted from Kellen Russoniello, "The Devil (and Drugs) in the Details: Portugal's Focus on Public Health as a Model for Decriminalization of Drugs in Mexico," *Yale Journal of Health Policy, Law, and Ethics* 12, no. 2 (April 26, 2013): 373–431.

m. 1995–2012 based on "Purchases of Greater Than 10 up to 100 Grams: Price per Pure Gram ($)" in "Table 73. Average Price and Purity of Cocaine and Crack in the United States, 1981–2012" in *National Drug Control Strategy Data Supplement 2016* (Washington, DC: Executive Office of the President of the United States, 2016); 2013–2016 based on retail price "PPG ($)" row of "Figure 89. Annualized Price and Purity of Domestic Cocaine Purchases, 2007–2016" in *2017 National Drug Threat Assessment* (U.S. Department of Justice Drug Enforcement Administration, 2017), https://www.dea.gov/docs/DIR–040–17_2017–NDTA.pdf. Times a multiplier of 0.44, which is the average ratio of wholesale to retail values of cocaine for the years 2009–2012 in "Table 73. Average Price and Purity of Cocaine and Crack in the United States, 1981–2012" in *National Drug Control Strategy Data Supplement 2016* (Washington, DC: Executive Office of the President of the United States, 2016).

n. 1995–2012 based on "base value" for percentage of cocaine supplied from Mexico in "Table D.8: Marijuana Inputs and Exploratory Values for Other Drugs Used in Simulation" in Beau Kilmer , Jonathan D. Caulkins, Brittany M. Bond, and Peter H. Reuter, "Appendixes," in *Reducing Drug Trafficking Revenues and Violence in Mexico: Would Legalizing Marijuana in California Help?* (Santa Monica, CA: Rand, 2010). 2012–2015 adapted from "Figure 94. Cocaine Movement North from South America, 2016." 2016 used the same value as 2015.

o. 1995–2000 Adapted from "Number of Chronic Weakly Users" row of "Table 8 Calculation of Total Methamphetamine Consumption, 1989–2000" in Abt and Associates, *What America's Users Spend on Illegal Drugs* (Cambridge, MA: Office of National Drug Control Policy, December 2001). 2000–2014 adapted from Results from the Substance Abuse and Mental Health Services Administration *National Household Surveys on Drug Abuse for the Years 2000–2014*; 2015–2016 based on "Table 7.3A: Types of Illicit Drug Use in Past Month among Persons Aged 12 or Older: Numbers in Thousands, 2002–2016," in *Results from the 2016 National Survey on Drug Use and Health: Detailed Tables* (Rockville, MD: Substance Abuse and Mental Health Services Administration, 2017).

p. Based on 1 gram of cocaine every 10 days given to addicts in drug treatment in Portugal. Adapted from Kellen Russoniello, "The Devil (and Drugs) in the Details: Portugal's Focus on Public Health as a Model for Decriminalization of Drugs in Mexico," *Yale Journal of Health Policy, Law, and Ethics* 12, no. 2 (April 26, 2013): 373–431.

q. 1995–2012 adapted from "Purchases of Greater than 10 up to 100 Grams Price per Pure Gram ($): Price per pure gram ($)" column in Table 75. "Average Price and Purity of Methamphetamine in the United States," 1981–2012 in *National Drug Control Strategy Data Supplement 2016* (Washington, DC: Executive Office of the President of the United States, 2016); 2012–2016 adapted from the "PPG ($)" row of "Figure 62. Domestic Methamphetamine Purchases January 2011–September 2016." in *2017 National Drug Threat Assessment* (Washington, DC: US. Drug Enforcement Administration, 2017), https://www.dea.gov/docs/DIR–040–17_2017–NDTA.pdf."

r. 1995–2012 adapted from the "Base" estimate of "Methamphetamine: U.S. Market Share Exported from Mexico (%)" row in "Table D.8: Marijuana Inputs and Exploratory Values for Other Drugs Used in Simulation" in "Beau Kilmer et al., "Appendixes," in *Reducing Drug Trafficking Revenues and Violence in Mexico: Would Legalizing Marijuana in California Help?* (Santa Monica, CA: Rand, 2010). 2013–2014 based on linear interpolation from values adapted for 2012 and 2015. 2015–2016 adapted from the value quoted in Sandra Dibble, "Record Border Meth Seizures," *San Diego Union Tribune*, January 3, 2015, http://www.sandiegouniontribune.com/news/border–baja–california/sdut–record–border–meth–seizures–california–2015jan03–story.html.

LIST OF REFERENCES

Ackerman, Gary, ed. *The "New" Face of Transnational Crime Organizations (TCOs): A Geopolitical Perspective and Implications to U.S. National Security*. Washington, DC: Office of the Secretary of Defense, 2013. http://hdl.handle.net/10945/30346.

Agren, David. "Mexico Maelstrom: How the Drug Violence Got so Bad." *The Guardian*, December 26, 2017. http://www.theguardian.com/world/2017/dec/26/mexico-maelstrom-how-the-drug-violence-got-so-bad.

Ai Camp, Roderic. *Mexico: What Everyone Needs to Know*, 2nd ed. New York: Oxford University Press, 2017.

Aldrich, Liberty, Albert Amiot Rodríguez, Greg Berman, Francisco Cumsille, Sarah Fritshe, María Elena Medina Mora, Erica Sasson, and José Luis Vázquez. *A Diagnostic Study of the Addiction Treatment Court in Guadalupe, Nuevo León, México: Findings and Recommendations*. Washington, DC: Organization of American States, 2014. https://www.courtinnovation.org/sites/default/files/documents/diagnostic_study_nuevo_leon_ENG.pdf.

Andreas, Peter. "When Policies Collide: Market Reform, Market Prohibition, and the Narcotization of the Mexican Economy." In *The Illicit Global Economy and State Power*, ed. H. Richard Friman and Peter Andreas, 125–142. Lantham, MD: Rowman and Littlefield, 1999.

Astorga, Luis, and David A. Shirk. *Drug Trafficking Organizations and Counter- Drug Strategies in the U.S.-Mexican Context*. San Diego: Center for U.S.-Mexican Studies; Washington, DC: Mexico Institute of the Woodrow; Tijuana, Mexico: El Colegio de la Frontera Norte; Mexico City: El Colegio de México, 2010. https://escholarship.org/uc/item/8j647429.

Bailey, John. "Drug Traffickers as Political Actors in Mexico's Nascent Democracy." In *The Oxford Handbook of Mexican Politics*, edited by Roderic Ai Camp, 466–496. New York: Oxford University Press, 2012.

Baldwin, David A. "Interdependence and Power: A Conceptual Analysis." *International Organization* 34, no. 4 (Autumn 1980): 482–483.

Barber, Chris. "Public Enemy Number One: A Pragmatic Approach to America's Drug Problem." Richard Nixon Foundation. June 29, 2016. https://www.nixonfoundation.org/2016/06/26404/.

Bath, C. Richard, and Dilmus D. James. "Dependency Analysis of Latin America: Some Criticisms, Some Suggestions." *Latin American Research Review* 11, no. 3 (1976): 3–54. http://www.jstor.org/stable/2502502.

Beer, Caroline C. "Electoral Competition and Fiscal Decentralization in Mexico." In *Decentralization and Democracy in Latin America*, edited by Alfred P. Montero and David J. Samuels, 180–202. Notre Dame, Indiana: University of Notre Dame Press, 2004.

Beittel, June S. *Mexico: Organized Crime and Drug Trafficking Organizations*, CRS Report No. R41576. Washington, DC: Congressional Research Service, 2017.

Black, Lester. "Washington Just Harvested Its Biggest Legal Weed Crop Ever. Is That a Problem?" The Stranger, December 19, 2017. https://www.thestranger.com/slog/2017/12/19/25639625/washington-just-harvested-its-biggest-legal-weed-crop-ever-is-that-a-problem.

Bonello, Deborah. "Perceptions of Security Worsen for Average Mexicans: Poll." InSight Crime. November 28, 2016. https://www.insightcrime.org/news/brief/perceptions-of-security-worsen-for-average-mexicans-poll/.

Bow, Brian J., and Arturo Santa Cruz, eds. "Conclusions- Multiple Challenges, Multiple Regions, Multiple Perspectives." In *The State and Security in Mexico*: *Transformation and Crisis in Regional Perspective*, 192–202. New York: Taylor and Francis, 2013.

———. "The State and Security in Mexico: Crisis and Transformation in Regional Perspective." In *The State and Security in Mexico: Crisis and Transformation in Regional Perspective*. New York: Routledge, 2013.

Boyd-White, Claire. "What Is The Difference Between Revenue And Income?" *Investopedia*, April 19, 2018. https://www.investopedia.com/ask/answers/122214/what-difference-between-revenue-and-income.asp.

Brandt, Daniel. "Operation Condor: Ask the DEA." Latin American Studies. December 10, 1998. http://www.latinamericanstudies.org/chile/condor.htm.

Brienen, Marten W. "Bolivian Drug Policy under the Morales Administration." In *Drug Trafficking, Organized Crime, and Violence in the Americas Today*, edited by Bruce M. Bagley and Jonathan D. Rosen, 203–222. Gainesville, FL: University Press of Florida, 2015.

Burnett, John. "Legal Pot in the U.S. May Be Undercutting Mexican Marijuana." NPR, December 1, 2014. https://www.npr.org/sections/parallels/2014/12/01/367802425/legal-pot-in-the-u-s-may-be-undercutting-mexican-marijuana.

Butler, Glen. "Combating Transnational Criminal Organizations in the Western Hemisphere: It, Too, Takes a Network." In *The "New" Face of Transnational Crime Organizations (TCOs): A Geopolitical Perspective and Implications to U.S. National Security*, edited by Gary Ackerman, 39–53. Washington, DC: Offic of the Secretary of Defense, 2013. http://hdl.handle.net/10945/30346.

Cabayan, Hriar. "Executive Summary." In *The "New" Face of Transnational Crime Organizations (TCOs): A Geopolitical Perspective and Implications to U.S. National Security*, edited by Gary Ackerman, 6–25. Washington, DC: Office of the Secretary of Defense, 2013. http://hdl.handle.net/10945/30346.

Calderón, Laura, Octavio Rodríguez Ferreira, and David A. Shirk. *Drug Violence in Mexico: Data and Analysis through 2017*. San Diego, CA: University of San Diego Department of Political Science & International Relations, 2018.

CBS News. "10 Years after Prison Escape, 'El Chapo' Thrives." January 18, 2011. https://www.cbsnews.com/news/10-years-after-prison-escape-el-chapo-thrives/.

Chavers, Mikel. "US Judges Help Set Up Mexico's First Drug Court." *Capital Ideas*, no. July–August (2010). http://www.csg.org/pubs/capitolideas/jul_aug_2010/hottopic_warondrugs.aspx.

Cisneros, José Luis. "Looks of Fear: A Reflection of Violence and Crime in Mexico." In *Using the "Narcotrafico" Threat to Build Public Administration Capacity between the U.S. and Mexico*, edited by David H Rosenbloom and Roberto Moreno Espinosa, 47–60. Boca Raton, FL: Taylor and Francis Group: CRC Press, 2014.

Coscia, Michele, and Viridiana Rios. *Knowing Where and How Criminal Organizations Operate Using Web Content*. Cambridge, MA: Harvard University, 2012. https://scholar.harvard.edu/vrios/publications/knowing-where-and-how-criminal-organizations-operate-using-google.

Craig, Richard B. "Operation Intercept: The International Politics of Pressure." *The Review of Politics* 42, no. 4 (October 1980): 556–580.

Caulkins, Jonathan D., Beau Kilmer, and Mark A. R. Kleiman, *Marijuana Legalization: What Everyone Needs to Know*, 2nd ed. Oxford University Press, 2016.

De La O, Ana. "How Governmental Corruption Breeds Clientelism." In *Mexico's Evolving Democracy: A Comparative Study of the 2012 Elections*, edited by Jorge L. Domínguez, Kenneth F. Greene, Chappell H. Lawson, Alejandro Moreno, 181–199. Baltimore, Maryland: Johns Hopkins University Press, 2014.

Deare, Craig A. "Security Implications of Drug Legalization in the U.S. and Mexico." In *The State and Security in Mexico*, edited by Brian Bow and Arturo Santa Cruz, 99–119. New York: Taylor & Francis, 2013.

Días, Gabriella. “As Mexican Officials Tout Drug-Courts Innovation, Drug-War Opponents See Window Dressing.” *Panama Post*, May 15, 2014. https://panampost.com/marcela-estrada/2014/05/14/as-mexican-officials-tout-drug-courts-innovation-drug-war-opponents-see-window-dressing/.

Dittmar, Victoria. “Is Mexico’s CJNG Following in the Footsteps of the Zetas?” February 19, 2018. https://www.insightcrime.org/news/analysis/mexicos-cjng-following-footsteps-zetas/.

———. “Mexico’s Ascendant Jalisco Cartel May Be Copying the Brutal Tactics of the Once-Dominant Zetas.” *Business Insider*, February 25, 2018. http://www.businessinsider.com/mexicos-jalisco-new-generation-cartel-copying-zetas-tactics-2018-2?r=UK&IR=T.

Dube, Oendrila, Kevin Thom, and Omar García-Ponce. “From Maize to Haze: Agricultural Shocks and the Growth of the Mexican Drug Sector.” *Journal of the European Economic Association* 14, no. 5 (October 2016): 1181–1224. https://doi.org/10.1111/jeea.12172.

DuFour, Scot. “Legal Marijuana and Drug Cartels: Will Legal Marijuana Hurt Cartel Power?” *Calibre Press*, May 24, 2017. https://www.calibrepress.com/2017/05/legal-marijuana-drug-cartels/.

Durán-Martínez, Angelica. *The Politics of Drug Violence: Criminals, Cops, and Politicians in Colombia and Mexico*. New York: Oxford University Press, 2018.

The Economist. “Crime’s New Geography: Why Murder in Mexico Is Rising Again.” May 11, 2017. https://www.economist.com/news/americas/21721973-gangs-get-smaller-and-diversify-why-murder-mexico-rising-again.

———. “Minsky’s Moment.” July 30, 2016. https://www.economist.com/news/economics-brief/21702740-second-article-our-series-seminal-economic-ideas-looks-hyman-minskys.

———. “Why Murder in Mexico Is Rising Again.” May 11, 2017. https://www.economist.com/the-americas/2017/05/11/why-murder-in-mexico-is-rising-again.

Elsohly, Mahmoud A., Zlatko Mehmedic, Susan Foster, Chanfrani Gon, Suman Chandra, and James C. Church. “Changes in Cannabis Potency over the Last Two Decades (1995–2014): Analysis of Current Data in the United States.” *Biological Psychiatry* 79, no. 7 (April 2016): 613–619. https://doi.org/10.1016/j.biopsych.2016.01.004. See Appendix for a full explanation of source data.

Erickson, Amanda. "Mexico Just Legalized Medical Marijuana." *Washington Post*, June 21, 2017. ttps://www.washingtonpost.com/news/worldviews/wp/2017/06/21/mexico-just-legalized-medical-marijuana/.

Estevez, Dolia. "Mexican Drug Kingpin El Chapo out of Billionaire Ranks." *Forbes*, March 5, 2013. https://www.forbes.com/sites/doliaestevez/2013/03/05/mexican-drug-kingpin-el-chapo-out-of-billionaire-ranks/#4e962a3266fc.

Executive Office of the President. *National Drug Control Strategy FY 2017 Budget and Performance Summary*. Washington, DC: Executive Office of the President, 2016. https://obamawhitehouse.archives.gov/sites/default/files/ondcp/policy-and-research/fy2017_budget_summary-final.pdf.

Foster, Darren. "The Sinaloa Cartel Is Alive and Thriving without El Chapo." *Vice News*, February 1, 2017. https://news.vice.com/en_ca/article/8xmzax/the-sinaloa-cartel-is-alive-and-thriving-without-el-chapo.

Freeman, Laurie. *State of Siege: Drug-Related Violence and Corruption in Mexico-Unintended Consequences of the War on Drugs*. Washington, DC: Washington Office on Latin America, 2006. https://www.wola.org/sites/default/files/downloadable/Mexico/past/state_of_siege_06.06.pdf.

Freidenberg, Flavia, and Steven Levitsky. "Informal Institutions and Party Organization in Latin America." In *Informal Institutions and Democracy: Lessons from Latin America*, edited by Gretchen Helmke and Steven Levitsky, 178–200.Baltimore, MD: Johns Hopkins University Press, 2006.

Fuller, Thomas. "Marijuana Goes Industrial in California." *New York Times*, April 15, 2017. https://www.nytimes.com/2017/04/15/us/california-marijuana-industry-agriculture.html.

Gallagher, Lauren. "Should the United States Move towards Portugal's Decriminalization of Drugs?" *University of Miami International and Comparative Law Review* 22, no. 2 (May 2015): 207–231. http://repository.law.miami.edu/umiclr/vol22/iss2/5.

Gavrilova, Evelina, Takuma Kamada, and Floris Zoutman. "Is Legal Pot Crippling Mexican Drug Trafficking Organisations? The Effect of Medical Marijuana Laws on U.S. Crime." *The Economic Journal* (June 2017): 1–32. http://conference.iza.org/conference_files/riskonomics2015/zoutman_f21865.pdf.

Grayson, George W. *The Cartels: The Story of Mexico's Most Dangerous Criminal Organizations and Their Impact on U.S. Security*. Westport, CT: Praeger, 2014.

Grillo, Ioan. "Mexico's New, Deadlier Crime Lords." *U.S. News*, December 8, 2017. https://www.usnews.com/news/best-countries/articles/2017-12-08/splintering-of-cartels-in-mexico-pushes-deadly-violence-to-record-levels.

Groover, Heidi. "Prices Fall as Washington State Weed Growers Produce More Pot Than Can Be Sold." The Stranger, January 8, 2015. https://www.thestranger.com/slog/archives/2015/01/08/prices-fall-as-washington-state-weed-growers-produce-more-pot-than-can-be-sold.

Guerrero Gutiérrez, Eduardo. "¿Es El Estado de México El Más Inseguro Del País [Is the State of Mexico the Most Insecure in the Country]?" *El Financiero*, May 29, 2017. http://www.elfinanciero.com.mx/opinion/eduardo-guerrero-gutierrez/es-el-estado-de-mexico-el-mas-inseguro-del-pais.

Haggard, Stephan, and Steven B. Webb. "Political Incentives and Intergovernmental Fiscal Relations: Argentina, Brazil, and Mexico Compared." In *Decentralization and Democracy in Latin America*, edited by Alfred P. Montero, and David J. Samuels, 235–270. Notre Dame, IN: University of Notre Dame Press, 2004.

Hamilton, Keegan. "Weed and the UN: Why International Drug Laws Won't Stop Legalization." *Vice News*, April 20, 2016. https://news.vice.com/article/weed-and-the-un-why-international-drug-laws-wont-stop-legalization.

Hansson, Sven Ove, and Gert Helgesson. "What Is Stability?" *Synthese*, 136 no. 2 (2003): 219–235.

Hernández, Tania Tlacaelelt Ramírez. *La Expansión de Los Tribunales de Drogas En México* [The Expansion of Mexican Drug Courts]. Aguascalientes, México: Centro de Investigación y Docencia Económicas, 2016. 26–27, http://ppd.cide.edu/documents/302668/0/21_CIDE3.pdf.

Heylighen, Francis. *Stigmergy as a Universal Coordination Mechanism: Components, Varieties and Applications*. Brussels, Belgium: University of Brussels, 2015.

Hollersen, Wiebke. "Portugal, 12 Years after Decriminalizing Drugs." *Spiegel Online*, March 27, 2013. http://www.spiegel.de/international/europe/evaluating-drug-decriminalization-in-portugal-12-years-later-a-891060.html.

Holsti, Kal J. "A New International Politics? Diplomacy in Complex Interdependence." *International Organization* 32, no. 2 (Spring 1978): 513–530.

Holling, Crawford S. "Resilience and Stability of Ecological Systems." *Annual Review of Ecology and Systematics* 4 (1973): 1–23.

Hoopes, Michael. "The Mérida Initiative at 7 Years: Little Institutional Improvement amidst Increased Militarization." *The Small Wars Journal*, 2015. http://smallwarsjournal.com/jrnl/art/the-m%C3%A9rida-initiative-at-7-years-little-institutional-improvement-amidst-increased-militari.

Hutchinson, Brian. "Black Market to Grey." *National Post*. Accessed October 15, 2017. http://nationalpost.com/features/o-cannabis-black-market-to-grey.

Institute for Economics and Peace. *Mexico Peace Index 2016*. Mexico City: Institute for Economics and Peace, 2017. http://economicsandpeace.org/wp-content/uploads/2016/04/Mexico-Peace-Index-2016_English.pdf.

———. *Mexico Peace Index 2017*. Mexico City: Institute for Economics and Peace, 2017. http://visionofhumanity.org/app/uploads/2017/04/Mexico-Peace-Index-2017_English.pdf.

———. *Mexico Peace Index 2018*. Mexico City: Institute for Economics and Peace, 2018. http://visionofhumanity.org/app/uploads/2017/04/MPI17_English_Report_WEB_03.04-1.pdf.

———. *Positive Peace Report 2017*. Mexico City: Institute for Economics and Peace, 2017. http://visionofhumanity.org/app/uploads/2017/10/Positive-Peace-Report-2017.pdf.

Instituto Nacional de Estadística y Geografía. "Modulo VI—Pérdidas a consecuencia de la inseguridad [Module 1—Level of Victimization]." In *Encuesta Nacional de Victimización de Empresas (ENVE) [National Survey of Business Victimization] 2016*. Aguascalientes, Mexico: Instituto Nacional de Estadística y Geografía, 2016. http://www.beta.inegi.org.mx/proyectos/encestablecimientos/especiales/enve/2016/default.html

———. "Modulo I—Nivel de victimización [Module 6—Losses as a Consequence of Insecurity]." In *Encuesta Nacional de Victimización de Empresas (ENVE) [National Survey of Business Victimization] 2017*. Aguascalientes, Mexico: Instituto Nacional de Estadística y Geografía, 2017. http://www.beta.inegi.org.mx/proyectos/enchogares/regulares/envipe/2017/default.html.

———. "Modulo III—Sistema penitenciario [Module 3—Penitentiary System]." In *Censo Nacional de Gobierno, Seguridad Pública y Sistema Penitenciario Estatales [National Survey of Government, Public Security, and the State Penitentiary System] 2013*. Aguascalientes, Mexico: Instituto Nacional de Estadística y Geografía, 2013. http://www.beta.inegi.org.mx/proyectos/censosgobierno/estatal/cngspspe/2013/.

———. "Modulo III—Sistema penitenciario [Module 3—Penitentiary System]." In *Censo Nacional de Gobierno, Seguridad Pública y Sistema Penitenciario Estatales [National Survey of Government, Public Security, and the State Penitentiary System] 2014* (Aguascalientes, Mexico: Instituto Nacional de Estadística y Geografía, 2014. http://www.beta.inegi.org.mx/proyectos/censosgobierno/estatal/cngspspe/2014

———. “Modulo III—Sistema penitenciario [Module 3—Penitentiary System].” In *Censo Nacional de Gobierno, Seguridad Pública y Sistema Penitenciario Estatales [National Survey of Government, Public Security, and the State Penitentiary System] 2017*. Aguascalientes, Mexico: Instituto Nacional de Estadística y Geografía, 2017. http://www.beta.inegi.org.mx/proyectos/censosgobierno/estatal/cngspspe/2017.

———. “Modulo VI—Diseño institucional [Module 6—Institutional Design].” In *Censo Nacional de Gobierno, Seguridad Pública y Sistema Penitenciario Estatales [National Government Census, Public Security and State Penitentiary System] 2013*. Aguascalientes, Mexico: Instituto Nacional de Estadística y Geografía, 2013. http://www.beta.inegi.org.mx/proyectos/censosgobierno/estatal/cngspspe/2013/.

———. “Modulo VI—Diseño institucional [Module 6—Institutional Design].” In *Censo Nacional de Gobierno, Seguridad Pública y Sistema Penitenciario Estatales [National Government Census, Public Security and State Penitentiary System] 2017*. Aguascalientes, Mexico: Instituto Nacional de Estadística y Geografía, 2017. http://www.beta.inegi.org.mx/proyectos/censosgobierno/estatal/cngspspe/2017/.

Insulza, José Miguel. *The Economics of Drug Trafficking*. The Drug Problem in the Americas: Studies. Washington, DC: Organization of American States Office of the Secretary General, 2013.

Janowitz, Nathaniel. “Mexico Will Never Win Its War on Drugs—But It’s Going to Keep Fighting Anyway.” *Vice News*, August 19, 2016. https://news.vice.com/article/mexico-will-never-win-its-war-on-drugs-but-its-going-to-keep-fighting-anyway.

Jones, Nathan P. *Mexico’s Illicit Drug Networks and the State Reaction*. Washington, DC: Georgetown University Press, 2016.

Kennedy, Bruce. “Wholesale Cannabis Prices Tumbled in 2017—and They Have yet to Hit Rock Bottom.” The Cannabist. March 8, 2018. https://www.thecannabist.com/2018/03/08/marijuana-prices-2017-cannabis-benchmarks/100103/.

Keohane, Robert O., and Joseph S. Nye, *Power and Interdependence*, 4th ed. New York: Longman, 2012.

Khazan, Olga. “How Marijuana Legalization Will Affect Mexico’s Cartels, in Charts.” *Washington Post*, November 9, 2012. https://www.washingtonpost.com/news/worldviews/wp/2012/11/09/how-marijuana-legalization-will-affect-mexicos-cartels-in-charts/?noredirect=on&utm_term=.d24141e23753.

———. “Trump’s Opioid Commission Calls for a State of Emergency on Opioids.” *The Atlantic*. Accessed August 16, 2017. https://www.theatlantic.com/health/archive/2017/07/government-panel-calls-for-a-state-of-emergency-on-opioids/535485/.

Kilmer, Beau, Jonathan D. Caulkins, Brittany M. Bond, and Peter H. Reuter. “Appendixes.” In *Reducing Drug Trafficking Revenues and Violence in Mexico: Would Legalizing Marijuana in California Help?* Santa Monica, CA: Rand International Programs and Policy Research Center, 2010.

———. *Reducing Drug Trafficking Revenues and Violence in Mexico: Would Legalizing Marijuana in California Help?* Santa Monica, CA: Rand International Programs and Policy Research Center, 2010.

Klingner, Donald E. “The ‘Perfect Storm’: Drug Trafficking in the Mexico-U.S. Trans-Border Region as an Unrecognized Opportunity to Strengthen Public Administration.” In *Using the “Narcotrafico” Threat to Build Public Administration Capacity between the U.S. and Mexico*, edited by David H Rosenbloom and Roberto Moreno Espinosa, 1–16. Boca Raton, FL: Taylor and Francis Group: CRC Press, 2014.

Kyle, Chris. *Violence and Insecurity in Guerrero*. Building Resilient Communities in Mexico: Civic Responses to Crime and Violence briefing paper series. Washington, DC: Wilson Center Mexico Institute, 2015. https://www.wilsoncenter.org/sites/default/files/Violence%20and%20Insecurity%20in%20Guerrero.pdf.

Langston, Joy. “The Birth and Transformation of the Dedazo in Mexico.” In *Informal Institutions and Democracy: Lessons from Latin America*, edited by Gretchen Helmke and Steven Levitsky, 143–159. Baltimore, MD: Johns Hopkins University Press, 2006.

Laqueur, Hannah. “Uses and Abuses of Drug Decriminalization in Portugal.” *Law and Social Inquiry* (2014): 1–36. https://www.law.berkeley.edu/files/Laqueur_%282014%29_-_Uses_and_Abuses_of_Drug_Decriminalization_in_Portugal_-_LSI.pdf.

Lehner, George. “‘So Far from God, So Close to the United States.’ Mexico Most Worsened in 2017.” Fragile States Index, May 14, 2017. http://fundforpeace.org/fsi/2017/05/14/so-far-from-god-so-close-to-the-united-states-mexico-most-worsened-in-2017/.

Lessing, Benjamin. *Making Peace in Drug Wars*. University of Chicago: Cambridge University Press, 2018.

Linthicum, Kate. "With U.S. Competition Hurting Its Marijuana Business, Mexico Warms a Little to Legalization." *Los Angeles Times*, January 27, 2018. http://www.latimes.com/world/mexico-americas/la-fg-mexico-marijuana-20180127-story.html.

Lozano-Vázquez, Alberto, and Jorge Rebolledo Flores. "In Search of the Mérida Initiative: From Antecedents to Practical Results." In *Drug Trafficking, Organized Crime, and Violence in the Americas Today*, edited by Bruce M. Bagley and Jonathan D. Rosen, 239–256. Gainesville, FL: University Press of Florida, 2015.

Luengo-Cabrera, Jose, and Tessa Butler. *Impunity in Mexico: A Rising Concern*. Sydney, Australia: Institute for Economics and Peace, 2017. https://justiceinmexico.org/impunity-mexico-rising-concern/.

Magdaleno, Johnny. "Mexican Drug Cartels May Use Illegal Marijuana to Increase Their Presence in Northern California." *Newsweek*, January 10, 2018. http://www.newsweek.com/2018/01/19/mexican-drug-cartels-taking-over-california-legal-marijuana-775665.html.

Malkin, Elisabeth. "Mexico Strengthens Military's Role in Drug War, Outraging Critics." *New York Times*, December 15, 2017. https://www.nytimes.com/2017/12/15/world/americas/mexico-strengthens-militarys-role-in-drug-war-outraging-critics.html.

Martínez Limón, José Luis. "Tribunales de Tratamiento de Adicciones: La Falsa Alternativa Que Recriminaliza a Los Consumidores Mexicanos [Addiction Treatment Courts: The False Alternative that Recriminalizes Mexican Consumers]" *Vice News*, April 20, 2017. https://www.vice.com/es_mx/article/aem3vb/tribunales-de-tratamiento-de-adicciones-la-falsa-alternativa-que-recriminaliza-a-los-consumidores-mexicanos-weedweek2017-semanamariguana2017.

Marshall, Monty G. *Fragility, Instability, and the Failure of States: Assessing Sources of Systemic Risk*. New York: Carnegie Corporation of New York, 2008. https://cfrd8-files.cfr.org/sites/default/files/report_pdf/CPA_WorkingPaper_1.pdf.

McGahan, Jason. "Why Mexico's Sinaloa Cartel Loves Selling Drugs in Chicago." *Chicago Magazine*, September 17, 2013. http://www.chicagomag.com/Chicago-Magazine/October-2013/Sinaloa-Cartel/.

Mikos, Robert A. "On the Limits of Federal Supremacy: When States Relax (or Abandon) Marijuana Bans." *Policy Analysis*, no. 714 (December 2012): 1–42.

Morris, Stephen D. "Corruption and Democracy in Mexico at the State Level." In *Corruption and Democracy in Latin America*, edited by Charles H. Blake and Stephen D. Morris, 623–643. University of Pittsburgh Press, 2009.

———. “Corruption and the Mexican Political System: Continuity and Change.” *Third World Quarterly* 20, no. 3 (1999): 623–643. https://doi.org/10.1080/01436599913721.

Nieto-Gomez, Rodrigo. “A Director of the Present? Nowcasting Homeland Security’s Challenges.” *Homeland Security Affairs* XIV (2018). https://www.hsaj.org/articles/11952.

———. “The Geopolitics of Clandestine Innovation in the Drug Business.” Medium. August 17, 2013. https://medium.com/@rodrigonieto/the-geopolitics-of-clandestine-innovation-in-the-drug-business-a07efe494035.

———. “Rethinking Alternatives in the War on Drugs.” YouTube video, 18.22, May 15, 2015. Posted by TEDx Talks. https://www.youtube.com/watch?v=aYFZdg2ZOpg.

———. “Stigmergy at the Edge: Adversarial Stigmergy in the War on Drugs.” *Cognitive Systems Research* 38, no. C (June 2016): 31–40. https://doi.org/10.1016/j.cogsys.2015.12.005.

Northrup, Laura. “What Is the Gray Market, And Why Should I Care?” *The Consumerist*, last updated May 10, 2017. https://consumerist.com/2013/05/09/what-is-the-gray-market-and-why-should-i-care/.

Nutt, David. *Drugs without the Hot Air*. Cambridge, England: UIT Cambridge Ltd, 2012.

O’Boyle, Michael. “Exclusive: Mexico Opens Up Its Heroin Fight to U.S., U.N. Observers.” Reuters, April 7, 2017. https://www.reuters.com/article/us-usa-mexico-heroin-idUSKBN1792WE.

Office of Justice Programs. *Drug Courts*. Washington, DC: U.S. Department of Justice, 2017. https://www.ncjrs.gov/pdffiles1/nij/238527.pdf.

Office of National Drug Control Policy. *National Drug Control Strategy 2016*. Washington, DC: Executive Office of the President of the United States, 2017. https://obamawhitehouse.archives.gov/sites/default/files/ondcp/policy-and-research/2016_ndcs_final_report.pdf.

Olson, Eric L., and Christopher E. Wilson. “Beyond Merida: The Evolving Approach to Security Cooperation.” Working Paper Series on U.S.-Mexico Security Cooperation, University of San Diego Trans-Border Institute, 2010. https://www.wilsoncenter.org/sites/default/files/beyond_merida.pdf.

Olson, Mancur. “Dictatorship, Democracy, and Development.” *The American Political Science Review* 87, no. 3 (1993): 567–576.

Organisation for Economic Co-operation and Development. *Concepts and Dilemmas of State Building in Fragile Situations: From Fragility to Resilience*. Paris: Organisation for Economic Co-operation and Development, 2008. http://www.oecd.org/development/governance-peace/conflictandfragility/docs/41100930.pdf.

———. "Subchapter: Causal Factors in State Fragility or Resilience." In *Concepts and Dilemmas of State Building in Fragile Situations: From Fragility to Resilience*. Paris: Organisation for Economic Co-operation and Development, 2008. http://www.oecd.org/development/governance-peace/conflictandfragility/docs/41100930.pdf.

Partlow, Joshua. "In Mexico, the Price of America's Hunger for Heroin." *Washington Post*, May 30, 2017. https://www.washingtonpost.com/graphics/2017/world/violence-is-soaring-in-the-mexican-towns-that-feed-americas-heroin-habit/?utm_term=.8802044cb6e1.

Pearson, Taylor. "The Ultimate Guide to the OODA Loop." Taylor Pearson. Accessed October 17, 2017. https://taylorpearson.me/ooda-loop/.

Pérez Caballero, Jesús. "Mexico's CJNG: Local Consolidation, Military Expansion and Vigilante Rhetoric." InSight Crime. February 8, 2018. https://www.insightcrime.org/news/analysis/mexico-cjng-local-consolidation-military-expansion-vigilante-rhetoric/.

Rana, Waheed. "Theory of Complex Interdependence: A Comparative Analysis of Realist and Neoliberal Thoughts." *International Journal of Business and Social Science* 6, no. 2 (February 2015): 290–297.

Reuter, Peter, ed., *Understanding the Demand for Illegal Drugs*. 65–82. Washington, DC: National Academies Press, 2010. https://www.nap.edu/read/12976/chapter/4.

Rios Contreras, Viridiana. *How Government Structure Encourages Criminal Violence: The Causes of Mexico's Drug War*. Cambridge, MA: Harvard University, 2012.

Rubio, Luis. *A Mexican Utopia: The Rule of Law Is Possible*. Washington, DC: The Wilson Center, 2015. https://www.wilsoncenter.org/sites/default/files/Mexican_Utopia_English.pdf.

Russoniello, Kellen. "The Devil (and Drugs) in the Details: Portugal's Focus on Public Health as a Model for Decriminalization of Drugs in Mexico." *Yale Journal of Health Policy, Law, and Ethics* 12, no. 2 (April 2013): 371–431.

San Diego Union-Tribune. "Mexican Drug Lord Owns Nearly 300 Companies." February 28, 2014. http://www.sandiegouniontribune.com/hoy-san-diego/sdhoy-mexican-drug-lord-owns-nearly-300-companies-2014feb28-story.html.

Savage, Charlie, and Jack Healy. "Trump Administration Takes Step That Could Threaten Marijuana Legalization Movement." *New York Times*, January 4, 2018. https://www.nytimes.com/2018/01/04/us/politics/marijuana-legalization-justice-department-prosecutions.html.

"Secretariado Ejecutivo Del Sistema Nacional de Seguridad Pública (SESNSP)—Datos Abiertos: Víctimas de Homicidio, Secuestro y Extorsión [Mexican Executive Secretary of the National Security System—Open Data: Homicide, Kidnapping, and Extortion Victims]." Datos. Accessed April 29, 2018. https://datos.gob.mx/busca/dataset/victimas-de-homicidio-secuestro-y-extorsion-excel.

Seelke, Clare Ribando, and Kristin Finklea. *U.S.-Mexican Security Cooperation: The Mérida Initiative and Beyond*, CRS Report No. R41349. Washington, DC: Congressional Research Service, 2017. https://fas.org/sgp/crs/row/R41349.pdf.

Shaw, Mark, and Walter Kemp. *Spotting the Spoilers: A Guide to Analyzing Organized Crime in Fragile States*. New York: International Peace Institute, 2012. https://www.ipinst.org/wp-content/uploads/2012/03/pdfs_ipi_epub-spottingspoilers.pdf.

Shipley, Joe C. "What Have We Learned from the War on Drugs? An Assessment of Mexico's Counternarcotics Strategy." Master's thesis, Naval Postgraduate School, 2011.

Shirk, David A. *Judicial Reform in Mexico: Change and Challenges in the Justice Sector*. San Diego, CA: University of San Diego Trans-Border Institute, 2010. https://www.wilsoncenter.org/sites/default/files/Chapter%207-%20Justice%20Reform%20in%20Mexico,%20Change%20and%20Challenges%20in%20the%20Judicial%20Sector.pdf.

Smith, Peter H. *Talons of the Eagle: Latin America, the United States, and the World*. Oxford University Press, 2013.

Solomon, Diana Beth. "Mexico to Legalize Marijuana-Based Product Sales Next Year." Reuters, December 20, 2017. https://www.reuters.com/article/us-mexico-marijuana/mexico-to-legalize-marijuana-based-product-sales-next-year-idUSKBN1EF022.

Starr, Laura, and Donna Delle. "Does the Merida Initiative Represent a New Direction for U.S.-Mexico Relations, or Does It Simply Refocus the Issue Elsewhere?" Council on Hemispheric Affairs. December 14, 2007. http://www.coha.org/does-the-merida-initiative-represent-a-new-direction-for-us-mexico-relations-or-does-it-simply-refocus-the-issue-elsewhere/.

Stone, Hannah. "How Extortion Rates Vary across Mexico." InSight Crime. September 12, 2011. https://www.insightcrime.org/news/analysis/how-extortion-rates-vary-across-mexico/.

Substance Abuse and Mental Health Services Administration. *Results from the 2016 National Survey on Drug Use and Health: Detailed Tables*. Rockville, MD: Substance Abuse and Mental Health Services Administration, 2017.

Sullivan, John P. "Future Conflict: Criminal Insurgencies, Gangs and Intelligence." In *Deviant Globalization: Future Conflict: Criminal Insurgencies, Gangs and Intelligence*, edited by Nils Gilman, Jesse Goldhammer, and Steven Weber, 248–260. New York: Continuum International Publishing Group, 2011.

Trumble, Sarah. "Timeline of State Marijuana Legalization Laws." Third Way. 2018. https://www.thirdway.org/infographic/timeline-of-state-marijuana-legalization-laws.

United Nations Office of Drugs and Crime. *UNODC World Drug Report, 2011*. New York: United Nations Office of Drugs and Crime, 2011. https://www.unodc.org/documents/data-and-analysis/WDR2011/World_Drug_Report_2011_ebook.pdf.

Universidad de las Américas Puebla. "La Impunidad Subnacional En México y Sus Dimensiones [Subnational Impunity in Mexico and Its Dimensions]." In *Índice Global de Impunidad México [Global Index of Impunity Mexico] 2016*. San Andrés Cholula, Mexico: Universidad de las Américas Puebla, 2016.

———. "La Impunidad Subnacional En México y Sus Dimensiones [Subnational Impunity in Mexico and Its Dimensions]." In *Índice Global de Impunidad México [Global Index of Impunity Mexico] 2018*. San Andrés Cholula, Mexico: Universidad de las Américas Puebla, 2018.

U.S. Agency for International Development. *FY 2015 Annual Performance Report; FY 2017 Annual Performance Plan*. Washington, DC: U.S. Agency for International Development, 2016. https://www.state.gov/documents/organization/259539.pdf.

U.S. Drug Enforcement Administration. *2014 National Drug Threat Assessment Summary*. Washington, DC: U.S. Drug Enforcement Administration, 2014. https://www.dea.gov/resource-center/dir-ndta-unclass.pdf.

———. *2015 Heroin Domestic Monitor Program*. Washington, DC: U.S. Drug Enforcement Administration, 2017.

———. *2015 National Drug Threat Assessment Summary*. Washington, DC: U.S. Drug Enforcement Administration, 2015. https://www.dea.gov/docs/2015%20NDTA%20Report.pdf.

———. *2016 National Drug Threat Assessment Summary*. Washington, DC: U.S. Drug Enforcement Administration, 2016. https://www.dea.gov/resource-center/DIR-001-17_2016_NDTA_Summary.pdf.

———. *2017 National Drug Threat Assessment*. Washington, DC: U.S. Drug Enforcement Administration, 2017. https://www.dea.gov/docs/DIR-040-17_2017-NDTA.pdf.

———. *Mexican Cartels: Areas of Dominant Influence*. Washington, DC: U.S. Drug Enforcement Administration, 2015. http://www.storybench.org/wp-content/uploads/2016/01/dea-mexico-drugcartels.png.

Van Cott, Flavia. "Dispensing Justice at the Margins of Formality: The Informal Rule of Law in Latin America." In *Informal Institutions and Democracy: Lessons from Latin America*, edited by Gretchen Helmke and Steven Levitsky, 249–273. Baltimore, MD: Johns Hopkins University Press, 2006.

Vice News. "The Rise of Mexican Black Tar." May 2, 2016. https://news.vice.com/video/the-rise-of-mexican-black-tar.

Warner, Jennifer. "U.S. Leads the World in Illegal Drug Use." *CBS News WEBMD*, July 1, 2008. http://www.cbsnews.com/news/us-leads-the-world-in-illegal-drug-use/.

Watt, Peter, and Roberto Zepeda. *Drug War Mexico: Politics, Neoliberalism and Violence in the New Narcoeconomy*. New York: Zed Books, 2012.

Wells, Miriam, and Hannah Stone. "Zetas Fight Sinaloa Cartel for Guatemala Drug Routes." InSight Crime. January 14, 2013. https://www.insightcrime.org/news/brief/zetas-fight-sinaloa-cartel-guatemala-perez/.

Wilson, Jeffrey D. "Dependency Theory in International Relations." In *Encyclopedia of Power*, edited by Keith Dowding, 173–174. Thousand Oaks, CA: Sage Publications, 2011. http://dx.doi.org/10.4135/9781412994088.n98.

Woody, Christopher. "'El Chapo' Guzmán Has Been Recaptured—Here's How His Cartel Dominates the Cocaine Trade." *Business Insider*, January 10, 2016. http://www.businessinsider.com/el-chapo-sinaloa-cartel-global-cocaine-trade.

———. "Mexico's Oil Company Is Losing More Than a Billion Dollars a Year to Cartels—and Its Own Employees Are Helping Them Out." *Business Insider*, April 13, 2018. http://www.businessinsider.com/cartels-mexico-oil-theft-pemex-2018-4.

Yamazaki, Kevin. "High Tech: How Marijuana Legalization Breeds Innovation." *Observer*, March 27, 2017. http://observer.com/2017/03/high-tech-how-marijuana-legalization-breeds-innovation/.

Zezima, Katie. "Study: Legal Marijuana Could Generate More Than $132 Billion in Federal Tax Revenue and 1 Million Jobs." *Washington Post*, January 10, 2018. https://www.washingtonpost.com/national/2018/01/10/study-legal-marijuana-could-generate-more-than-132-billion-in-federal-tax-revenue-and-1-million-jobs/?utm_term=.e074ac9b9065.

INITIAL DISTRIBUTION LIST

1. Defense Technical Information Center
   Ft. Belvoir, Virginia

2. Dudley Knox Library
   Naval Postgraduate School
   Monterey, California