

“Pure as the Driven Snow”

Oligopolies of Coercion and the Colombian Cocaine Industry

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Abstract: This thesis is examining the question: What factors play a decisive roll in the existence of the Colombian cocaine trade, and more importantly, what is the relationship between Colombian cocaine production and the nation’s systemic violence? Undemocratic political centralization and weak state capacity led to the creation of a legitimacy gap, which has been attributed to the emergence of the cocaine industry and Colombia’s civil violence. However, the relationship between cocaine production and that violence has been unclear. I propose that this relationship is economic in nature. The illegal nature of the good means that cocaine markets must be regulated by privatized enforcement mechanisms. In Colombia, non-state armed groups are charged with regulating the illegal drug industry. They provide a ‘specialized coercive labor,’ which is vital to cocaine production. This coercive labor acts as a mean of coercion, which is an input into the production of cocaine. Colombia, defined by an oligopoly of coercion, has an excess supply of specialized coercive labor, which is the country’s comparative advantage in the production of cocaine. The data analysis looks at time series comparisons of three different relationships: government legitimacy and cocaine production, oligopolies of coercion and cocaine production, and drug market stability and drug related violence. The results suggest that delegitimation of the Colombian state is the initial root cause of the emergence of the cocaine industry. Furthermore, they imply that violence, as a mean of coercion, is an input into the production of cocaine.

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Introduction

The global drug trade produces annual profits of an estimated \$300 to \$500 billion, and the Andean cocaine industry is one of the largest organized crime sectors in the world (Villar and Cottle 2011, 157). From cultivation to production to distribution, the entire cocaine industry is concentrated in a single region with its focal point in one of the world's most volatile countries: Colombia. Since its independence, Colombia has been wrought with decades of civil war, political upheaval, economic instability and organized crime. During what is known as the 'cocaine decade' of the 1980s, Colombian drug cartels were exporting an estimated 80% of the world's cocaine with annual incomes of between \$2 and \$4 billion (Vanden and Prevost 2012, 523). Pablo Escobar, the notorious Medellín cartel kingpin, was named the 7th richest man in the world by Forbes magazine in 1989 with a net worth of 24 billion dollars (Roberts and Wright 2011, 297). As the key driving force to the Colombian economy, the cocaine industry has become a machine of the new narcostate. But how has the cocaine industry, an illicit sector, been able to gain this much momentum and power in a modern democracy?

Scholars argue that Colombia has a geographic comparative advantage in the production of cocaine because of the coca plant's endemism to the Andean region and Colombia's relative proximity to main exporting markets, most notably the United States. MacDonald argues that Colombia's strategic geopolitical location between the coca producing nations of Peru and Bolivia and the transport routes through Central America and the Caribbean made it the ideal exporter of cocaine (Thoumi 1995, 167). Sarmiento argues that, in addition to its geopolitical positioning, Colombia's adoption of technological advances meant to improve productivity by breaking antinarcotics laws also contributed to the growth of Colombia's cocaine sector (Thoumi 1995, 169). However, the coca plant's endemic nature and Colombia's proximity to foreign

markets isn't enough to explain the existence of the Colombian cocaine trade. Francis Thoumi and Susan Windybank (2007, 18) note that coca can grow in approximately 30 countries, many of which have similar, if not closer proximities to lucrative markets. Furthermore, based on geographic comparative advantage, cocaine manufacturers in Bolivia and Peru, having similar geographic advantages as those in Colombia, should be in competition with their Colombian counterparts. However, this is not the case. In fact, in the 1980s, during the 'cocaine decade,' Peru and Bolivia were growing around 80% of the world's coca and exporting it to Colombia for manufacture (Villar and Cottle 2011, 87-88). Comparative advantage explanations would be sufficient if the cocaine sector were not illicit; however, this illegal industry is able to operate outside the law, and thus, state institutional decay must play some role.

Geographic comparative advantage arguments are compelling in that they identify the unique Colombian geography as an explanation for the existence of the cocaine trade; however, these explanations fail to clarify why an illegal sector had the ability to grow despite the auspices of the state. Most of the literature identifies undemocratic political centralization¹ and weak state capacity to be the two main institutional maladies contributing to the creation of the Colombian cocaine industry. Francis Thoumi, member of the International Narcotics Control Board and expert on the Andean cocaine industry, asserts that inordinate amounts of political and economic power in the hands of an exclusive elite class, combined with weak state capacity, created unequal income and wealth distributions. He claims that Colombians gradually perceived these wealth distributions as arbitrary and unfair leading to a loss of government legitimacy. This legitimacy gap reduced citizens' incentives to follow legally defined norms eventually causing a divergence between rule of law and socially accepted behavior (Thoumi 1995, 67-68). Although

¹ Concentration of political power in the hands of a wealthy elite

these institutional failures of the Colombian state have certainly played a decisive role, both Bolivia and Peru have similar institutional problems stemming from a shared colonial legacy. In fact, Acemoglu and Robinson (2012, 19) assert in their book, *Why Nations Fail*, that persistent extractive institutions established in colonial times have made Latin America into the most unequal continent in the world (2012, 19).

So why does this illegal industry exist to the extent it does in a modern democracy and even more specifically, why Colombia, as opposed to Peru or Bolivia? According to Thoumi (1995, 172), institutional failures, which erode government legitimacy, have also been characteristic of the other Andean, cocaine-producing nations; however, the factor that sets Colombia apart is that, “the delegitimation process [...] had been accompanied by an extremely high level of violence, much higher than that present in any other Andean country.” Interestingly, it is generally agreed that the legitimacy gap, which contributed to the growth of the cocaine industry, was first a factor generating violence (Thoumi 2012, 76).

Colombia has one of the world’s most violent civil histories. Unfortunately, the relationship between the cocaine industry and this violence is ambiguous in terms of causality: did high levels of violence lead to the creation of the drug trade, did the drug trade only lead to more violence or both? Although high levels of violence most certainly erode state capacity, the historical patterns of violence in Colombia illustrate a deeper problem. Max Weber first identified a ‘state monopoly on the legitimate use of physical force’ (or legitimate violence) as the most basic foundation of state capacity (Acemoglu and Robinson 2012, 80). The idea is, that in order for a state to fully exercise its ability to enforce law and order, it must maintain a monopoly control on legitimate violence within the nation’s territory. This concept has been adapted to the modern nation-state as a monopoly on coercion (or means of coercion) within a

state's territorial boundaries (Alagappa 2001, 7). A mean of coercion is an instrument, which a legitimate group or the state can utilize to force coercion, for example, the use of legitimized violence. The existence of non-state armed groups within Colombia—left wing guerilla insurgents and right wing paramilitary counterinsurgents—illustrates a diminished control of the state on means of coercion in Colombia. Colombia constitutes an 'oligopoly of coercion,' where multiple armed groups, in addition to the state, have the capacity to force coercion, an ability that should be singular to government. Theoretically, this leads to a decreased state enforcement capacity, and thus, a lower environment of risk in the production of illegal goods, namely cocaine.

The availability of armed groups with coercive capacity threatens government authority. Furthermore, the cocaine market is unregulated by the government meaning it must require private bureaucratic enforcement mechanisms. Armed groups are able to absorb state functions and regulate the cocaine market by establishing socially recognized systems of coercion most commonly based on fear and intimidation tactics (Thoumi 1995, 172). Economically speaking, the specialized services of non-state armed groups act as a vital input into the production of cocaine. The armed groups act as a sort of 'specialized coercive labor,' 'knowledgeable' labor with a special skill or service; in this case, these groups provide the service of 'coercive capacity' or the 'means of coercion' to regulate an illicit market.² The regulation of the market is necessary to protect profits, protect from threats to production, regulate disputes and business transactions, enforce contracts and to elude government interdiction efforts. Without these vital regulatory functions, the industry would theoretically not exist (Thoumi 1995, 134).

² These groups provide the service of coercive capacity and they produce the good of means of coercion. These two concepts are interchangeable.

For the purposes of this thesis, I will not be examining the role the United States played in the creation and persistence of the Colombian cocaine trade. Many scholars attribute the United States with the manufacture of cocaine demand in the first place and the establishment of the cartel system in Colombia (Villar and Cottle 2011). However, I don't believe the intrusion of the United States affects the core findings of this thesis. On the contrary, I doubt that the United States would be involved in the Colombian cocaine trade if the 'favorable conditions' I discuss in this thesis didn't already exist in one way or another.

Geographic comparative advantage and institutional failure leading to loss of government legitimacy have been the two most widely cited causes of the cocaine trade in Colombia. The legitimacy gap has also been associated with Colombia's history of systemic violence, the main characteristic separating Colombia from other cocaine-producing nations. Despite government delegitimation being attributed with the rise of both cocaine production and civil violence, the relationship between the two latter has been unclear. This thesis will be analyzing the question: what factors play a decisive roll in the existence of the Colombian cocaine trade, and more importantly, what is the relationship between Colombian cocaine production and the nation's systemic violence? I hypothesize that the root cause of cocaine production is the initial delegitimation of the Colombian state. Additionally, I propose that the relationship between cocaine production and violence is economic in nature: legitimate violence, as a mean of coercion, is a necessary input into the production of cocaine. In other words, the specialized coercive labor provided to traffickers by non-state armed groups is integral to regulating the illegal drug market; thus, it is as vital an input into the production of cocaine as labor or land.

To test this hypothesis, I do graphical and time series analyses. I look at three main relationships that illustrate the connection between violence and the cocaine trade. First, I look at

the correlation between government legitimacy and cocaine production. I compare estimated cocaine production with government legitimacy as measured by the World Bank World Governance Indicators. The results show that government legitimacy and cocaine production are negatively correlated, as expected. This indicates that a legitimacy gap could be a major factor in the emergence of the cocaine industry in Colombia. Second, I look at the relationship between the presence of armed groups (or oligopolies of coercion) and cocaine production. I evaluate estimated cocaine production against armed actions by group. These results indicate that cocaine production and armed actions have a positive relationship, as we would predict. This supports my hypothesis that violence, as a mean of coercion³ is an input into the production of cocaine. Lastly, I look at the relationship between drug related violence as measured by homicide rates and cocaine production, as well as the relationship between cocaine production and armed actions by department. The results follow the predicted pattern of drug related violence and drug market stability. These findings suggest that means of coercion are in fact inputs into the production of cocaine. They also indicate that a lack of government legitimacy is highly correlated with cocaine production.

This paper begins by giving a brief outline of the cocaine manufacture chain, which will help illuminate the significance of my question. It then goes over a history of Colombia highlighting important aspects of both civil violence and the growth of the cocaine industry. Then I review existing theory to describe the three relationships I analyze: government legitimacy and cocaine production, oligopolies of coercion and cocaine production and drug market stability and drug related violence. The data analysis section is separated into three sections examining each respective element of the relationship I am attempting to examine. Each

³ Violence as a mean of coercion is the same as legitimate violence. These two terms are interchangeable. If violence acts like a mean of coercion, it is legitimate.

section has a methodology, analysis and implications section. Lastly, I have a discussion section where I consider limitations of my analysis, and overall implications of the results. My conclusion summarizes and suggests new avenues of research on this topic.

Background

Cocaine Manufacture Chain

The manufacture of cocaine is a relatively cheap, low capital-intensive process. Coca, the plant used to derive cocaine, is endemic to the Andean region of South America where the three main cocaine-producing nations of Peru, Bolivia and Colombia are located. The coca plant has historical significance to the indigenous peoples of the Andes, most notably those of Incan descent and has been highly regarded for its medicinal purposes for nearly two thousand years (Martin 1970, 422). There are over 200 varieties of the coca plant, each of which has substantial variations in the content of cocaine, a naturally occurring alkaloid in the plant (Thoumi 1995, 130). President Ospina declared coca cultivation illegal in Colombia in 1947 (Thoumi 1995, 124).

Coca grows at an altitude of 1,200 meters. It requires full sun, moderate rainfall and acidic soil (Rocha and Ramírez 2005, 12). It is a highly transportable plant, which makes it ideal to avoid aerial crop eradication, and it can be grown in the cover of the forest also making it easily concealable (Drug Enforcement Admin, US Dept of Justice, and United States of America 1991). From the moment the plant is harvested, the cocaine content of the leaves gradually decline until the production of coca paste, the first step in the cocaine manufacture chain. As such, coca paste is produced with close proximity to the cultivation site (Thoumi 1995, 131). This promotes economies of scale where coca farmers, producers of coca paste and traffickers all operate in the same region. Laboratories used to produce coca paste are often mobile to avoid detection (Thoumi 1995, 131). There are two distinct levels of cocaine manufacture, cultivation

and processing, each representing differing levels of risk and profit accumulation. Cultivation, the lower rung of cocaine production, includes the harvest of coca and the production of coca paste. Coca paste is produced by mixing coca leaves, sodium bicarbonate, and a solution of sulfuric acid and kerosene together in a large container (Thoumi 1995, 131). With a maximum sentence of up to 18 years in prison and a fine of up to 2,250 Colombian pesos (SMLMV), the penalties associated with cultivating coca and producing coca paste are significantly less stringent than producing on the upper level of the cocaine manufacture chain, which could receive a sentence of up to 30 years and a fine of up to 50,000 SMLMV (Yepes and Guzmán 2011, 41). For this reason, the high markup in the price of cocaine occurs during the processing stage reflecting the increased level of risk (Thoumi 1995, 134). Actual ‘drug traffickers’ most often become involved in the production of cocaine when they purchase coca paste from peasant farmers. Until the late 1990s, Colombia imported nearly 80% of the coca paste used in the manufacture of Colombian cocaine from farmers in Peru and Bolivia and transported it via Peruvian Air Bridge (Helgersen 2008; Villar and Cottle 2011, 87). Following the destruction of this major coca paste air transport route in the late 1990s, Colombia saw an unprecedented increase in the cultivation of cocaine, and by early 2001 Colombia was cultivating 76% of the world’s coca (Villar and Cottle 2011, 87-88).

The upper level of the cocaine manufacture chain consists of converting coca paste into coca base and finally coca base into cocaine, ready for transit and distribution. Production of coca base is slightly more complex than that of coca paste; it requires garbage cans, electric generators, filters and drying equipment. The chemicals used at this stage of production are sulfuric acid, hydrochloric acid, potassium permanganate and ammonia (Drug Enforcement Admin, US Dept of Justice, and United States of America 1991). This process is often carried

out in urban centers or at drug trafficking bases due to its higher degree of complexity (Thoumi 1995, 131). Aside from being the most dangerous step in cocaine production, the conversion of cocaine base to cocaine hydrochloride is the most capital and skill intensive step and requires chemical expertise. Acetone, hydrochloric acid and ether are used to derive cocaine from cocaine base (Drug Enforcement Admin, US Dept of Justice, and United States of America 1991). The cocaine is then prepared for transport and distribution.

One of the most perplexing aspects of the Andean cocaine industry is Colombia's distinctly 'criminal' role. As noted above, until the early 2000s, Colombia cultivated less than one fourth of the world's coca while it manufactured nearly 80% of the world's cocaine (Villar and Cottle 2011, 87). Colombians involved in the cocaine industry were more commonly involved in the risky steps of production. This illustrates a stark difference between Colombia and its Southern neighbors. What about Colombia made it ideal for traffickers to produce cocaine while Bolivia and Peru focused on coca cultivation and the production of coca paste, foregoing most of the available profits associated with cocaine manufacture? The country's history of violence is the most stringent characteristic setting Colombia apart from Peru and Bolivia, but the relationship between the cocaine industry and this violence is unclear. The only consistent connection between violence and cocaine production are the institutional failures of the Colombian state, which are attributed to instigating and perpetuating both. Therefore, my research question—"What factors play a decisive roll in the existence of the Colombian Cocaine trade, and more importantly, what is the relationship between Colombian cocaine production and the nation's systemic violence?"—is significant in that it is attempting to illustrate the connection between institutional failure, proliferating violence and the existence of the Colombian Cocaine trade.

History of Colombia

Colombia gained independence from Spain in 1819 when Simon Bolivar defeated the Spanish at the battle of Boyacá (Vanden and Prevost 2012, 516). Colombia has a notoriously violent history with 7 civil wars occurring during the 19th century alone. The civil wars were motivated by ideological differences between the two main political parties, the Liberals and Conservatives. Although these parties disagreed on federalism versus centralization as well as trade liberalization versus protectionism, the origin of Colombia's civil conflict was secular in nature. The Liberals sought greater separation between church and state, while the Conservatives considered the leadership of the Catholic Church as integral in government (Vanden and Prevost 2012, 516). These bipartisan tensions only intensified over time, culminating in what would be Colombia's bloodiest conflict, aptly known as 'la violencia,' where some estimated 200,000 to 300,000 of the country's 11.5 million people were killed between 1946 and the early 1960s (Thoumi 1995, 72; Vanden and Prevost 2012, 517). A military coup led by Rojas Pinilla eventually served to control the violence and led to the transition back to civilian rule under what was known as the National Front Regime in 1958 (Vanden and Prevost 2012, 518).

The National Front Regime marked a new era in Colombia characterized by economic and political stability, relatively low levels of violence and most importantly, institutionalized exclusion from government. This was a bipartisan civilian regime formed under an agreement between the Conservatives and Liberals to share power equally. This agreement called for alternation in executive power between the two parties and parity in government so that each party shared power equally. The National Front Regime also eliminated the possibility of other parties to enter government because direct elections had no impact on the predetermined partisan composition of government (Vanden and Prevost 2012, 519). Francis Thoumi (1995, 87)

describes this regime as “equivalent to the legalization of a two-party cartel to control political power.” This dramatically reduced the responsiveness and accountability of government, eventually planting the seeds of left wing guerilla insurgencies operating in the remote regions of the country (Vanden and Prevost 2012, 520).

The Fuerzas Armadas Revolucionarias de Colombia (FARC or Armed Revolutionary Forces of Colombia) and the Ejército de Liberación Nacional (ELN or National Liberation Army) are left wing communist inspired groups seeking to overthrow the Colombian government that are still in operation today. They were established some time in the 1960s and 70s during the National Front Regime along with two other less significant groups, the Maoist Ejército Popular de Liberación (EPL or Popular Liberation Army) and the Movimiento del 19 de Abril (M-19 or the April 19th Movement), who are no longer active today (Vanden and Prevost 2012, 520). In 1968 the government passed Law 48, which allowed for the organization of right wing, armed self-defense groups or ‘autodefensas’ which were intended to serve as a counter-insurgency tactic against the left wing guerilla groups. These autodefensas are more commonly known as paramilitaries, and despite their intended purpose, have evolved into non-state armed groups operating independently of the government, often in violation of the law (Schulte-Bockholt 2006, 106). Paramilitaries still exist in Colombia despite being declared illegal in 1989 (Schulte-Bockholt 2006, 108).

The mid 1970s also marked the beginning of the cocaine trafficking industry. At first, it was considered a small ‘cottage industry’ and was not a government priority in light of the guerilla insurgencies (Thoumi 1995, 130). It grew gradually, and in the early 1980s, the drug trafficking industry was organized into a cartel system with all modes of production concentrated into vertical organization schemes. This allowed the two main cartels, the Medellín Cartel and

the Cali Cartel, to substantially increase production (Thoumi 1995, 132). The 1980s in Colombia marked a time affectionately known as the ‘cocaine decade’ where Colombia was exporting nearly 80% of the world’s cocaine (Thoumi 1995, 147). In fact, according to Oliver Villar and Drew Cottle (2011, 68), “Cocaine production increased so much that it became the most important economic activity in the Andean region” responsible for 3.5% of the region’s GDP in 1991 (Rocha 2005, 15).

Due to the high potential profits from participating in the drug trafficking industry, the cocaine trade was able to permeate all levels of Colombian society. Left-wing guerilla groups have been associated with cocaine trafficking using the profits to fund their insurgencies (Villar and Cottle 2011, 99). The involvement of these groups in the drug trade (most notably FARC and ELN) is highly debated; FARC has consistently denied any involvement in the drug trade because the “long term goals of the two groups have been diametrically opposed” (Schulte-Bockholt 2006, 132). However, it is generally accepted that although these groups do generate profit through non-criminal avenues, the majority of their income originates from drug trafficking.

Paramilitaries have been intimately involved with cocaine traffickers, especially the paramilitary groups Muerte a los Secuestradores (MAS or death to kidnappers) and Autodefensas Unidas de Colombia (AUC or the United Self-Defense Forces of Colombia). The former (MAS) was founded in response to the Guerilla kidnapping of the sister of the Ochoa brothers, leaders of the notorious Medellín cartel (Thoumi 1995, 144). This paramilitary group became a machine of the Medellín cartel often committing acts of extortion, intimidation and extrajudicial killings to further the organization’s goals. The AUC, established in 1997 under the leadership of the Castaño brothers, consisted mostly of mercenaries trained by the US, Israel or Britain, and

“operated freely to protect cocaine operations” till its demobilization in 2006 (Acemoglu and Robinson 2012, 378; Villar and Cottle 2011, 31, 86). President Uribe claimed in 2007 that all the Colombian paramilitary groups had been disbanded. For this reason, any armed group involved in drug trafficking is no longer considered a paramilitary organization but rather as “bandas criminales” (criminal bands) or BACRIM; however, “all but one of the BACRIM groups had their roots in the AUC” (McDermott 2014). Although they are smaller and less organized, these groups operate as paramilitaries did with as much, if not more, impunity than before (McDermott 2014).

In addition to the protection and power the cartels gained from working with guerilla groups and paramilitaries, they sought social protection through networking with the Colombian elite, a group that came to be known as the ‘narcobourgeoisie.’ The cartels had close business relations with the narcobourgeoisie, mostly through real estate transactions and the purchase of large amounts of chemicals used to refine cocaine (Villar and Cottle 2011, 70). Furthermore, Colombian elites could opt to invest in cocaine shipments through a system known as ‘la apuntada’ (Thoumi 2005, 108). The cartels also infiltrated the Colombian government, employing corrupt officials, bribery and extortion to further their goals (Villar and Cottle 2011, 68). Pablo Escobar, notorious leader of the Medellín cartel, was briefly elected to congress in 1982; however, he was forced to step down after being exposed as a cartel leader (Villar and Cottle 2011, 72). Nevertheless, he was still influential enough in government to pressure congress to amend the 1991 constitution, making it illegal for the Colombian government to extradite its citizens (Thoumi 1995, 7).

The Colombian economy benefited significantly from the narcodollars, or drug money, flowing into Colombian banks in the form of foreign currency. These narcodollars cushioned the

Colombian economy from the Latin American debt crisis of the 1970s and 80s by balancing the nation's foreign reserves deficit (Villar and Cottle 2011, 45). In the major coca producing regions of Putumayo and Guaviare, drug trafficking accounted for 17 and 14 percent of departmental GDP, respectively (Rocha 2005, 11). The infiltration of the cocaine industry into the Colombian economy is one of the main factors contributing to Colombia's designation as a narcostate. Furthermore the political influence of the narcobourgeoisie, is thought to be one of the main reasons for the Colombian government's lack of mobilization against the cocaine trade during its establishment (Villar and Cottle 2011, 55-56). The United States put significant pressure on the Colombian government to eradicate the cocaine industry and called for the extradition of traffickers to the United States. The cocaine cartel system was eventually dismantled after the assassination of Pablo Escobar on Medellín rooftop following a protracted war between the cartel and the Colombian state (Villar and Cottle 2011, 75-80).

The end of the cartel system in Colombia hardly marked the end of the cocaine industry. The drug trafficking market became more fragmented and less vertically organized at the end of the cartel era. However, cocaine manufacture continued to increase into the early 2000s where production has more or less plateaued until present day (Villar and Cottle 2011, 145-147). The United States became deeply involved in Colombia's 'war on drugs' leading to the launch of 'Plan Colombia' in 2000. With a focus on drug trafficking, Plan Colombia called for aerial fumigations of coca plantations, manual eradication of coca crop, and military aid intended to fight Guerilla and Paramilitary groups associated with trafficking (Villar and Cottle 2011, 107). The Colombian government's formal stand against the illegal drug industry has relied on \$6.8 billion dollars of U.S. military aid and training (Villar and Cottle 2011, 108). Plan Colombia has been able to prevent the further growth of the cocaine manufacturing industry in Colombia, but

has failed to counteract it. In fact, between 2000 and 2007 there was a 22.6% increase in coca cultivation (Witness for Peace 2010, 1). Furthermore, during this time frame, coca production spread from twelve Colombian departments to twenty-three through a process known as the ‘balloon effect,’ where, in the case of failure “to address the demand that drives coca production, fumigations simply push coca crops into other regions, rather than eliminating them” (Witness for Peace 2010, 4).

Plan Colombia has been considered greatly ineffective in reducing coca cultivation in Colombia. Aerial fumigations of a dangerous herbicide meant to eradicate coca crops have created significant negative externalities. First, aerial fumigations damage or destroy legal sector crops, which are more expensive and time consuming to maintain, and are ultimately less profitable than coca (Witness for Peace 2010; Villar and Cottle 2011, 26). This is because “coca, persistent as weed, is more resistant to fumigations than licit crops and harvests more quickly and frequently” (Witness for Peace 2010, 10). Second, the chemicals used to fumigate are attributed to degradation of the delicate Andean soil, as well as several human health problems such as rashes and respiratory problems (Witness for Peace 2010). The failure of Plan Colombia to significantly reduce cocaine production and associated violence shrouds Colombia’s future with uncertainty.

The cocaine industry remains one of Colombia’s greatest obstacles to development. The persistence of this industry has been attributed to both institutional maladies of the Colombian state and high levels of civil violence. The institutional deficiencies that have been attributed to the rise of the cocaine industry were also factors contributing to systemic violence in Colombia. However, the connection between the violence and the existence of the cocaine trade is still unclear. The following section will review existing theory on the relationship between the

Colombian government's legitimacy gap, cocaine production and the nation's systemic violence. The theory section will be broken into three sections each examining one of the three relationships I test in the data analysis section: the relationship between government legitimacy and cocaine production, oligopolies of coercion and cocaine production, and drug market stability and drug related violence.

Theory

Government Legitimacy

Most theory on the existence of the Colombian cocaine trade points to a loss of government legitimacy. A government legitimacy gap is the term used for a case where citizens lose incentive to voluntarily obey the rule of law dictated by a government who has failed to execute its most fundamental functions (Levi, Sacks, and Tyler 2009, 355). Government is essentially a contract between a governing body and its populace. Therefore, government failures are akin to breaking this contract. In the eyes of the populace, a failure of the governing body, a breach of contract, would nullify the virtue by which it governs. The populace would then see little incentive to hold up its end of a worthless contract by following rule of law and voluntarily deferring to the governing body. According to Margaret Levi, Audrey Sacks and Tom Tyler:

Legitimacy derives from the beliefs citizens hold about the normative appropriateness of government structures, officials and processes. Of central importance is the belief that the rules and regulations are entitled to be obeyed by virtue of who made the decision or how it was made. [...] Legitimacy denotes popular acceptance of government officials' right to govern. (Levi, Sacks, and Tyler 2009, 354)

The main determinants of legitimating beliefs are as follows: leadership motivations, whereby charismatic well liked leaders are more likely to gain legitimacy; government performance, whereby provision of public goods affects perceived legitimacy; administrative competence, whereby citizens perceive the government capable of making rules and regulations; government

honesty, whereby high levels of corruption can lead to a legitimacy gap; and lastly, enforcement and monitoring of regulations and laws, whereby citizens' perception of the fairness and consistency of the judicial system affect legitimacy (Levi, Sacks, and Tyler 2009, 356-359). In other words, "when there is consistency between a regime and the values and preferences of most citizens, the regime is 'legitimate'" (Thoumi 1995, 67). A legitimacy gap could lead to higher levels of economically motivated crime as the populace believes the government unworthy of voluntary deference, and the rule of law illegitimate. In fact, Krauthausen and Sarmiento claim that "deep inside, the narcotraficantes⁴ tend to be convinced that to break the law is per se, not reproachable" (as quoted in Thoumi 1995, 152). Undemocratic political centralization and weak state capacity are the two main institutional failures that created the high levels of inequality, low economic growth and exclusion from government, which is responsible for the legitimacy gap in Colombia. This section will explain how institutional failures of the Colombian state have led to high levels of income inequality and low economic growth which both erode government legitimacy and increase the likelihood of committing economically motivated crimes.

Existing theory suggests that one of the key determinants of economically motivated crime is inequality. In fact, a study by Pablo Fajnzylber, Daniel Lederman and Norman Loayza, published in the *Journal of Law and Economics*, found that crime rates and inequality were positively correlated (McAdams 2007, 11). Colombia is the 7th most unequal country in the world (Lars 2012). In their book, *Why Nations Fail*, Acemoglu and Robinson (2012, 399) identify extractive political and economic institutions as the root cause of inequality and low economic growth. The foundation of extractive institutions is "an elite who designs economic institutions in order to enrich themselves and perpetuate their power at the expense of the vast

⁴ Narcotraficantes is the Spanish word for 'drug dealers.'

majority of people in society” (Acemoglu and Robinson 2012, 399). Extractive economic institutions are a result of extractive political institutions, which concentrate power in the hands of a small elite and create few obstacles restricting the exercise of that power (Acemoglu and Robinson 2012, 81). This type of political centralization is inherently undemocratic because it ensures that policy decisions will not be made in the interest of the broad base of society.

In Colombia, undemocratic political centralization has caused high levels of both income and land inequality. The top 20% of Colombian society controls 60% of Colombian income, and 48% of Colombian land is owned by 1.3% of the Colombian elite (Villar and Cottle 2011, 27; World Bank Data Bank 2014). Economic theory presumes that income inequality will increase political corruption because material inequality distorts the ability of a handful of very rich people to affect politics (McAdams 2007, 13). Economists Edward Glaeser, Jose Scheinkman and Andrei Shleifer explain this phenomena as “if one person is sufficiently richer than another, and courts are corruptible, then the legal system will favor the rich, not the just” (as quoted in McAdams 2007, 14). Unequal distribution of income creates incentives for those with an inordinate amount of wealth to maintain the status quo by influencing policy to reflect their own economic interests. According to Oliver Villar and Drew Cottle (2011, 56), Colombia has a history of consolidating power to protect the political and economic interests of its elite ruling class, the narcobourgeoisie, who participated in the cocaine industry through business transactions or by investing in cocaine shipments through ‘la apuntada’⁵ (Thoumi 2002, 108). This caused widespread corruption and infiltration of the narcoeconomy into the political economy of the state leading to the creation of a positive feedback loop: protection of the cocaine

⁵ La apuntada was the system whereby the narcobourgeoisie could invest in cocaine shipments.

industry led to higher profits for the narcobourgeoisie, which created more incentives for this ruling elite to protect the industry.

Undemocratic political centralization also affected the lower and middle classes of Colombians. The ability of the elite to manipulate economic institutions in their favor left the lower classes with few economic and political opportunities. Alfredo Schulte-Bockholt (2006, 113) argues that the emergence of the cocaine trade was due to this political and economic inequality. In his article, *The Economic Costs of Inequality*, Richard McAdams (2007, 4) outlines the economic theory of crime, which suggests that the decision to commit a crime is a rational response to cost-benefit analysis. Economist Edward Glaeser (2005, 10) explains that, “as inequality rises, the returns to the crime increase for the poor (because rich victims are richer) and the opportunity costs of the crime are lower (because the poor are poorer).” Therefore, political centralization not only limited economic opportunities available to the lower classes of Colombian society, but high levels of inequality further increased the benefits associated with engaging in criminal activity. Furthermore, demand for cocaine is relatively inelastic, meaning the demand will remain stable despite the price of the good (Mejía 2008, 20). Growing coca or otherwise participating in the cocaine trade provides one of the best vehicles of upward social mobility to the lower and middle classes of Colombian society (Schulte-Bockholt 2006, 113). As a result, coca has become the most valuable cash crop in the Andean Region, generating higher incomes than all of the primary licit sector crops (Rocha 2005, 11-12). In fact, by 2002, approximately 50% of Colombia’s work force was employed in the cocaine sector (Villar and Cottle 2011, 110). The historical and undemocratic concentration of political and economic power in the hands of Colombia’s elite has led to financial reliance on the cocaine industry by virtually all of Colombian society.

Undemocratic political centralization in Colombia allowed the elites to influence economic policy to reflect their own interests. This leads to what Acemoglu and Robinson (2012, 76) call extractive economic institutions, which are designed to “extract incomes and wealth from one subset of society to benefit a different subset.” These institutions create inequality and hinder growth by undermining secure property rights and creating high barriers to entry such as high taxes, restrictions, permits, and other types of bureaucratic red tape, which make it too costly for average Colombians to succeed in or in some cases participate in the legal economy. Thoumi describes this system as, “economic policies, laws, and regulations with redistributive implications [which] promoted the growth of rent-seeking organizations that succeeded in getting the government to formulate policies that clearly benefited narrowly defined economic interests” (Thoumi 1995, 89). Without secure property rights or a level playing field, the subset of society, which is being exploited, lacks incentives to engage in innovation and free enterprise (Acemoglu and Robinson 2012, 77).

By excluding much of the population from the economy, the Colombian elites are effectively foregoing a large portion of their population’s innovative and productive capacity. Although this may benefit the ruling elite by preventing economic challenges to the distribution of power, it effectively hinders overall economic growth by preventing creative destruction, a byproduct of technological change and economic evolution (Acemoglu and Robinson 2012, 84). Creative destruction is a process whereby inclusive institutions foster innovation and economic progress damaging old industries to make way for newer ones. The Industrial Revolution in Europe is one of the best modern examples of the process of creative destruction. The invention of new technology mechanized jobs, rendering craftsmen and skilled artisans useless because they hand-made goods, which could now be produced using machines. This created

controversially high unemployment, and disrupted the well-established status quo; however, the industrial revolution also instigated significant economic growth for a broad majority of society. Without creative destruction, technological innovation is hindered, and theoretically, sustainable economic growth is impossible (Acemoglu and Robinson 2012, 183-184). Extractive economic institutions exclude large portions of society from participating in the economy, disincentivizing free enterprise. If citizens feel as though they don't have secure property rights or a level playing field, they will be much less likely to innovate, hindering creative destruction and technological growth. In Latin America this "ethic of inequality" can be traced back to the authoritarian and paternalistic institutions of Spanish Colonization (Thoumi 1995, 82). As Colombians grew to consider these institutions as more unfair and exploitative, the government legitimacy gap grew. The extractive economic institutions established in Colombia have led to inequality and stagnated economic growth, which significantly weakened the capacity of the state.

The erosion of Colombian state capacity resulted from the persistence of extractive political and economic institutions. Due to economic stagnation, inequality and poor infrastructure, the government has a limited amount of resources with which to collect taxes, enforce rule of law and provide public goods. According to Susan Windybank and Francisco E Thoumi (2007, 20), the geography of Colombia and poor infrastructure poses a significant obstacle to state capacity. Furthermore, the remote regions where coca is produced provide a small portion of GDP, and thus, contribute minimal tax revenues to the state. It is financially cumbersome for a state to exercise sovereignty and provide public goods in large parts of the country, which do not contribute significantly to the legal economy (Thoumi and Windybank 2007, 20). This poor provision of public goods leads marginalized Colombian's to rely on the

illicit economy, which further weakens the state's ability to carry out its responsibilities and increasing the legitimacy gap.

Inequality itself also effects the provision of public goods, the cornerstone of state capacity. When there is greater inequality in a country, there are more heterogeneous preferences for the type and quantity of a specific good. Take for example, policing. The rich may prefer policing to provide the protection of property while the poor may prefer protection from "interpersonal violence" (McAdams 2007, 7). This heterogeneous nature of demands creates higher costs for political organization, and thus, the government is likely to provide less of the good. Evidence for this phenomenon is found in the comparison between New York City and Bogota, Colombia, which have 28,000 and 12,000 police officers respectively despite having similar populations (Glaeser 2005, 10). Weak state capacity to provide important public goods has led to incapacitated enforcement of rule of law in the regions where cocaine is produced. This, consequentially, provides more incentives for participating in the cocaine industry by further reducing if not eliminating the penal costs associated with criminal activity.

Inequality has this effect on the provision of other public goods such as education, infrastructure, sanitation facilities, access to clean water, social welfare programs and more. State failure to provide vital public goods leads to a loss of perceived government legitimacy. This legitimacy gap increases both violence and cocaine production (as marginalized Colombians have few other viable economic options). In fact, scholars have found that, "peasants want a stronger state presence to provide conflict resolution systems, public services and infrastructure" (as quoted in Thoumi 1995, 140). The Colombian government's failure to provide these and other public goods left a power vacuum in regions with minimal state presence, which was occupied by non-state armed groups.

This section has examined the relationship between the institutional failures of the Colombian state, which led to the government legitimacy gap, and the cocaine industry. State failures have eroded the perceived legitimacy of government in Colombia creating an environment agreeable to criminal activity and cocaine production. In the next section, I will show how the legitimacy gap also contributes to the nation's systemic violence. I will then begin to illustrate the relationship between cocaine and violence.

Oligopolies of Coercion

Colombia is historically notorious for its insidious levels of violence. To this day, armed drug trafficking syndicates, guerilla organizations and paramilitaries still operate in areas within Colombia beyond the reach of the state. They give credence to the severely diminished Colombian state capacity. The inability to control non-state armed combatants within a designated territory illustrates a direct erosion of Colombia's enforcement capacity.

In political science, the basis of a nation-state originates from economist Max Weber's (1965, 78) premise that a state is "a human community that (successfully) claims the monopoly of the legitimate use of physical force within a given territory." This 'monopoly of the legitimate use of physical force' (or legitimate violence) is the most basic foundation of state capacity, without which, the state "cannot play its role as enforcer of law and order"(Acemoglu and Robinson 2012, 80). The Colombian state lost its monopoly of legitimate violence due to the inequality caused by its extractive institutions. High levels of inequality mean that there are greater potential gains to overthrowing the regime. This leads to what Acemoglu and Robinson (2012, 366) call infighting, whereby groups within the country will fight for control of government. Infighting has been characteristic of Colombian society since independence. The persistence of extractive political and economic institutions in Colombia has led to high levels of

inequality, economic stagnation, and ultimately an eroding state capacity and legitimacy.

Acemoglu and Robinson (2012, 143) claim that the inevitable result of these institutions is “political instability that emerges and ultimately leads to collapse of both society and state as different groups and people fight to become the extractors.” Thus, Colombia’s institutional failures, which have been attributed to the growth of the cocaine industry, are also likely causes of Colombia’s systemic civil violence.

Extractive institutions have led Colombia down a path of constant civil strife. The institutional failures of the Colombian state are remnant of its Spanish colonial legacy, similarly shared by Bolivia and Peru, the other two Andean, cocaine-producing nations. These extractive institutions created high levels of inequality in all three Latin American countries; however, infighting characteristic of the Colombian state is not nearly as salient in Peru and Bolivia. The reason for this divergence is Colombia’s two party system. Since independence, the Liberals and Conservatives have alternated control of government and civil violence stems from ideological differences between these two groups (Vanden and Prevost 2012, 516). The inequality fostered by extractive institutions only exacerbated the problem of infighting between the two parties culminating in ‘la violencia.’⁶ The solution to la violencia was the National Front Regime, a coalition government, which effectively barred new parties from government and has been largely attributed to the emergence of Colombia’s left wing guerilla insurgencies (Schulte-Bockholt 2006, 109). Although the National Front Regime was successful in subduing violence, the cartelized exclusion from government characteristic of this era led to ideological uprisings. The emergence of left wing guerilla groups occurred in lieu of the weak Colombian state. The state created right wing paramilitary groups as a counterinsurgency tactic, which was ineffective

⁶ The protracted civil war, which claimed the lives of an estimated 200,000 to 300,000 Colombians between 1946 and the early 1960s.

and ultimately served to further undermine state authority (Schulte-Bockholt 2006, 108).

Infighting is the defining factor leading to the Colombian government's eroding control of legitimate violence within the country making Colombia ideal for cocaine manufacture.

The legitimacy gap has been a major factor in the emergence and persistence of these non-state groups. As discussed in the previous section, weak state capacity can limit the provision of public goods. The remote regions of Colombia suffered from this incapacity the most where the government was failing to provide protection and infrastructure, and limiting the viability of legal sector employment. The less Colombians rely on the state and trust it to carry out its responsibilities, the fewer obligations they feel to cooperate with rule of law. Margaret Levi and Audrey Sacks (2009, 354) argue that "[o]f central importance [to citizens' cooperation] is the belief that rules and regulations are entitled to be obeyed by virtue of who made the decision." Francis Thoumi describes the process of delegitimation in Colombia as follows:

As Colombia's economy grew more complex, the state assumed an increasing number of functions that it could perform less and less effectively. Many laws were increasingly disregarded, government bureaucracies became more inefficient and increasingly unaccountable and unresponsive to citizens, private and public sector corruption increased, and the state grew unable to exert effective control over large areas of the country. A widening gap developed between the de jure and de facto socially acceptable behavior, and the underground economy greatly expanded. (Thoumi 1995, 172)

When the government is no longer able to carry out its basic functions, its perceived privilege to govern is compromised, thus, compromising the legitimacy of rules and regulations leading to the creation of a power vacuum.

The two main armed groups involved in the cocaine trade, left wing guerilla groups and right wing paramilitary organizations, emerged to fill the power vacuum by absorbing some state responsibilities (Mejia and Restrepo 2013, 2). Similar to government, guerilla and paramilitary groups tax Colombians living on their land, and in exchange, provide them with protection. Most

guerilla or paramilitary controlled territory is located in remote agricultural regions where the population consists mostly of peasant farmers. Having a vested interest in cocaine production as their primary source of income, non-state groups promote coca growing on their territory and provide protection from government interdiction efforts (Mejia and Restrepo 2013, 5).

Attempting to cut off the main source of funding for left wing guerilla insurgencies, the government utilizes aerial fumigations designed to eradicate coca. However, the herbicide indiscriminately destroys licit sector crops, which are more expensive to grow and costly to lose. According to a study by the Witness for Peace, “fumigations actually act as a disincentive for small-scale farmers to invest in licit crops”(Witness for Peace 2010, 10). Without cooperating with these armed groups, many marginalized Colombians in remote territories are effectively rendered with no protection and an insecure livelihood threatened by their own government (Mejia and Restrepo 2013, 5). The institutional failures of the Colombian state and subsequent legitimacy gap created a situation in which Colombian’s were left with few options but to rely on privatized forms of protection ultimately benefiting armed groups, and thus, the cocaine industry they were protecting. Although not ideal, this system provided otherwise completely marginalized Colombians with a steady source of income from coca and valuable protection of their livelihood. Deference to privatized forms of protection is the basis of the Colombian state’s diminished control on legitimate violence in Colombia.

By Max Weber’s definition, if violence is legitimate, then it is being perpetrated with the intent of coercing actors to comply with a socially defined rule of law, delineated by a legitimate governing entity, most commonly the state (Weber, Mills, and Gerth 1965, 78). Weber only considered violence delegated by the state as legitimate; however, in Colombia, armed groups have been able to inherit legitimacy in light of a delegitimation of the state. In addition to

occupying a power vacuum in remote regions of Colombia and adopting some state responsibilities, armed groups are able to force coercion by utilizing socially observed norms of behavior independent of the state (Jachtenfuchs 2005, 37-38). Coercion is defined as “the practice of forcing another party to act in an involuntary manner [...] by use of pressure or force” (Schmallegger 2013). A state monopoly on legitimate violence is vital to state capacity because it signifies that the government is the only entity with the ability to use coercive force, or forcibly make a citizen act against one’s will. Although the concept of a monopoly on legitimate violence is sufficient to explain the foundation of a traditional state, in the modern day, physical force alone isn’t enough to ensure coercion. As Charles Tilly notes, modern state building depends not only on the use of violence, but also on capital accumulation, and resource extraction and allocation (Alagappa 2001, 7). The use of violence, resource extraction or allocation, and capital accumulation are instruments with which a legitimate body could force coercion and can also be referred to as ‘means of coercion.’ The state monopoly on coercion (or means of coercion) is a modern Weberian manifestation of the original “monopoly on legitimate violence” as the basic foundation of state capacity (Alagappa 2001, 7)⁷. For violence, capital accumulation and resource extraction to be effective means of coercion, the group utilizing them must be able to claim some form of legitimacy in their coercive actions.

Today, the Colombian state’s monopoly of coercion is diluted by the presence of other armed actors employing means of coercion and claiming legitimacy in their own motives. Max Weber defines legitimacy as “the basis of every system of authority, and correspondingly of every kind of willingness to obey, is a belief, a belief by virtue of which persons exercising authority are lent prestige” (Weber, Mills, and Gerth 1965, 382). By virtue of governance, the

⁷ Although a state monopoly on means of coercion is the best modern day definition of Weber’s ‘monopoly on legitimate violence,’ it is important to remember that legitimate violence is a vital mean or tool of coercion.

state is automatically considered a legitimate entity (Jachtenfuchs 2005, 37). State legitimate violence is the use of violence by the state in pursuit of its own goals: a soldier killing another armed combatant is widely accepted as a legitimate form of violence despite the illegal nature of killing. Francis Thoui (1995, 85) explains that a loss of government legitimacy, in turn, “legitimizes extreme predatory behavior so that [...] it is accepted for a person to take wealth from whomever has it, including the state, as long as it can be done.” The delegitimation of the Colombian state created a power vacuum conducive to the emergence of other armed groups with the ability to gain legitimacy, by absorbing basic responsibilities neglected by the state.

For the purposes of this thesis I will define “legitimate violence” as that which is explicitly motivated by an armed actor (state or non-state), which has the support of a significant subset of society, and is acknowledged by others as being perpetrated in the pursuit of a specified goal. For example, there was a common phrase during the height of the Medellín cartel, “plata o plomo,” meaning silver or lead. This was used to describe the violent intimidation tactics of the Medellín cartel in the establishment of its cocaine regime; government officials were given a choice upon entering office on compliance with cartel bribes and demands: a lead bullet to the head or silver money in their pockets. Bowden has been cited explaining this practice that, “became so notoriously effective that it would ultimately threaten to undermine Colombia’s democracy” (Dal Bó, Dal Bó, and Di Tella 2006, 2). Although a large portion of society opposed the cartel’s violent behavior, its “plata o plomo” system of intimidation was widely recognized, and thus, institutionalized as a societal norm, granting legitimacy to cartel violence within Colombia. Thoui (1995, 83) notes that, “as the old legitimacy has been chipped away and new behavioral norms become socially accepted, there has been a growing gap between the country’s laws and accepted social behavior.” It is important to note that without the legitimacy that these

groups have inherited from the state, violent action by these groups wouldn't be able to transform norms of behavior, and thus, wouldn't be considered a mean of coercion.

The institutionalization of new norms of behavior by non-state armed groups has made it so only the threat of violence is enough to achieve coercion. Thus, it is not the use of violence by these groups that erodes the state's monopoly of coercion, but rather the non-state actors' socially recognized systems of coercion, which have the ability to compel individuals to behave in defiance of the state. These systems of coercion, such as that of the "plata o plomo" tradition, are established by the legitimization of the use of violence by armed groups. However, the legitimization of this violence stems from de facto power established by armed groups, which is characterized by more than the use of force. For example, the power of the Medellín cartel stemmed from its ability to accumulate capital. The illegal nature of Medellín's capital accumulation was legitimized by heavy involvement of all sectors of Colombian society in the cocaine industry as well as the cartel's practices of resource allocation. Led by Pablo Escobar, the Medellín cartel used its capital for philanthropic purposes intended to help the marginalized poor. Escobar and the Medellín cartel provided full financial backing for, and broke ground on, several soccer stadiums in poor Colombian neighborhoods or 'barrios,' as well as a community of 2,000 residences in his home town, a project fondly known as "Medellín without slums." Escobar was seen as a modern robin hood, a populist hero to his people (Villar and Cottle 2011, 73). Thus, the legitimacy of Medellín cartel violence was derived primarily from capital accumulation and resource allocation. Similarly, the guerilla and paramilitary groups accumulate capital by taxing peasants living within their controlled territory and in turn provide the valuable resource of protection from other armed groups, a resource the government has failed to provide, lending legitimacy to their use of violence (Villar and Cottle 2011, 104). Colombia's diminishing

state enforcement capacity, an ailment of extractive institutions, is a reflection of its inability to coerce non-state actors to follow rule of law. Conversely, the social institutionalization of new norms of behavior by non-state groups shows their increasing ability to evoke coercion. Therefore, a relative decrease in state legitimacy can lead to a relative increase in the legitimacy of non-state armed groups.

For this thesis, I will define a state monopoly of means of coercion as a complete state control in the perpetration of any form of coercive legitimate violence and the ability of the state to prevent other armed groups from imposing their own social order. In other words, the state is the only actor able to coerce another actor to act against his or her own will. Colombia is characterized by an oligopoly of coercion, whereby multiple groups have the ability to coerce other individuals to behave according to a socially delineated set of rules and regulations. These groups are producers of ‘means of coercion;’ they produce the service of coercion, which is crucial to the privatized regulation of the illegal cocaine market. The state produces voluntary coercion through actions of capital accumulation and resource allocation such as, governing, providing public goods, and protecting citizens. When a state legitimacy gap exists, the states ability to elicit voluntary coercion is inhibited. The state produces forced coercion through the criminal justice system, policing, and the use of military force. FARC produces coercion by protecting Colombians from civil violence, protecting coca crops from government interdiction efforts, and fighting for land reform and social inclusion. Economically speaking, means of coercion (one of which is the use of legitimate violence) could be considered a specialized input good produced by different groups of armed actors claiming their own legitimacy. The producers in the market of this good are all legitimized armed groups within the territorial boundaries of Colombia (the state, paramilitaries, traffickers, and guerillas). Each group has a certain ‘market

share' of control on means of coercion produced within the country; this is essentially the proportion of military control one group has relative to the others: one group's ability to force coercion relative to the others. The state's share of control on means of coercion illustrates the state's relative enforcement capacity. With a diminished share of all the means of coercion available within the market, the Colombian state is not able to fully exercise law and order leading to a weakened environment of risk conducive to cocaine production. According to Francis Thoumi (1995, 171), the level of risk is the main determinant in a trafficker's decision to participate in the drug trade. In the case of Colombia, the environment of risk is dictated by the state's control of coercion or its relative enforcement capacity.

The armed groups producing coercion in Colombia are a form of skilled labor: armed combatants trained to perpetrate violence and other acts to elicit compliance in defiance of the state. Furthermore, these armed groups allocate their coercive capacity into the production of income generating activities. In this way, we can look at means of coercion as an input good in the production of cocaine, and non-state groups act as a type of specialized coercive labor⁸. This labor can be allocated into the production of income generating activities distinct to each group. For the government, this objective is to maintain governance and promote economic growth in Colombia, which generates income. The governmental use of violence (or other means of coercion) in pursuit of this goal is then considered legitimate. Overthrowing the government is the main objective of guerilla groups. In order to achieve this goal, guerilla groups allocate their specialized coercive labor to fight the state, and generate income to continue doing so. This income is often acquired through taxation, extortion and kidnapping; however, the majority of

⁸ Specialized coercive labor is an input into the production of cocaine because the laborers produce coercion. Specialized coercive labor and means of coercion measure the same input; however, the former is a 'service input' while the latter is an 'input good.' They are interchangeable and measure the same concept, the same way that means of production or the ability to produce is an input good into production while labor is the service that provides the means to produce.

guerilla income comes from participation in the drug trade. The objective of paramilitary groups varies substantially; traditionally, these groups were formed as ‘self defense’ groups meant as a counterinsurgency measure against guerilla rebellions. Nonetheless, paramilitaries allocate a significant amount of means of coercion in the production of cocaine to generate profits to fuel whatever objective the individual organization may have (Schulte-Bockholt 2006, 108). Drug traffickers contract paramilitary and guerilla groups to protect cocaine profits from other traffickers and the state. In this sense, means of coercion⁹ can be considered an intermediate input¹⁰ in the production of cocaine (the final good).

Because the cocaine industry is illegal, it operates on the black market, which is excluded from state sponsored secure property rights as well as bureaucratic dispute and contract enforcement mechanisms. Therefore, means of coercion act as a regulatory instrument, which the cocaine industry needs to function. An absence of secure property rights is a disincentive to enter a market (Acemoglu and Robinson 2012, 75). Drug traffickers’ use of the means of coercion, produced by non-state armed groups, acts as a private enforcement mechanism, without which the cocaine industry would theoretically not exist. In their article, *Illicit markets and violence: what is the relationship?*, Peter Andreas and Joel Wallman explain this phenomenon:

Lacking access to the protections of civil and criminal law, actors in the illicit economy must rely on forms of informal social control to prosecute their grievances, punish those they regard as impediments to their livelihood, and deter those who might otherwise interfere. Violence is one such form, a time-honored modality of self-help. (Andreas and Wallman 2009, 226)

Furthermore, the use of means of coercion as an intermediate input in the production of cocaine yields high profits because of cocaine’s relatively inelastic demand. These high profits are an incentive for producers of means of coercion and legitimate violence to channel their specialized

⁹ Of which one is legitimate violence

¹⁰ A good used in the production of a final good to be sold on the market

coercive labor into the production of cocaine.¹¹ Cocaine profits allow the producers of means of coercion to reinvest in themselves militarily, which is conducive to guerilla groups fighting the state and paramilitary groups fighting guerillas. The relationship between non-state armed groups and drug traffickers is mutually reinforcing. Protection of the cocaine industries leads to higher profits for both traffickers and armed combatants who are able to increase production of both cocaine and means of coercion.

Economic theory presumes that with free trade, production will specialize based on a country's comparative advantage¹². A country's comparative advantage is very often dictated by proximity to valuable resources in the production of said good. The vital nature of means of coercion as an input in the production of cocaine illustrates the relationship between systemic violence and the manufacture of Colombian cocaine, Colombia's real comparative advantage in its production. Colombia's history of violence and emergence of non-state armed groups led to an increased supply of specialized coercive labor, an input necessary for the regulation of cocaine markets. The availability specialized coercive labor is Colombia's comparative advantage in the production of cocaine, not the endemism of the coca plant or proximity to major export markets. Violence is neither the defining cause nor an explicit result of drug trafficking, but rather, violence, as a mean of coercion¹³, is both a vital input in the survival of the cocaine industry and an inevitable byproduct of its existence. The next section will begin to explain the relationship between levels of actual violence and drug market stability.

Drug Market Stability

¹¹ As opposed to other profit generating activities

¹² A country's comparative advantage is based on a country's relative opportunity cost to produce a good. In other words, if country A's opportunity cost is relatively lower in the production of agriculture than manufactured goods as compared with country B, then country A will specialize in agricultural goods while country B will specialize in manufactured goods, and the two will trade.

¹³ Remember that violence, as a mean of coercion, refers to legitimate violence.

Violence, as a mean of coercion, acts as a privatized form of drug market bureaucracy. Because of cocaine's illicit nature, producers of the drug are not able to defer to government institutions to regulate the market and protect property rights. As such, drug traffickers must rely on privatized forms of regulation often translating into violence. However, according to Francisco Thoumi, drug markets and drug related violence have no empirical relationship, no clear cause and effect. Thoumi (2009, 38) claims that, "when there are very large, easy to obtain illegal drug profits, it is not "natural" that people kill each other for them." There is no historical pattern of violence associated with drug trafficking. For example, marijuana markets tend to be much more peaceful than heroin or cocaine markets. Even within cocaine markets, there are differing levels of violence. Despite having significantly higher shares of the illegal drug sector contributing to the countries' GDPs, Peru and Bolivia have much lower levels of drug related violence than Colombia (Thoumi 2009, 38).

Goldstein categorized three types of drug related violence. Drug related violence in Colombia is considered systemic violence because it is solely related to the supply side and is a result of the private bureaucratic regulation of drug markets (Mejia and Restrepo 2013, 3). The observed differences in systemic violence in cocaine markets in the Andean region are most likely due to drug market stability. Drug market stability is characterized by the extent to which producers and consumers are acting upon "standardized and established roles and relationships" (Brownstein, Crimmins, and Spunt 2000, 869).

The stability of the production side of the Colombian cocaine market is determined by two factors: first, the extent to which producers in the market are competing for market control, and second, the extent to which government interdiction efforts are threatening production. Drug producer competition and its relationship with violence acts in a similar manner to world power

dynamics. Because the cocaine market operates above the law, independently of any codified regulatory system, producers of cocaine are functionally ‘sovereign’ entities competing for power quantified by their share of control in the drug market. According to R.J. Rummel (1979), “polarity refers to the centralization of a coercive power in a system.” As a system becomes more centralized (multipolar to bipolar to unipolar), there exists less diversity of powerful groups competing for power. Rummel (1979) claims that as polarity increases, nonviolent conflict behavior is inhibited and extreme violence is aggravated, so a unipolar world would experience the most extreme violence. However, in terms of conflict, a unipolar world would have the lowest likelihood of violent conflict because of “domination of one center of power” (Rummel 1979). There is a significantly increased likelihood of violent conflict in a bipolar system and even more so in a multipolar system (Rummel 1979). However, Richard Haass (2008) introduced the concept of nonpolarity where numerous centers of power exist but no center dominates another, and this is characterized by the lowest levels of violence. So in terms of both extreme violence and violent conflict, a bipolar system would be the most violent and a non-polar system the least violent. However, in a nonpolar system with no dominating power there are more threats to any one actor (Haass 2008). This could lead to a lower average level of violence with unpredictable spikes in conflict or extreme violence. The concept of polarity has been applied in large part to the international balance of power.

The intricate interactions between traffickers, non-state armed groups and the state must also be considered when making this comparison. In Colombia, there are two “systems” in which polarity generates violence. First, is the drug trafficking market where trafficking organizations are competing for market control. The organization of this system has evolved significantly since the beginning of the cocaine decade in 1980. The second system is the market for means of

coercion where guerilla groups, paramilitaries and the state are competing for control. However, since 1980 the polarity of this system has remained relatively stable. The State, FARC, ELN and paramilitary groups have existed in a multipolar system, and as such, have been generating stable levels of violence related to their power struggle. Therefore, we can assume that fluctuations in violence during this period can be attributed drug market stability¹⁴.

In addition to polarity, drug market stability is also affected by government interdiction efforts. Rummel (1979) claims that ‘big power intervention’ increases the chances of violence. Furthermore, Gustavo Duncan (2014, 34), in his article, *Drug Trafficking and Political Power: Oligopolies of Coercion in Colombia and Mexico*, suggests that in areas defined by oligopolies of coercion with the presence of trafficking organizations and the state, there is an increased chance of drug related violence. Thus, more stringent government action against drug trafficking would result in higher levels of violence. The combination of producer polarity and government interdiction efforts determines the stability of Colombian drug markets.

There are two distinct eras of the Colombian cocaine trade: the cartel system and the decentralized system (or post-cartel system), which followed the collapse of the Medellín and Cali cartels (Villar and Cottle 2011, 81). The cartel era began with the establishment of the Medellín cartel in 1981 (Villar and Cottle 2011, 47). The market consisted of the two main cartels, which vertically organized production and controlled everything from cultivation to distribution, and a handful of other ‘quasi-independent’ groups who operated with loose associations to Medellín or Cali (Villar and Cottle 2011, 66). During the cartel era in Colombia, governmental corruption was at an all time high and interdiction efforts were relatively minimal until the election of President Gaviria in 1990 who, after a string of extrajudicial murders carried out by

¹⁴ For this reason, I use homicide rates as a proxy measurement to illustrate fluctuations in drug related violence over time.

the Medellín cartel, began cracking down on traffickers. The period between 1990 and 1993 was characterized by all out war between the Medellín cartel and the state of Colombia culminating in the disintegration of the Medellín cartel in 1993 and the eventual collapse of the cartel system in 1994 (Villar and Cottle 2011, 75). The cartel era drug market constitutes a bipolar system and is associated with relatively high levels of both extreme drug related violence and conflict related drug violence as a result of the two main cartels competing for market share. Furthermore, the increased interdiction of the state in 1990 would be expected to cause a sharp increase in drug related violence.

The post-cartel era of Colombian drug trafficking began in 1995¹⁵ (Villar and Cottle 2011, 79). The Colombian cocaine industry was then decentralized into an estimated eighty to three hundred private enterprises, none with the power to compete for market control (Villar and Cottle 2011, 82). The post-cartel era of Colombian cocaine trafficking saw a gradual increase in government interdiction efforts until the election of President Pastrana in 1998 and the establishment of Plan Colombia in 2000 (Villar and Cottle 2011, 107). This era is representative of a nonpolar system because no one group consolidated enough power to dominate the market, and it would be associated with much lower levels of drug related violence. However, government interdiction efforts would predict a gradual increase in drug related violence accompanied by a spike in violence after the establishment of Plan Colombia in 2000.

The effects of drug market stability can be seen at a local level as well. Gustavo Duncan, studies oligopolies of coercion and identifies three types of ‘spaces’ in Colombia relating to violence and criminal organizations. First, are ‘spaces’ in the periphery (remote regions) where “private armies of drug traffickers are the only source of local authority,” a monopoly of

¹⁵ Following the end of the Medellín cartel and the assassination of Pablo Escobar on a Medellín rooftop in 1993, which shortly preceded the collapse of the Cali cartel in 1994.

coercion established by warlords (Duncan 2014, 19). Alternatively, a state monopoly occurs in developed regions, urban centers, and areas where traffickers have little to no strategic interest. Lastly, according to Duncan spaces of ‘shared coercion,’ indicative of oligopolies of coercion, occur “only in spaces where the state maintains an intermediate level of authority and institutional presence,” so that traffickers cannot exercise authority without some state interference (Duncan 2014, 19). Duncan (2014, 19) claims that interactions in spaces defined by an oligopoly of coercion will have the highest level of conflict as the state and criminal organizations clash. As such, it can be assumed that regions in Colombia, with the presence of armed groups working in conjunction with drug trafficking syndicates and an intermediate state presence, will also exhibit the highest levels of drug related violence.

The Colombian state is fatally flawed by its self-perpetuating, extractive political and economic institutions, which have worn down government legitimacy. This legitimacy gap has led to both protracted civil violence and the emergence of the inordinately powerful Colombian cocaine industry. According to Gustavo Duncan (2014, 19), Colombia’s tradition of civil conflict has eroded state enforcement capacity leading to an oligopoly of coercion, “a situation in which several organizations have overlapping control of the means of coercion necessary to regulate societal transactions.” The ability of non-state armed groups to force coercion utilizing socially legitimized violence has fostered a diminished environment of risk advantageous to the existence of the illegal drug trafficking industry. The specialized coercive labor provided by these non-state groups acts as an input into cocaine production by regulating the illegal market. In order to test my hypotheses, I examine three dimensions of the relationship between cocaine production and violence. First, I look at the correlation between government legitimacy and cocaine production to see if the institutional failures, which led to civil violence, are also related to

cocaine production. Second, the correlation between the oligopolies of coercion and cocaine production will be tested to see if the presence of armed groups contributes to more cocaine production. Lastly, I will look at the relationship between drug market stability and cocaine production to discern the pattern of violence in drug markets.

Data Analysis

The theory section has outlined the relationship between the cocaine trade and violence. Violence, as a mean of coercion, is a vital input into the production of cocaine because it acts as a privatized form of market bureaucracy. This relationship was identified by transforming a traditionally abstract political concept, Weber's monopoly of the use of physical force (monopoly of coercion) into a measurable economic phenomenon. The existence of non-state armed groups with effective territorial control in much of rural Colombia has degraded the government's control on its monopoly of coercion. Economically speaking, each armed group including the government is a producer of coercion or means of coercion within Colombia. Each group has a market share of control on this production, combined equaling 100%. Market share is determined by relative power structures. This could be measured in terms of military size i.e. relative number of combatants of each group. So if non-state groups control 50,000 combatants and the state controls 100,000, then the state has a 66% (0.66) share of market control in the production of coercion. It could also be measured in terms of relative territorial control. Ideally, I would want to run multiple linear regression models to determine if there was a positive correlation between the presence of armed groups and the production of cocaine and a negative correlation between cocaine and the state. Unfortunately, this data does not exist. Although there are extremely varied estimations of the size of illegal armed groups, exact figures have never

been recorded. Similarly, estimates of cocaine production are varied and widely disputed. As such, I will be doing a visual analysis of estimated data I have been able to collect.

In order to determine if violence as a mean of coercion is an input into the production of cocaine, I look at three relationships. First, is the relationship between state legitimacy and cocaine production. I expect that when state legitimacy is eroded, citizens will have less incentive to follow rule of law, and thus, cocaine production will increase. This is significant in that it shows that as the government fails its populace, people are more likely to turn to viable illicit sector income. The second relationship is between cocaine production and the presence of oligopolies of coercion. Greater presence of armed groups, or specialized coercive labor, means more available inputs for the production of cocaine, and thus, more cocaine production. More production of cocaine will subsequently require more specialized coercive labor (or means of coercion), to regulate a growing market. Finally, the relationship between violence and drug market stability is the final piece in the puzzle. In terms of drug related violence, we should expect to see much higher levels of drug related violence during the bipolar cartel era than the nonpolar post-cartel era. Additionally, regional spaces defined by oligopolies of coercion should exhibit the highest levels of violence, while spaces defined by monopolies of the state or an armed group should have relatively lower levels of violence. Cocaine production should be highest in spaces with a monopoly by armed groups and the lowest in spaces with a monopoly by the state. This relationship is integral because it illustrates the regulative need of coercion to protect the cocaine market. All three of these relationships – Government legitimacy and cocaine production, oligopolies of coercion and cocaine production, and drug market stability and drug related violence— can begin to infer to the relationship between violence as an input into the production of cocaine.

This data analysis section will be broken up into three parts, each of which will analyze one of the three relationships described above. Each section will contain a methodology section, data analysis section and an implications section.

Government Legitimacy and Cocaine Production

As stated above, a lack of government legitimacy is a disincentive for citizens to comply with rules and regulations. In Colombia, the eroded state legitimacy is a result of high levels of government corruption, poor provision of public goods, historical exclusion from government, the existence of extractive economic institutions, high inequality, and low economic growth. This lack of perceived government legitimacy created a gap between socially accepted behavior and the rule of law. As a result, many marginalized Colombian's have turned to involvement in drug trafficking for a steady source of income. Therefore, as government legitimacy decreases, we should see an increase in cocaine production.

Methodology and Data

To examine the relationship between government legitimacy and cocaine production I do a graphical time series analysis. I compare the Colombian government's legitimacy score with annual cocaine production to see if there is a correlational relationship. Exact data on Colombian cocaine production does not exist because the cocaine industry operates outside the regulated licit economy. Furthermore, there are several widely varying estimations on cocaine production. The United Nations Office on Drugs and Crime (UNODC) has published annual reports, which have estimated coca cultivation since 1986 using satellite imagery. They use these estimations to calculate potential cocaine manufacture by country. The downfall with these estimations is they fail to consider the large quantities of cocaine imported to Colombia from Peru and Bolivia before the destruction of the air bridge in 1997. Ricardo Rocha published a data set in 2005 for a

USAID report titled *Impacts of the Illicit Drug Economy: Colombian Country Study*. Rocha used data from Colombia's National Administrative Department of Statistics on estimated coca cultivation, estimated cocaine content of the coca plants from different regions, and estimated value of imported cocaine base from Peru and Bolivia to calculate estimated cocaine production from 1981 to 2003 (Rocha and Ramírez 2005, 24). For my dataset, I use Rocha's estimated cocaine production from 1981 to 2003. After the turn of the century, Colombia cultivated all of the coca used in the manufacture of Colombian cocaine (Rocha, Guerrero, and Taboada 2004, 76 c4.1). Therefore, for the years of 2004 to 2009, I use data on potential cocaine production in Colombia from the UNODC World Drug Report 2010 (UNODC 2010, 162). These values represent the total Colombian production of cocaine before domestic sales and government seizures, not the total amount of exported cocaine. I use this dataset in each of my data analysis sections, so this compilation of data will henceforth be referred to as the "annual cocaine dataset."

To measure government legitimacy, I use the Worldwide Governance Indicators (WGI) dataset created by the World Bank Group and produced by Daniel Kaufmann, Aart Kraay and Massimo Mastruzzi. Data for Colombia exists for the years 1996, 1998, 2000, 2002 to 2013, and I have used all the data through 2009. The data set "reports [annual] aggregate and individual governance indicators for 215 economies over the period of 1996 to 2013, for six dimensions of governance: Voice and Accountability, Political Stability and Absence of Violence, Government Effectiveness, Regulatory Quality, Rule of law, and Control of Corruption" (Kaufmann, Kraay, and Mastruzzi 2011). The WGIs are composite governance indicators created using 32 existing data sources. These sources are "rescaled and combined" to create the six aggregate indicators using the statistical methodology known as the unobserved components model; the scores range from the lowest governance score of -2.5 to 2.5 (Kaufmann, Kraay, and Mastruzzi 2011). For

this section, I don't look at the index for Political Stability and the Absence of Violence because the era of cocaine production in Colombia has been defined by political instability and the presence of violence and terrorism. As such, the relationship between this aggregate indicator and cocaine production would be difficult to interpret, as the WGI is a measurement of many different indicators for political stability and the absence of violence. The other five WGIs are sufficient to see how government legitimacy affects cocaine production.

Voice and Accountability and Cocaine Production

According to the World Bank, "Voice and Accountability captures perceptions of the extent to which a country's citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association, and a free media" (Kaufmann, Kraay, and Mastruzzi 2011, 4). A citizen's perception on their ability to participate in and influence politics directly affects their perception of the legitimacy of government officials and therefore government itself. If a citizen believes he is being excluded from the political process, he may begin to question the competency of those in government because they are perceived to be in power by virtue of favoritism and exclusion, not popular election. Levi, Sacks and Tyler (2009, 358) identified administrative competency as one of the deterministic factors in government legitimacy. They claim that, "when citizens are confident that government has the competency to produce promised services, they are more likely to give deference to government authority" (Levi, Sacks, and Tyler 2009, 358). A citizen's voice and a government's accountability are arguably the two most important factors in a functioning democracy, without which legitimacy will inevitably degrade. However, when Colombians involved in the drug trade perceive that they will have more influence over governance, they are incentivized to abandon illegal activities and defer to state institutions.

Government Effectiveness

The World Bank Government Effectiveness Indicator “captures perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government’s commitment to such policies” (Kaufmann, Kraay, and Mastruzzi 2011, 4). Levi, Sacks and Tyler (2009, 358) argue that government performance is an integral determinant of government legitimacy. One of the primary aspects of government performance is the provision of public goods. Poor provision of public goods creates a legitimacy gap and power vacuum. As already noted, in Colombia, this resulted in the emergence of non-state armed groups who were able to fulfill some government deficiencies. This should reduce the effectiveness of government enforcement, thus, leading to an increase in cocaine production.

Regulatory Quality

The World Bank group claims that the Regulatory Quality Indicator “captures perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development” (Kaufmann, Kraay, and Mastruzzi 2011, 4). This includes the ability of the government to regulate the market and formulate economic policy that protects property rights, creates a level playing field and minimizes obstacles meant to disincentivize free enterprise. These are the components of inclusive economic institutions, the types Acemoglu and Robinson (2012, 84) claim derive from inclusive political institutions. Institutionalized economic exclusion leaves minimal options to marginalized communities in Colombia whose population may resort to coca growing. When participating in the underground economy is the only profitable economic activity in a region, people begin to ignore the illegality of coca cultivation.

Rule of Law

Rule of Law may be one of the most direct connections between diminished government legitimacy and the existence of a large criminal industry in Colombia. The World Bank Rule of Law Indicator “captures perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence” (Kaufmann, Kraay, and Mastruzzi 2011, 4). This indicator represents the perceived legitimacy and functionality of the entire legal system. It includes perceptions of fair, consistent and efficient legal processes upheld by competent and unbiased administrators, directly affecting the deterrent effect of the criminal justice system (Botero and Ponce 2011, 5). If citizens perceive the criminal justice system to be unfair and inconsistent, they will have little incentive to uphold its principles. The quality of a state’s rule of law is, therefore, directly correlated with ‘criminal’ behavior.

Control of Corruption

The Control of Corruption Indicator “captures perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as “capture” of the state by elites and private interests” (Kaufmann, Kraay, and Mastruzzi 2011, 4). This indicator is a direct measurement of the legitimacy of the governing body, the officials, elected or not, who are actively running government. As such, this parameter affects the legitimacy of every governing function: voice and accountability, government effectiveness, regulatory quality, and rule of law. Furthermore, the Colombian state is notoriously diseased with corruption. The narcobourgeoisie, Colombia’s elite ruling class, has been intimately intertwined with the cocaine trade, a fact that lends itself to Colombia’s designation as a “narcostate” (Villar and Cottle 2011, 55). In fact, Villar and Cottle note that:

Many regional and local political systems in Colombia became intertwined with the drug trade, especially when individuals from these well-established families served as mayors, senators, and governors and could provide political protection to the drug trafficking networks that enriched them. (Villar and Cottle 2011, 68)

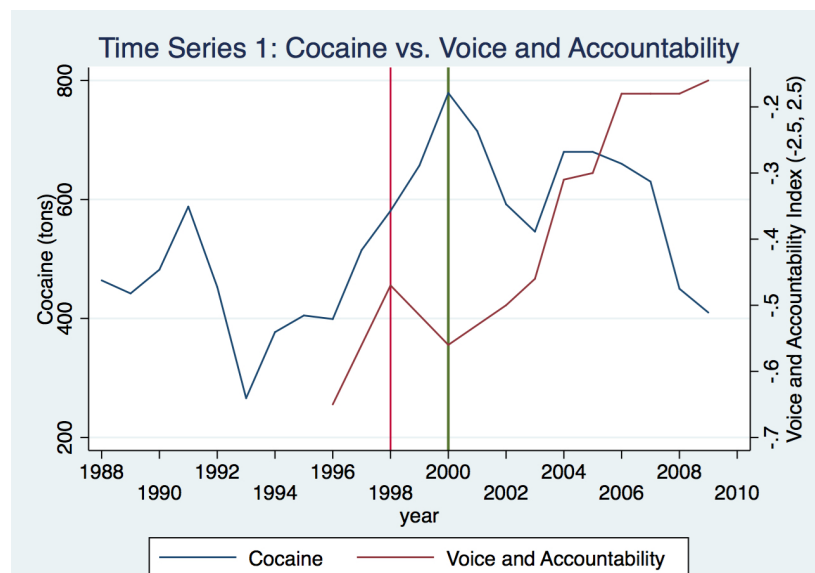
Perceptions of corruption in Colombia are significant to the perceived legitimacy of the state because of Colombia's history of rampant corruption.

Hypothesis

Each of the WGIs measure distinctly differing aspects of government functioning. However, any type of poor governmental functioning could lead to a loss of legitimacy. I hypothesize that in Colombia, this legitimacy gap is correlated with increased cocaine production. Therefore, for all 5 WGIs used, I predict that the governance score is inversely related to cocaine production. In other words, as the governance score (or government legitimacy) goes down, cocaine production should increase.

Analysis

Colombian state legitimacy does appear to have a relationship with cocaine production. Colombian cocaine production and the World Bank's Voice and Accountability Indicator show

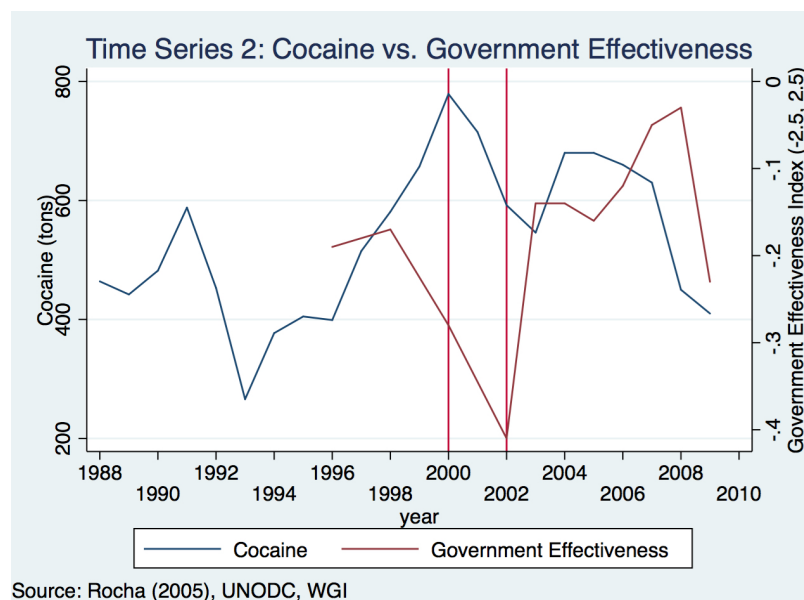


an inverse relationship as predicted (Time Series 1). In 2000, Voice and accountability in Colombia dropped to -0.56 (range of -2.5 to 2.5) at the same time as cocaine production peaked at 779 tons, as indicated by the green

vertical reference line. This relationship continues into the 2000s. However, between 1996 and

1998, Colombia's voice and accountability score improved while cocaine production increased. This is not consistent with my prediction. This discrepancy could be due in part to peace talks between the government and guerilla organizations initiated by the Pastrana administration, which included the maintenance of a de-militarized zone (DMZ) the size of Switzerland meant to facilitate negotiations (Schulte-Bockholt 2006, 104). This could have affected Colombia's governance score by illustrating a governmental effort to negotiate and hear the grievances of rebel groups, increasing perceived ability to participate in government. Despite the show of collaboration on the part of the state, guerilla rebels still needed to fund their insurgencies and there were still traffickers and paramilitary groups relying on cocaine production uninvolved in these negotiations. This could explain why voice and accountability rose with cocaine production between 1996 and 1998.

Government effectiveness and cocaine production also show an inverse relationship (Time Series 2). However, there is a two-year lag between the peak year of cocaine production



(2000 at 779 tons), and the low point of government effectiveness (2002 at -0.41). Beginning in 1998, there was a clear divergence between government effectiveness and cocaine production.

Furthermore, we see this relationship fairly clearly

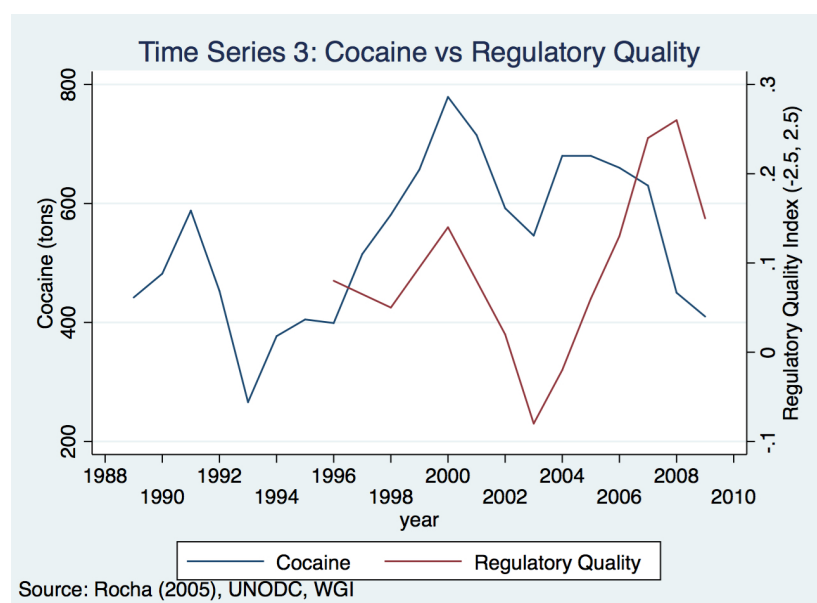
through around 2007. The question here is why did cocaine production begin to decline in 2000

while government effectiveness was still falling? Between 2000 and 2002 cocaine production went down from 779 to 592 tons while government effectiveness dropped from -0.28 to -0.41. The answer for this may be the establishment of Plan Colombia in 2000. Owing itself to a 1.3 billion dollar military aid package from the United States, Plan Colombia called for aerial eradication of coca crops (Villar and Cottle 2011, 107). Unfortunately, the chemicals used to kill coca have actually proven to be more effective in killing legal crops, which are much more difficult to grow. In Putumayo, Colombia's primary coca growing department, the population faces a serious food crisis at the hand of aerial fumigations' "indiscriminate killing of food crops and livestock" (Witness for Peace 2010, 6). The Washington Office on Latin America claims that fumigation is a major part of the problem because aerial spraying reinforces peasant farmers' reliance on coca (Witness for Peace 2010, 10). Although cocaine production did decrease after the implementation of Plan Colombia, coca growing actually spread. The balloon effect caused coca production to spread from twelve Colombian departments to twenty-three between the years of 1999 and 2007 (Witness for Peace 2010). Furthermore, aerial eradication causes environmental and health problems including respiratory problems, skin rashes and diseases, diarrhea, eye problems, and miscarriages (Witness for Peace 2010, 6). Farmers want to participate in the legal economy, but alternative development programs are necessary for this to occur because families are dependent on coca. Thus, fumigations are causing farmers to take actions to protect their coca crops including migration or even joining armed groups (Witness for Peace 2010, 5). Plan Colombia manufactured a situation in which the government was failing to provide public goods, so a large percentage of the marginalized poor resorted to coca cultivation leading the government to intervene, fumigating coca, many families' sole source of income. This would

only further add to the government's loss of legitimacy and could explain why cocaine production began to decline despite a continued decrease in perceived government effectiveness.

In 2002, government effectiveness began to improve again. This was the year President Uribe was elected, who ran on a campaign supporting demobilization of armed groups and improvement of social programs. In fact, in 2003 he began negotiations, which led to the eventual demobilization of the AUC in 2006. Furthermore, Uribe introduced alternative development social programs in 2004 with 'Plan Patriota' (Colombia: Conflict Timelinea). Lastly, there is a large drop in government effectiveness in 2008 while cocaine production was still decreasing. However, the rate of decline in cocaine production slowed dramatically between 2008 and 2009. Between 2007 and 2008 cocaine production dropped 28% (from 630 to 450 tons), as opposed to a drop of only 8% (from 450 to 410 tons) between 2008 and 2009. The slowed rate of cocaine production could be attributed to the decrease in government effectiveness during this year. Although there are some inconsistencies, there is a general inverse relationship between government effectiveness and cocaine production.

Regulatory quality does not show the relationship with cocaine production that I would

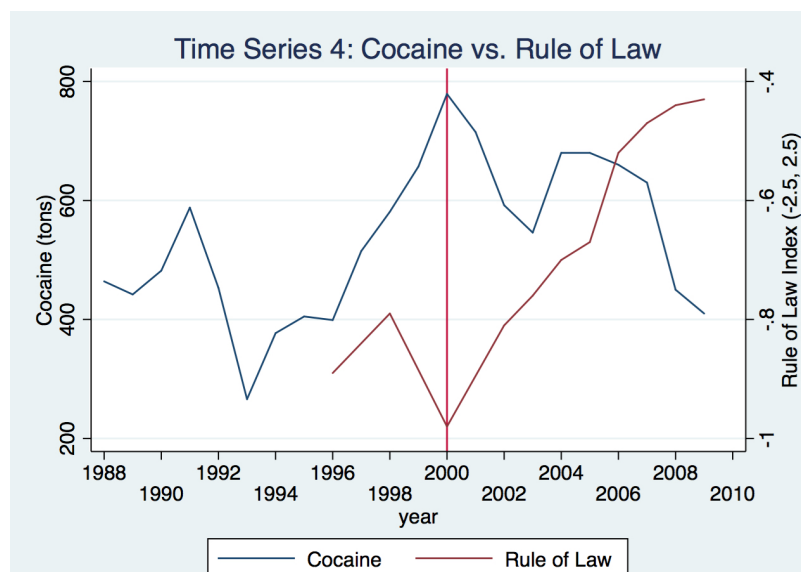


have expected (Time Series 3).

In fact, cocaine and regulatory quality appear to have a positive correlation until they shortly diverge between 2004 and 2006 and then continue to exhibit a positive relationship. This is a puzzling result.

Regulatory quality has to do with the ability of government to effectively regulate the private economic sector by implementing sound policies to ensure economic stability and growth. As I have noted, the Colombian government has established extractive economic institutions designed to disincentivize the lower classes of society from participating in free enterprise. However, in terms of fiscal and monetary policy, the Colombian government was effective in managing the economy through neoliberal Washington consensus economics (Thoumi 1995, 1). In fact, Thoumi (1995, 1) notes that, “Colombia has enjoyed a relatively satisfactory and stable income growth[, and] the country has developed an integrated national market from a collection of small, fairly isolated, nearly self-sufficient regional economies.” Therefore, although regulatory quality may have been increasing with cocaine production, other deficiencies of government function were influencing cocaine production. Alternatively, it is possible that increased cocaine production actually had a positive effect on perceived regulatory quality. Schulte-Bockholt (2006, 99) noted that the Colombian economy grew an average of 3.6% a year between 1979 and 1993 because the illegal drugs industry improved other sectors of the economy such as construction, soft drinks, and agriculture. In fact, Salomón Kalmanovitz, a member on the board of the Colombian central bank stated that, “cocaine stopped the balance of payments from collapsing, which would have pushed [Colombia] into the spiral of hyperdevaluation and hyperinflation that shook most of the rest of the continent” (as quoted in Schulte-Bockholt 2006, 99). Although the relationship between cocaine and regulatory quality is not what I had expected, the relationship between perceived economic growth and the cocaine industry could be the explanation for this discrepancy.

Rule of law and cocaine production appear to have a consistently inverse relationship as expected (Time Series 4). Perception of the legitimacy of a government's rule of law and an

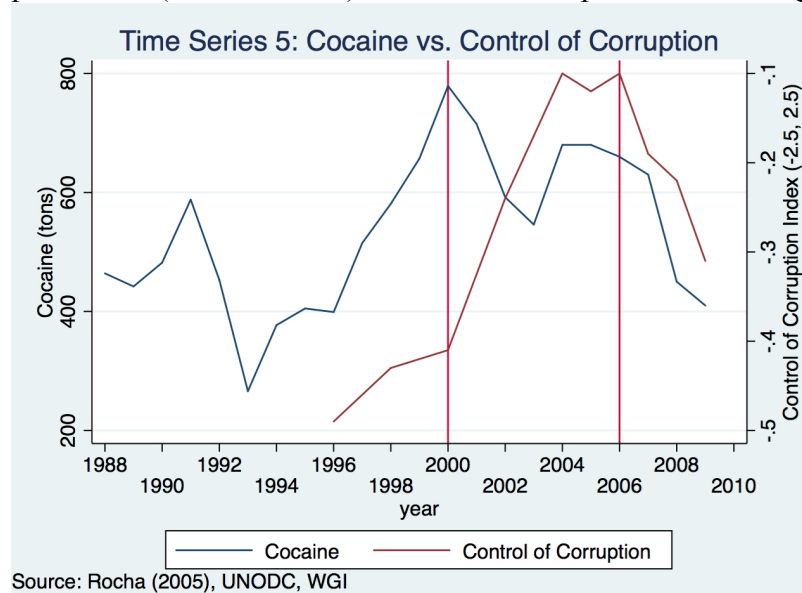


individual's decision to commit a crime are intimately connected. The peak year of Colombian cocaine production, 2000, was also the year of Colombia's lowest rule of law ranking of -0.98. However, Colombian cocaine production

does increase with rule of law between 1996 and 1998. This increase in cocaine production, despite perceived improvements in the rule of law, may be due in part to the 1997 repeal of the non-extradition law signed into the 1991 constitution (Rocha and Ramírez 2005, 44). This was an example of an effort of the Colombian state to crack down on traffickers and this very likely caused an improvement in perceived rule of law. So why didn't cocaine production decrease? The AUC, the right wing umbrella paramilitary organization, was also established in 1997, uniting several groups of paramilitaries, whose main profit generating activity was cocaine production. The AUC's net profits from protecting cocaine economic operations were estimated at an annual \$75 million, 80% of the groups total income (Villar and Cottle 2011, 87). The emergence of this organization could counteract the deterrent effect of extradition because the AUC added to the militarized protection of the cocaine industry. Conversely, the increase in cocaine production between 2003 and 2004 from 546 to 680 tons, which is also accompanied by improving rule of law, could be due to the start of the demobilization of the AUC in 2003. The

exit of the AUC from the illegal drug market could be responsible for the surge in cocaine production because new producers most likely emerged to fill the supply gap (Witness for Peace 2010, 2). I think this is likely because the increased production only lasted for a year as the market stabilized. Rule of law and cocaine production show an inverse relationship consistent with my predictions.

The Control of Corruption Indicator shows a somewhat inverse relationship with cocaine production (Time Series 5). Control of corruption shows a slight increase between 1996 and



2000 (from -0.49 to -0.41) while cocaine production was also increasing (from 399 to 779). This inconsistency could be explained by the incredibly high levels of corruption in the Colombian government during the cartel era. Pablo Escobar

had bought so many government officials that he was able to pass the 1991 constitution with the inclusion of an amendment banning the extradition of Colombian citizens (Thoumi 1995, 7).

After his death in 1993, Colombian corruption gradually diminished. However, this is by no means an indication that government corruption was not still a huge problem. Government corruption improved dramatically after 2000, and that could be in part to Pastrana's implementation of Plan Colombia, which included \$7.5 million as "funding to train and support Colombian law enforcement personnel in anti-corruption, anti-money laundering, and anti-kidnapping measures" (United States Department of State 2000). This increase in the control of

corruption indicator is accompanied by a decrease in cocaine production till 2003. Then from 2003 to 2004, both the indicators increase, and this is very likely due to the demobilization of the AUC as already mentioned. After 2006, control of corruption begins to decrease with cocaine production. The reason this decrease in perceived control of corruption was not accompanied by an increase in cocaine production was most likely due to a series of political scandals that shook the Colombian government. The first was the 'Parapolitics' Scandal of 2007, where information was leaked linking government and military officials with paramilitary groups (Colombia: Conflict Timeline). The second was the 'False Positives' scandal of 2008 where the Colombian military was found guilty of murdering an estimated 1,500 civilians who were falsely identified as guerillas killed in combat (Colombia: Conflict Timeline). Both of these scandals were scathing to the perceived corruption of the Colombian government; however, the exposure of these scandals actually strengthened the government's resolve against corrupt officials, and thus, most likely didn't lead to an increase in cocaine production. In general, control of corruption does seem to have a loose relationship with cocaine production, but it may be unclear because corruption was rampant in Colombian government.

Implications

The results of my data analysis on the relationship between government legitimacy and cocaine production illustrate the predicted negative correlational relationship. Although there are some inconsistencies in the data, these inconsistencies could be explained by alternative factors influencing the variables. The World Governance Indicators are only able to act as proxy measurements for government legitimacy and as such cannot directly determine the relationship between cocaine production and government legitimacy. However, the general trend could point to a negative correlation between government legitimacy and cocaine production.

These results support my hypothesis that a government legitimacy gap will lead to increased cocaine production. As already discussed, a legitimacy gap also creates a power vacuum conducive to the emergence of armed groups, which participate in cocaine production. Therefore, a decrease in government legitimacy should be associated, not only with an increase in cocaine production, but also an increase in the presence of non-state armed groups. The absence and illegitimacy of the state combined with the presence of non-state armed groups creates conditions favorable for cocaine production. The next data analysis section is attempting to establish a relationship between cocaine production and the presence of these armed groups.

Oligopolies of Coercion and Cocaine production

My theory on oligopolies of coercion in Colombia presumes that a lack of government legitimacy has also led to a power vacuum conducive to the emergence of armed groups. Those of whom weaken state enforcement capacity while simultaneously improving traffickers' ability to elude detection, by eroding the state's monopoly on coercion. The power vacuum is then occupied by privatized, socially recognized systems of enforcement conducive to illegal economies. The non-state armed groups are able to inherit legitimacy by providing protection to Colombians living on their territory, who in turn voluntarily defer to these groups, thus, granting them coercive capacity. Because cocaine is illegal, it must rely on these privatized systems of enforcement. Thus, the presence of armed groups should be positively correlated with the production of cocaine. The more powerful that armed combatants are relative to the state, the more drug traffickers are able to operate without impunity.

Methodology and Data

To analyze the relationship between the existence of oligopolies of coercion and the production of cocaine I also do a graphical time series analysis. Because exact figures on the

presence of armed groups in Colombia are not available, I use a dataset compiled by CERAC: Conflict Analysis Resource Center. The Database of the Armed Conflict in Colombia “is composed by information reported by publicly accessible sources” (CERAC). The system is coded and added to the System for Analysis and Register of Conflict Actions (SARAC); the data is then processed for users (CERAC). The data includes figures on all Colombian departments between the years of 1988 and 2009. The dataset records all armed actions by both non-state armed groups and state military forces by department (CERAC). For this time series analysis, I look at the relationship between cocaine production and the total number of actions involving guerilla groups, paramilitary groups and the state. Armed actions by these groups is a form of legitimized violence; thus, it can act as an proxy measurement indicating the presence of non-state armed groups and the existence of oligopolies of coercion. For data on cocaine production, I use the same ‘annual cocaine dataset’ I used in the previous section.

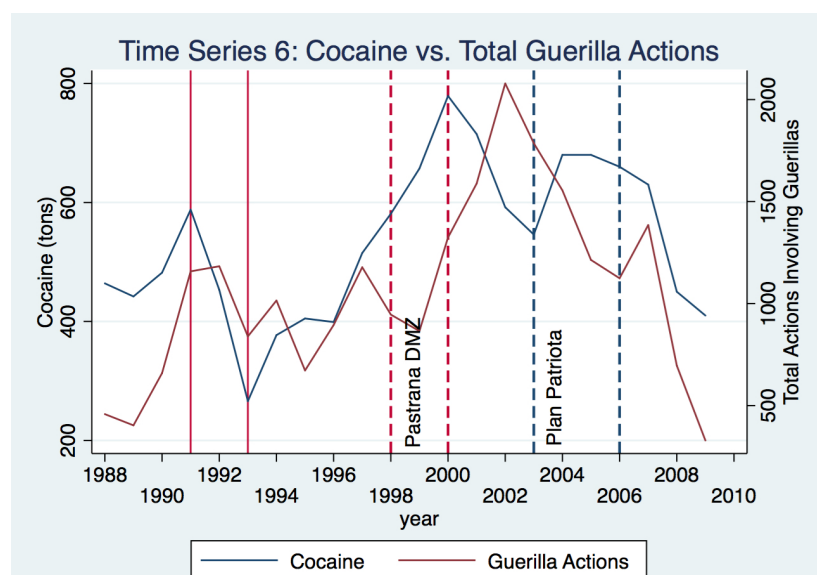
Hypothesis

I hypothesize that there will be a positive relationship between cocaine production and the presence of guerilla and paramilitary groups. As such, I expect that an increase in cocaine production will be accompanied by a subsequent increase in actions involving paramilitary and guerilla groups. This is due to factor or input demand, which presumes that increasing demand for inputs to production will follow the growth of a market(Thoumi 1995, 141) As such, there should be a lag between an increase in cocaine production and an increase in armed actions by guerillas and paramilitaries. Because violence, as a mean of coercion, is necessary to regulate drug markets, violent action associated with non-state groups will follow the growth of the cocaine industry, not the other way around.

I also hypothesize that the relationship between cocaine production and state actions will be negative. In other words, more actions involving the state indicate a greater state presence, and thus, there should be lower levels of cocaine production. Actions by the state also illustrate the government's intent to regain its monopoly on coercion, and an increased number of state actions could imply a strengthening state hold on means of coercion.

Analysis

The relationship between cocaine production and the total number of guerilla actions is the most robust (Time Series 6). The total number of Guerilla actions consistently mirrors



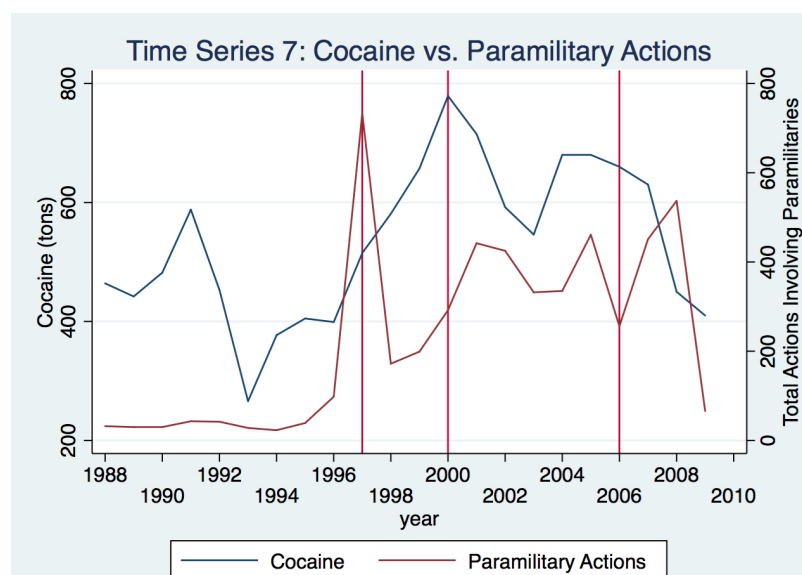
Source: Rocha (2005), UNODC, CERAC

movement in cocaine production. Both guerilla actions and cocaine production follow a similar pattern between 1988 and 1997, peaking in 1991 (at 588 tons of cocaine and 1,588 actions involving guerillas), and reaching a low point in 1993 (at 266 tons of cocaine and 839 guerilla actions), then generally increasing again until 1997. However, total guerilla actions began to decline in 1997 from 1,178 to 865 in 1999 while cocaine production continued to increase from 515 to 657 tons. This is most likely a result of the peace talks with guerilla groups initiated by President Pastrana in 1998 in which he assigned the FARC and the ELN demilitarized zones the combined size of Switzerland in order to facilitate peace agreements (Schulte-Bockholt 2006, 104). As a result of the peace negotiations, total guerilla actions went down while cocaine production continued to rise.

Cocaine production was able to continue growing despite less guerilla involvement because the establishment of the AUC in 1997, which protected cocaine interests. Additionally, some believe that guerilla groups were still protecting cocaine markets during negotiations. Plan Colombia was announced in 1999, which according to Schulte-Bockholt (2006, 104), negatively affected negotiations, most likely leading to the increase in guerilla actions beginning in 1999. The negotiations with FARC and the ELN collapsed in 2002 (Schulte-Bockholt 2006, 104). Plan Colombia was introduced in 2000, which caused a significant decrease in cocaine production due to in large part to aerial fumigation efforts. However, armed actions by guerillas continued to rise until they reached 2,079 in 2002. The increase in guerilla actions despite decreased cocaine production could be in part due to the disintegration of the Pastrana peace negotiations in 2002. However, an increase in guerilla actions doesn't necessarily lend itself to an increase in guerilla presence. Therefore, this discrepancy could also be a result of conflict over scarce resources and an increased state presence. In fact, available estimations suggest that the FARC went from approximately 16,000-20,000 fighters in 2000 and 2001 to an estimated 9,000 to 12,000 fighters in 2002 (Mapping Militant Organizations 2012). Reduction in available coca crop from forced fumigations would cause those involved to fight over cocaine production share given this diminished supply of coca leaf. Furthermore, interdiction of the state in coca growing zones where guerilla groups maintain virtual control would also lead to more violent action by guerillas as they fight to defend their territory and main source of income. Lastly, between 2003 and 2006, cocaine production spiked despite a decrease in total armed actions by guerillas. The decrease in armed actions by guerillas was most likely due to President Uribe's 'Plan Patriota' where 18,000 troops were deployed into FARC territory of their southern blocs (Colombia: Conflict Timeline). This large increase in government enforcement effectively drove guerilla groups out of a large

portion of their land area. I would expect that cocaine production would decrease here as well; however, it increased from 546 tons in 2003 to 680 in 2004. It is possible that this increase is due to the demobilization of the AUC and the emergence of new drug producers. Additionally, the establishment of new paramilitary groups known as BACRIM groups could be responsible for this increase (McDermott 2014). The relationship between cocaine production and armed actions by guerilla groups follows a distinguishable pattern and shows a positive correlation.

The total number of paramilitary actions also seems to have a positive relationship with cocaine production (Time Series 7). Before around 1996 the recorded paramilitary actions was



Source: Rocha (2005), UNODC, CERAC

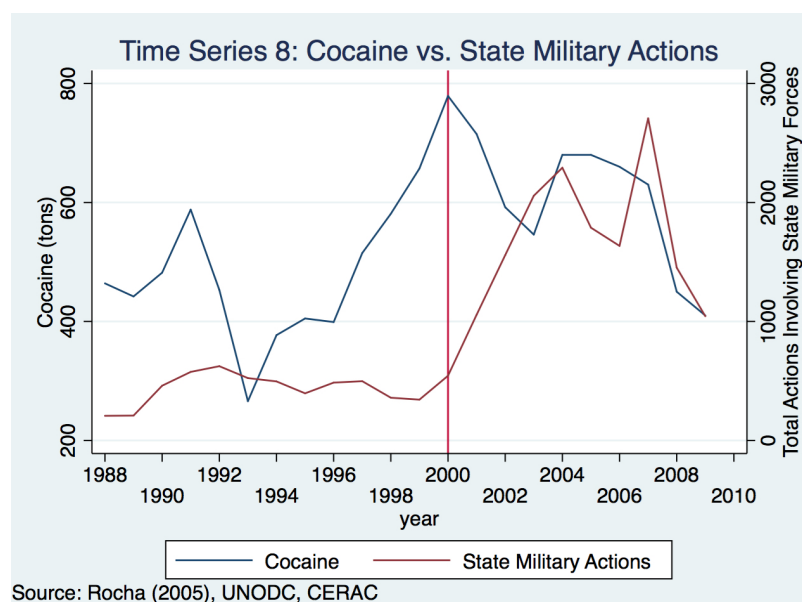
identified (Colombia: Conflict Timeline). Therefore, before 1996, the figures may not be

representative of the actual number of paramilitary actions; instead, paramilitary actions were attributed to 'unidentified' armed groups (CERAC). There is a large spike in paramilitary activity (733 actions) after the creation of the AUC in 1997. It is hard to tell if this spike is due to the creation of this organization or another factor. However, following the one-year increase, paramilitary actions follow cocaine production fairly consistently. Paramilitary actions reach a low point (256) in 2006 most likely due to the demobilization of AUC. This is followed by an

relatively low, most likely due to their unorganized nature. It was not until 1997 when the AUC was established uniting several right wing paramilitaries into an umbrella organization that paramilitary combatants were easily

immediate increase to 451 actions in 2007, which could be attributed to the emergence of BACRIM groups.

The relationship between cocaine production and armed actions by the state is less clear (Time Series 8). Between the years of 2000 and 2002, there is a clear negative relationship between cocaine production and state military actions. Before 2000, there seems to be no observable relationship between state action and cocaine production. As state actions are reliably reported, this most likely means that the correlation between armed actions by the state and cocaine production is minimal at best. Furthermore, the increase in state military actions could be



attributed to the military aid brought in by Plan Colombia, which is also responsible for the reduction in cocaine production. In other words, the negative relationship observed between 2000 and 2002 could be due to an exogenous factor affecting both state military actions and

cocaine production. Either way the relationship is too ambiguous to assume a significant negative correlation between cocaine production and armed actions by the state.

Implications

The correlation between cocaine production and violent actions by guerilla and paramilitary combatants was consistent and observable. With the exception of a number of inconsistencies in the data, which are explained by external factors, there seems to be a positive

relationship between actions carried out by non-state armed groups and cocaine production. An increase in the production of cocaine, leads to a subsequent increase in actions by guerillas and paramilitaries, which is consistent with the assumption that means of coercion are a necessary input in the production of cocaine. Actions by paramilitary and guerilla groups increase following cocaine production to reflect the need for regulation of a growing market, as expected.

The relationship between cocaine production and armed actions by the state is unclear. There doesn't seem to be a significant relationship between the two. However, this could mean that cocaine production is more related to the availability of privatized enforcement mechanisms provided by non-state armed groups than it is to the absence of state enforcement mechanisms. This strongly supports my hypothesis that violence, as a mean of coercion, is actually an input into the production of cocaine. Another possibility is that, as the primary governing entity within Colombia, armed actions by the state is a poor proxy for state presence and as such doesn't exhibit a relationship with cocaine production.

Cocaine production seems to be positively correlated with both a decrease in government legitimacy and the presence of non-state armed groups. The next section examines the relationship between drug market stability and drug related violence to determine if there is a pattern of violence associated with the cocaine industry.

Drug Market Stability

Drug market stability is the last piece in the puzzle of establishing a relationship between Colombian cocaine production and the nation's systemic violence. There is a notable negative correlation between government legitimacy and cocaine production, which implies that state failure to provide basic services led to a loss of legitimacy, increasing the likelihood of criminal activity. Furthermore, there is also a positive relationship between cocaine production and armed

actions by non-state groups. This suggests that the presence of specialized coercive labor creates an environment conducive to the growth of the illegal cocaine trade, as predicted. However, not every drug market is violent. Drug market stability explains how violence fluctuates based on how many producers are in the market as well as the involvement of the state and other armed groups.

Methodology and Data

To show the relationship between violence and drug market stability, I do both a time series analysis and graphical evaluation. The time series analysis looks at the comparison of annual homicide rates in Colombia from 1985 to 2005 against cocaine production during that time. I have chosen to look at homicide rates as opposed to violent actions by armed groups because of the relationship I am trying to examine. The armed actions data doesn't necessarily reflect all drug related violence; it is only a proxy measurement for the presence of armed groups. Rodrigo Guerrero, the mayor of Cali, one of Colombia's most violent cities, claimed that the country's 'astronomical' murder rate was indirectly related to the cocaine trade. He claimed that, "cocaine created social disruption and intensified an already-violent culture" (as quoted in Rosenberg 2014). Therefore, fluctuations in homicide rates are the best indicators of changes in drug related violence over time. The relationship between homicide rates and the cocaine trade should follow a pattern based on the stability of drug markets during each era of Colombian cocaine production.

The data I used on Colombian homicide rates came from the World Bank Databank and are intentional homicide rates per 100,000 people. The data ranges from 1985 to 2005, and it is missing a figure for 2003 (World Bank). The 'annual cocaine dataset' used in the previous two sections is also used here for cocaine production.

The graphical evaluation will be looking at drug market stability on a local level. There are three “spaces” in Colombia where there are differing spheres of authority affecting drug market stability and violence. There are spaces with a high presence of armed groups utilizing socially recognized systems of regulation and authority, which are located primarily in the remote regions of Colombia. Alternatively, there are spaces where the state maintains its authority, which are concentrated around urban centers. Both of these “spaces” should have lower levels of violence because the system of authority is well established and uncontested. However, the third ‘space’ is characterized by the intermediate authority of the state and the presence of non-state groups also imposing a system of authority. These areas are defined by oligopolies of coercion and are associated with much higher levels of drug related violence. In order to observe this phenomenon, I am comparing cocaine production by department with state and non-state armed actions by department; specifically, I look at armed actions by guerilla groups, paramilitary organizations and the state. For the sake of simplicity, I have grouped actions by guerilla groups and paramilitaries into one category of ‘Actions by Non-state Armed Groups.’ I have data on cocaine production by department for all twenty-three cocaine-producing departments (of thirty two total departments) from 1999 to 2003. Because of the introduction of Plan Colombia in 2000, forced eradication caused cocaine production to vary substantially by department during these years. As such, I have compiled the data for all five years to determine the departments with the historically highest levels of cocaine production. Similarly, I have compiled the data for armed actions by department from 1999 to 2003. This will give a better representation of drug market stability and violence.

The data I used on armed actions by department comes from the CERAC Database of the Armed Conflict in Colombia, which I used for the previous data analysis section on violence and

cocaine production (CERAC). The data I have used for cocaine production by department comes from two sources. The data by department from 1999 to 2002 is from a report entitled *Incorporation of Ilicit drugs in the National Accounts (Incorporación de las Drogas Ilícitas a las Cuentas Nacionales)* produced by the Colombian National Administrative Department of Statistics or DANE (Rocha, Guerrero, and Taboada 2004). The data for cocaine production by department in 2003 is from a study conducted by Ricardo Rocha (2005) for UNICEF, which made calculations based on statistics also provided by DANE. These two data sources are consistent because Ricardo Roca made all the calculations using estimates on coca production from DANE.

Hypothesis

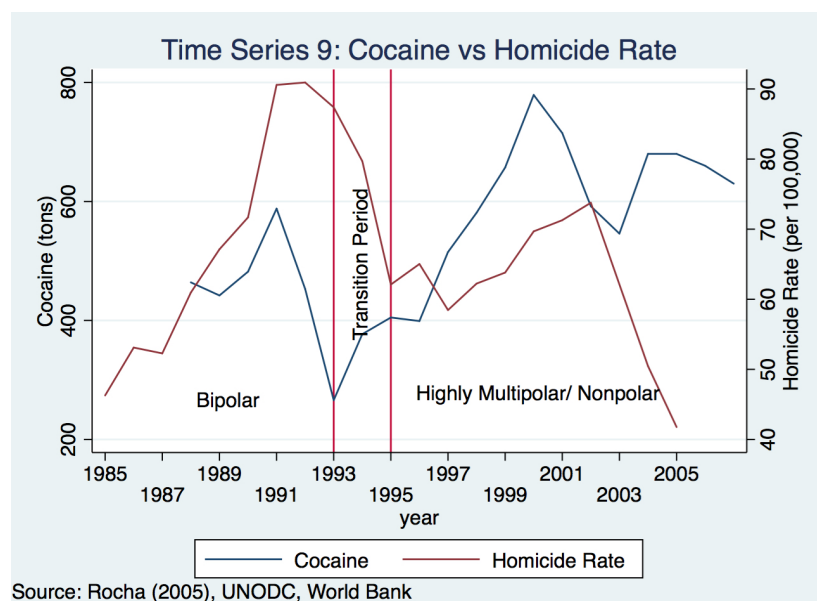
The time series analysis between cocaine production and the homicide rate should exhibit a relationship based on the theory of international polarity and stability. The theory of international violence related to poles of power in a system with no singular authority can be translated to violence associated with drug markets in Colombia. There are two eras of Colombian cocaine production: the cartel era and the post cartel (or decentralized) era. I hypothesize that during the cartel era of cocaine production, Colombia will show high levels of drug related violence, measured by homicide rates, due to the two main cocaine producers (the Medellín and Cali cartels) competing for full market control. This situation shows a bipolar system with two main producers competing without regulations, essentially operating as sovereign entities. During the post cartel era, high fragmentation of the market meant that no individual drug producer could gain market control. This market exists to today and is highly multipolar almost nonpolar, there are few consolidated poles of power in the market, if any. During this era, I would expect to see much lower levels of drug related violence. In other words,

I expect there will be a spike in homicide rates until the collapse of the cartel system in 1994, and afterwards, I expect homicide rates to go down while cocaine production will continue to rise, as small producers emerge to fill the gap in supply. Additionally, I predict that during times of increased government interdiction there will be an increase in homicide rates as cocaine producers fight to protect their industry.

For the graphical analysis, I hypothesize that at a local level, I will see a relationship between oligopolies of coercion and high levels of violence. In departments with the highest overall cocaine production, where presumably the state has little to no presence, armed actions by any group will be relatively low. Similarly, in departments that produce the least amount of cocaine, I expect that there will be relatively low levels of violence. However, departments with a mid-level of cocaine production would be expected to be highly contested regions where there is an intermediate presence by the state as well as non-state groups. As such, I predict that these departments will have the highest level of armed actions by the state, and non-state groups.

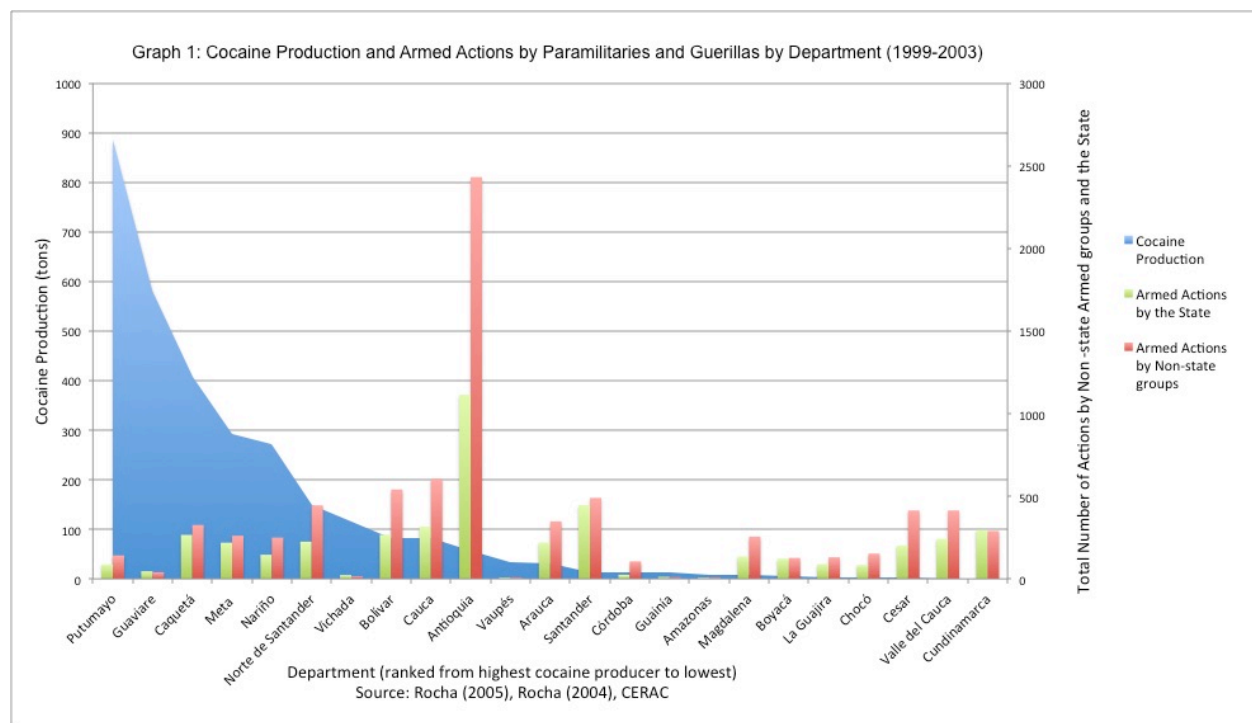
Analysis

This time series analysis looking at the relationship between cocaine production and



homicide rates is consistent with theory on violence and polarity (**Time Series 9**). The vertical reference line at 1993 indicates the end of the cartel era. Before 1993, we see that increasing cocaine production came with a considerable

increase in intentional homicide consistent with the theory of bipolarity and associated violence. Cocaine production peaked from 482 tons in 1990 to 588 in 1991. During the same time, homicide rates rose from 71 to 90 per 100,000. After the death of Pablo Escobar in 1993 and the disintegration of the Medellín cartel, homicide rates dropped 8% from 79.7 to 87.4 in per 100,000 in 1994. The Cali cartel was dismantled shortly after in 1994 leading to an even larger decrease in homicide rates of 22% from 79.7 to 62 per 100,000 in 1995. Beginning in 1995, after this transition period, the cocaine market became highly fragmented as many new producers filled the void created by the cartels' absence. This new system had an estimated 80 to 300 producers, none of which were able to fight for market control (Villar and Cottle 2011, 82). This highly multipolar and even nonpolar market structure was accompanied by markedly lower homicide rates, or drug related violence, as predicted. In 2000 when cocaine production peaked at 779 tons, the homicide rate was only 69 per 100,000 people. This is compared to a cartel era peak cocaine production of 588 tons, which was accompanied by an astronomical murder rate of 90 per 100,000. During the post cartel era, there was an absence of strong producers competing for full market control. These results are consistent with the theory on violence and drug market stability. There is a significant decrease in homicide rates in 2002 following the election of president Uribe, a hardliner on drug related violence. His demobilization of the AUC in 2003 probably had an effect on the dramatic decrease in homicide rates between 2002 and 2005 (73.7 to 41.7 per 100,000 in 2005).



Graph 1 shows the relationship between violence and cocaine production by department for the years of 1999 to 2003. The x-axis is organized by departments ranked by the highest overall producer of cocaine (Putumayo) on the left to the lowest overall producer (Cundinamarca) on the right. The blue area plot indicates cocaine production, while the red bars indicate armed actions by non-state armed groups, and the green bars indicate armed actions by the state. The left hand axis shows cocaine production, and the right hand axis shows the total number of armed actions by the state and non-state armed groups. This graph illustrates the predicted outcome of the relationship between violence and oligopolies of coercion. The departments are separated into 3 distinct groups: top, mid and low cocaine producers. Because cocaine production is highly concentrated in a few departments, the 'top producers' will be identified as producing above the mean or average level of cocaine production, which is 133 tons totaled from 1999 to 2003. The top 6 producers of cocaine for the time frame of 1999 to 2003

(Putumayo, Guaviare, Caqueta, Meta, Nariño, and Norte de Santander) produce above the mean level of cocaine production (133 tons) and show relatively low levels of armed actions by non-state groups as well as armed actions by the state. Of these top producers, Norte de Santander produced the least amount of cocaine totaling to 148.5 tons from 1999 to 2003, which should accompany the highest levels of armed actions. As predicted, the highest number of guerilla actions occurred in Norte de Santander with 445 actions by guerillas. Of the top producers, Caquetá had the highest number of state actions at 266 followed closely by Norte de Santander with 225. Alternatively, of the top producing departments, those with the lowest levels of actions by both the state and non-state groups were Putumayo and Guaviare. Putumayo, the number one cocaine producer saw 142 actions by non-state groups and 87 actions by the state. Guaviare, the second largest cocaine-producing department had the lowest levels of violence in this group with 40 actions by non-state groups and 46 actions by the state. The top cocaine-producing departments demonstrate the predicted pattern of violence and drug market stability.

The departments with a mediocre level of cocaine production, or ‘mid-level producers,’ were identified as producing near the mean level of cocaine production, which was 31.6 tons. This group of departments includes Vichada, Bolívar, Cauca, Antioquia, Vaupés, Arauca, Santander and Córdoba in order from the largest cocaine producer to smallest. The departments of Bolivar, Cauca, Antioquia, Arauca and Santander have notably higher levels of actions by non-state groups and actions by the state. Of this group, Antioquia which produced 57.7 tons of cocaine between 1999 and 2003 had the highest levels of non-state and state armed action of any other department: 2,432 and 1,114 actions respectively.

The lowest cocaine producing departments, which produce well below the median, are Guainía, Amazonas, Magdalena, Boyacá, La Guajira, Chocó, Cesar, Valle de Cauca and

Cundinamarca. These departments do have relatively lower levels of armed actions by both state and non-state groups, as expected. If we look at the average number of armed actions by state and non-state combatants for each cocaine-producing group, this relationship is still clear.

Between 1999 and 2003, the highest producers of cocaine saw an average of 244 actions by non-state groups and 165 actions by the state, while the middle producers saw an average of 568 actions by non-state groups and 302 actions by the state. Lastly, the lowest producers of cocaine averaged at 199 actions by non-state groups and 132 by the state. These findings are consistent with my proposed prediction on drug market stability and violence.

There are a few discrepancies in Vaupés, Vichada, Guainía, and Amazonas. Vaupés and Vichada, mid level cocaine producing departments would be expected to exhibit significantly higher levels of actions by non-state groups and the state. Vaupés produced above the mean of cocaine production at 34.3 tons but only saw 9 actions by non-state groups and 6 actions by the state. Furthermore, Vichada produced 116.2 tons of cocaine, well above the mean, and only saw 15 armed actions by non-state groups and 23 actions by the state. These figures can be compared with the group averages of 568 actions by non-state groups and 302 actions by the state. Guainía and Amazonas, 'low-level cocaine producers,' should exhibit relatively low levels of violence. However, Amazonas and Guainía have significantly lower levels of both actions by the state and non-state groups than the remaining low-level producers. Amazonas produced 8.9 tons of cocaine between 1999 and 2003 but only had 2 armed actions by non-state groups and 3 by the state. Similarly, Guainía produced 12.8 tons of cocaine and only saw 10 actions by non-state groups and 12 by the state. These figures are significantly lower than both the average number of non-state actions (199) and state actions (131) for the low level producers. Furthermore, these are significantly lower than the department with the lowest cocaine production (Cundinamarca with

a combined 0.2 tons from 1999 to 2003) where there were 290 armed actions by non-state groups and 295 actions by the state.

Further examination of these specific departments could reveal why they have such low levels of violence. All four of these departments are located deep in the Colombian Amazon, on



the Venezuelan Border (Map 1).

According to DANE, these four departments have the lowest populations in Colombia, most likely due to the dense rainforest, which is difficult to inhabit (Coffin and Bigwood 2005). These areas are far from roads, and thus, inaccessible. The area is so undeveloped that, “the departmental capitals of Amazonas, Vaupés and Guainía are only accessible by air due to the lack of road infrastructure” (Foreign Travel

Advice: Colombiab). Furthermore, Vichada and Guainía didn’t produce any cocaine until 2000 and Amazonas until 2001(Rocha, Guerrero, and Taboada 2004). This suggests that the introduction of Plan Colombia in 2000 could have caused a ‘balloon effect’ that pushed cocaine production into those remote, inaccessible regions of the rainforest. As such, the government would focus its interdiction efforts in more productive zones. The remoteness of the departments of Vaupés, Vichada, Guainía and Amazonas could explain why, despite being responsible for a

median level of cocaine production, these departments have significantly lower levels of violence.

Implications

Drug market stability in Colombia follows the predicted pattern. During the bipolar cartel era, we saw unprecedentedly high levels of drug related violence, as indicated by homicide rates. During the nonpolar era we saw significantly lower levels of drug related violence despite increased cocaine production. Furthermore, regions where a mid level of cocaine production occurs see the highest levels of violence by armed groups as well as the state. The regions with relatively lower levels of armed actions by these actors are those that produce the highest amount of cocaine and those that produce the least, as predicted. Although I would have expected those on the low end of the cocaine production spectrum to have relatively lower levels of violence, the fact that they are cocaine producing departments alone could suggest oligopolies of coercion leading to an intermediate level of violence.

There were a few discrepancies from what was predicted in the departments of Vaupés, Vichada, Guainía and Amazonas, which had unexpectedly low levels of armed actions. However, it is very likely that this is the result of the inaccessibility of the remote Colombian rainforest in that region. Additionally, a severe lack of infrastructure makes it extremely difficult for the state to maintain a presence. For this analysis, I made the assumption that a high level of cocaine production would signal an absence of the state whereas a mid level of cocaine production would suggest an intermediate state presence. However, these assumptions don't hold in this region because both the unexpectedly low levels of cocaine production¹⁶ and the low levels of violent action¹⁷ can be explained by the geography of the region. The remote dense rainforest makes it

¹⁶ In light of a virtual state absence

¹⁷ In light of the presence of cocaine production

costly to build infrastructure to make the region accessible; it also makes it costly to clear land for growing coca (Botero).

The observed relationship between drug market stability and violence further implies that violence, as a mean of coercion, is a necessary input into the production of cocaine. In spaces defined by an oligopoly of coercion, regions where more regulation is necessary, we see more violent action indicating more regulatory intervention. Furthermore, the results also explain why drug markets have such widely varying levels of violence.

Discussion

The purpose of this thesis has been to propose an explanation for the ambiguous relationship between systemic violence and the Colombian cocaine trade. I used time series and graphical data analyses to evaluate the connections between violence and cocaine production. Drug trafficking, as an illicit activity, requires privatized protection to ensure the existence of the industry. In Colombia, this takes the form of non-state armed groups protecting cocaine interests in spaces where there is minimal state presence. The lack of state presence allows armed groups to establish socially recognized norms and systems of enforcement with which to regulate cocaine markets. The situation in Colombia indicates an oligopoly of coercion, which violates the Weberian “state monopoly of coercion.” The greater availability of producers of the means of coercion necessary to regulate cocaine markets should lead to more cocaine production. The availability of ‘specialized human labor,’ provided by coercive non-state armed groups, in Colombia is the country’s true comparative advantage in cocaine production. Although the data analysis section cannot infer causality, the results do suggest that violence, as a mean of coercion, is an input into the production of cocaine, and that government delegitimation is the root cause of the emergence of both non-state armed actors and the cocaine industry itself. I will first discuss

the limitations of my data analysis results; I will then discuss the implications and significance of my results assuming they do support my hypotheses.

The limitations of my data analysis are significant. First and foremost, the lack of reliable data on cocaine production qualifies all of my results. Although the data was acquired using the most up to date estimation methods, there is no way to prove its accuracy. As such, all results must be viewed with skepticism. As with any data analysis, I must acknowledge the possibility of reverse causality and exogenous variable bias affecting both cocaine production and violence in Colombia in the predicted pattern. The problem of reverse causality is most salient in the relationship between government legitimacy and cocaine production. It is possible that the production of cocaine has led to a loss of government legitimacy. However, I find this unlikely because peasant guerillas were left with few economic options besides cultivating coca (Villar and Cottle 2011, 26). Furthermore, a case study on forced fumigation in Guaviare found that people would prefer to grow licit sector crops (Witness for Peace 2010, 4). The failure of the state to create an inclusive economic and political environment caused many rural farmers and marginalized poor to resort to coca cultivation and cocaine production. Therefore, it is unlikely that increased cocaine production is what affected the loss of government legitimacy. Reverse causality is not a problem in the section for oligopolies of coercion and cocaine production because there is a lag between an increase in cocaine production and an increase in violent actions by non-state armed groups, indicating that the former caused the latter. In the case of drug market stability at the local level, there is a problem of reverse causality. It is possible that a high level of violence in Colombian departments is responsible for the median level of cocaine production. In other words, the existence of violence is restricting cocaine production in these regions from expanding. However, if this is the case, then all departments with low levels of

violence should also see high levels of cocaine production, which is not the case. Therefore, reverse causality is unlikely here as well.

Exogenous variable bias is a less salient problem than that of reverse causality. I define exogenous variable bias as a situation in which an unknown variable could be affecting both observed variables causing them to exhibit the predicted relationship. However, it is unlikely that any one exogenous variable could explain the predicted pattern in all three data analysis sections. Examining three dimensions of the relationship between cocaine and violence mitigates the possibility of exogenous variable bias. Although exogenous factors do cause several discrepancies in the data, these factors don't consistently affect both variables meaning they don't affect the observed relationship, only individual data points.

Assuming that my data analysis results do support my hypotheses, the implications are significant. My results point to the availability of specialized coercive labor as the defining factor affecting cocaine production. Additionally, the results suggest that a lack of government legitimacy was the defining factor leading to the emergence of the cocaine trade. This legitimacy gap is also attributed with the emergence of non-state armed groups. In Colombia, the cocaine industry and non-state groups formed a mutually dependent relationship, where cocaine production relied on specialized coercive labor, and non-state groups utilized their wages¹⁸ to fund their insurgency. This supports my hypothesis that violence, as a mean of coercion, is actually an input into the production of cocaine. The results of the first data analysis section suggest that cocaine production has a negative relationship with government legitimacy. Although the relationship between cocaine production and the regulatory quality indicator were positive, this could be due to the economic stability that accompanied the massive amount of

¹⁸ These wages refer to the profits that non-state groups accumulate from protecting the drug trafficking industry. It is the wages for their specialized coercive labor.

narcodollars flowing into Colombia's banks and stabilizing the economy, thus, improving perceptions on regulatory quality. The correlation between cocaine production and the other four government indicators is negative, as expected. The government legitimacy gap, a result of state failure, both leads citizens to disregard rule of law and makes legal sector employment burdensome. This pushes Colombians to participate in the drug trade, as one of the only feasible ways to make a living.

The second data analysis section on oligopolies of coercion and cocaine production showed the predicted relationship between cocaine production and armed actions between guerilla and paramilitary groups. Increased cocaine production is followed by a higher number of armed actions by non-state groups indicating the need for regulation of a growing market. However, cocaine production didn't have a significant relationship with actions by the state as I had predicted. Although this is not what I hypothesized, this result is substantial. It shows that although the absence of the state, or a lack of a state monopoly on means of coercion, is vital to the existence of armed groups, the absence of the state alone is not enough to lead to increased cocaine production. The presence of armed groups (providing means of coercion), combined with an absence of the state, is the most suitable environment for cocaine production. This further supports my theory that means of coercion are vital inputs into the production of cocaine in that they act as a private bureaucratic enforcement mechanism.

The third data analysis section evaluating the relationship between violence and drug market stability also produced the expected results. In terms of producer stability, we saw a much higher homicide rate during the bipolar cartel era, which dropped significantly during the nonpolar post-cartel era. Producer competition in drug markets leads to more violence because each group acts 'sovereignly' to compete for market control. At a local level, mid-level cocaine

producing departments, ones defined by oligopolies of coercion, exhibit the highest levels of armed actions by the state and non-state armed groups. Alternately, Relatively low levels of armed actions by the state and non-state groups characterize top and low-level cocaine-producing departments. These regions are less contended and thus the drug markets are more stable.

Violence is higher in spaces characterized by an oligopoly of coercion because there exist two opposing coercive forces attempting to establish their own order. The observed relationship between cocaine production and armed action by department suggests that varying levels of violence in drug markets is due to oligopolies of coercion and producer competition. Although violence has no 'empirical' relationship to drug production, these results strongly indicate that violence, as a mean of coercion, is vital to drug production. Ultimately, it is the ability to coerce that is an input into the production of cocaine; violence simply acts as a coercive tool. The means of coercion, which empower a group to force coercion, are necessary to regulate cocaine markets, and thus, are crucial to their existence.

The combination of the results from all three data analysis sections supports my theory that violence, used as a mean of coercion, is an input into the production of cocaine. Cocaine production is more highly correlated with the presence of armed groups than the absence of the state because specialized coercive labor is a necessary input into cocaine production. However, state absence is the precursor to the emergence of these armed groups as well as the cocaine industry. Therefore, a state legitimacy gap is the root cause of the cocaine industry, and the availability of specialized coercive labor is the perpetuating factor, which fosters cocaine market growth. The implications of these results on drug policy are momentous.

Drug policy in Colombia has been largely ineffective in preventing the spread of cocaine production. In fact, after the introduction of Plan Colombia, cocaine production spread from

twelve departments to twenty-three by 2007 (Witness for Peace 2010, 2). Plan Colombia focused on increasing militarization while simultaneously decreasing the supply of coca through forced manual and aerial fumigation and eradication. The reason these policies have been ineffective is that they fail to address the root cause of cocaine production, which is the initial delegitimation of the state. Increased militarization could theoretically strengthen the Colombian government's market control in the production of means of coercion bringing them closer to monopoly control. However, as long as the legitimacy gap coexists with relative state absence, armed groups will be able to produce means of coercion, which they can channel into cocaine production. The legitimacy they inherit in light of the weak state is what lends them the capacity to force coercion. Legitimate coercive capacity defines the intrinsic value of specialized coercive labor. In other words, the legitimacy of armed groups is what makes the difference between their armed actions representing senseless violence versus legitimate violence.¹⁹ Without legitimacy, the armed actions of these groups are senseless crimes unable to elicit any sort of meaningful coercion; the type of meaningful coercion needed for these armed groups to collect taxes and successfully regulate drug markets. Therefore, drug policy should be focused on this legitimacy gap. Alternate development programs to help coca growers' transition into legal sector crops or legal sector employment in general are the first step to ending the spread of coca cultivation. According to a study conducted by Ricardo Rocha (2005, 18), areas within Colombia, Peru and Bolivia, which received alternative development programs and experienced a 50% drop in coca cultivation saw on average a 1.5% stimulation in regional GDP; however, regions that experienced the same drop in coca cultivation but received no alternative development aid experienced a 0.6% drop in GDP growth. This dramatic divergence in economic growth in

¹⁹ Additionally, this would mean that legitimacy makes the difference between the act of armed combatants protecting peasants representing a random act of kindness and bravery versus the provision of a public good.

regions with and without alternative development programs clearly illustrates their importance in transitioning out of the illegal economy. However, even with alternative development programs, there will still be a demand for the drug, and where there is a demand, there will be supply.

Constant demand for cocaine means that producers will find a way to supply the drug. Alternative development programs may be enough to shift production out of Colombia, but cocaine production will increase where legitimate armed groups are willing to channel their specialized coercive labor into protecting drug profits. The only way to reduce drug-related violence associated with the inevitable existence of the cocaine industry (given constant demand for the drug) would be to remove the need for the specialized coercive labor provided by non-state armed groups. Legalization—in addition to alternative development programs—is the best way to achieve this result. By legalizing cocaine, the Colombian government would effectively absorb the responsibilities of cocaine market regulation. This would mean that the government and state sponsored secure property rights would protect cocaine profits; the government would also handle dispute management, market competition, bureaucratic enforcement, regulation of business transactions, and taxation. Inclusion in state market regulation would eliminate the need for privatized bureaucratic regulation of the cocaine market, and means of coercion would no longer be an input into the production of cocaine. Not only would legalization reduce drug related violence, but it would also cut off a major funding source of non-state armed groups, theoretically, weakening them relative to the state. If guerilla and paramilitary groups in Colombia lost income from cocaine funding to the government, it is likely that the state would increase their share of control of means of coercion relative to these groups. Additionally, the government could highly tax coca cultivation and cocaine production strengthening state capacity.

The Colombian government should tax coca cultivation and cocaine production in a way that incentivizes employment in other industries. For example, if the government taxes coca cultivation enough, other crops may prove more valuable. This would help diversify the economy and simultaneously help support food self-sufficiency, especially in the impoverished, remote regions of Colombia. Furthermore, there is a possibility that legalization could cause the price of cocaine to drop dramatically. As already noted, cocaine is relatively cheap to produce, and the extremely high value added in the price of cocaine comes from the added risk associated with illegality. Theoretically, if cocaine was legal, there would be no risk involved in production and producers would no longer need to hire 'specialized coercive labor' to help regulate the market and protect property, meaning the cost of production would drop and there would be few barriers to enter the market. Several producers would then enter and compete in the market, driving prices down. Although this is not a certainty, it is a possibility that legalization would significantly drive cocaine prices, and thus, profits down, effectively eliminating the primary attraction of cocaine production. Based on my theory of drug market stability and violence, lower profits from cocaine production combined with a highly fragmented non-polar market structure would lead to the lowest levels of drug-related violence.

Legalization would also have significant international implications. Means of coercion are an input to the production of cocaine solely due to its illegality; additionally, the presence of producers of means of coercion, or specialized coercive labor, is Colombia's comparative advantage in cocaine production. Therefore, it would hold true that by legalizing cocaine, Colombia would further strengthen its comparative advantage on cocaine production by eliminating the need for the additional input of specialized coercive labor. The opportunity cost of cocaine production in Colombia would be the lowest in the world. Hypothetically, this would

either attract cocaine producers from Peru and Bolivia to produce in Colombia where production costs were lower, or it would drive foreign producers out of business because they would be unable to compete with Colombian prices. Therefore, in the same way that government interdiction caused cocaine production to ‘balloon’ from twelve departments to twenty-three, legalization could cause the opposite effect: a reverse balloon effect. This would also help mitigate regional drug related violence.

The main concern with cocaine legalization is the international reaction. Especially with the tremendous pressure the West places on drug-producing, developing nations, it is not far-fetched to assume that legalization could have international ramifications. There could be penalties, fines, or sanctions, which could be severely detrimental to Colombia. Additionally, if cocaine were legal in Colombia, but still illegal in its main import markets there remains the daunting question of how transit and distribution would be regulated. The Colombian government couldn't openly sponsor illegal international drug shipments. The most ideal situation would be worldwide international legalization or at the very least decriminalization.

The results of my data analysis imply that means of coercion is an input into the production of cocaine in Colombia. This could suggest that coercion is also an input into the production of other highly profitable illegal goods, especially other drugs. It could lend itself to an argument for legalization of several different substances. The illegal nature of a good is what determines the violence associated with it because it requires privatized mechanisms. Most importantly, however, this research points to government delegitimation as the root cause of economically motivated crime or illegal enterprise as well as the establishment of armed opposition groups. This suggests that maintaining government capacity and the use of alternative

development programs are the most important elements in preventing the growth of illegal markets in the first place.

Cocaine, an illegal good requiring privatized regulation, will always cause some violence in its production. This is because violence, as a mean of coercion, is an input into cocaine production. Furthermore, because demand for cocaine is remaining stable, producers will always exist to fill the supply gap. Therefore, the only way to reduce drug-related violence, the most damaging aspect of the drug trade, is to eliminate the need for specialized coercive labor and privatized regulation. Legalization is the only way to completely sever the mutually reinforcing link between drug production and violence.

Conclusion

The existence of the Colombian cocaine trade is a modern anomaly. It is the only illegal drug market in the world where 100% of production is concentrated in one region, and even more so, in one country (Rocha 2005, 1). Violence has always been cited as a potential cause for the existence of the cocaine trade; however, the relationship between cocaine production and violence has been somewhat unclear. The Colombian government's undemocratic political centralization and weak state capacity have stagnated the country's growth and created high income inequality. Through a vicious cycle of extractive political and economic institutions, the Colombian state's legitimacy eroded and illegal armed groups emerged in the remote regions of the country threatening the state's monopoly on coercion. This was conducive to the existence of an illegal industry such as the drug trade in Colombia.

The results of the data analysis suggest that first and foremost, state delegitimation is the root cause of the emergence of the illegal cocaine sector. This legitimacy gap also lends itself to the emergence of the non-state armed groups operating in Colombia. The armed groups in

Colombia provide the cocaine industry with specialized coercive labor, which is a necessary service for drug traffickers to regulate the market. The specialized coercive labor, which has the coercive capacity to produce means of coercion (or force coercion) acts as an input into the production of cocaine. Specialized coercive labor is a factor of production, which is as vital to the Colombian cocaine industry as land or labor.

The implications of this relationship are tremendous. Violence as a mean of coercion acts as an input into cocaine production, and as such, the two will never be mutually exclusive as long as cocaine remains illegal. Furthermore, because demand for cocaine remains relatively stable, the supply will be met one way or another bringing the violence with it. Legalization is the only way to separate cocaine production from drug related violence. This has international implications because legalization in Colombia could cause a reverse-balloon effect mitigating drug related violence in the Andean Region. Additionally, legalization could lead to international contention, as cocaine is illegal in the states, which account for a majority of cocaine demand.

Further research on this topic could illuminate the relationship between cocaine production and means of coercion. Preventative research should focus on the relationship between state legitimacy and cocaine production. It could look at the effects of alternative development programs as both measures to prevent the emergence of illegal drug markets as well as to quell their existence. Additionally, new research could focus on the relationship between illegal production and means of coercion. It is possible that means of coercion are actually an input into the production of all illegal goods. Research in this field could have massive implications on prohibition policy. Lastly, further research should be conducted to see if the observed pattern of drug market stability and drug related violence seen in the Colombian cocaine market is also present in other drug markets. This research is important for governments

to be able to best mitigate the violence associated with illegal drug markets, and potentially illegal markets in general.

As an input into the production of cocaine, violence and groups with the ability to force coercion will always be a characteristic of the Colombian cocaine market. Moreover, as long as the state fails to execute its basic functions, the legitimacy gap that led to the emergence of the cocaine industry in the first place will perpetuate illegal drug trafficking. First and foremost, the Colombian government must address its institutional maladies to become more effective and accountable to its populace. Cocaine production is an inevitable part of our modern world. Where the demand exists there will be supply. The sooner the international community can recognize this fact the better equipped they will be in tackling the detrimental effects of drug production, the most important of which is systemic violence. Even though it is highly unlikely that the 'war on drugs' will completely eliminate drug production, the international community can make an effort to reduce drug-related violence. If means of coercion do act as an input in the production of cocaine, then the only way to eliminate violence associated with drug trafficking is legalization of the drug itself.

Tables

Table 1: Cocaine Production and World Governance Indicators

Year	Cocaine (tons)	Voice and Accountability	Regulatory Quality	Rule of Law	Control of Corruption	Government Effectiveness
1981	93					
1982	114					
1983	120					
1984	171					
1985	140					
1986	190					
1987	342					
1988	464					
1989	442					
1990	482					
1991	588					
1992	453					
1993	266					
1994	377					
1995	405					
1996	399	-0.65	0.08	-0.89	-0.49	-0.19
1997	515					
1998	581	-0.47	0.05	-0.79	-0.43	-0.17
1999	657					
2000	779	-0.56	0.14	-0.98	-0.41	-0.28
2001	715					
2002	592	-0.5	0.02	-0.81	-0.24	-0.41
2003	546	-0.46	-0.08	-0.76	-0.17	-0.14
2004	680	-0.31	-0.02	0.7	-0.1	-0.14
2005	680	-0.3	0.06	-0.67	-0.12	-0.16
2006	660	-0.18	0.13	-0.52	-0.1	-0.12
2007	630	-0.18	0.24	-0.47	-0.19	-0.05
2008	450	-0.18	0.26	-0.44	-0.22	-0.03
2009	410	-0.16	0.15	-0.43	-0.31	-0.23

Table 2: Cocaine Production and Armed Actions by Guerillas, Paramilitaries and the State

Year	Cocaine (tons)	Guerilla Actions	Paramilitary Actions	State Actions
1981	93			

1982	114			
1983	120			
1984	171			
1985	140			
1986	190			
1987	342			
1988	464	458	32	207
1989	442	403	30	209
1990	482	815	27	497
1991	588	1177	46	594
1992	453	1141	41	633
1993	266	862	27	486
1994	377	892	38	451
1995	405	777	76	463
1996	399	1044	404	493
1997	515	993	455	381
1998	581	968	174	381
1999	657	1043	245	408
2000	779	1456	379	749
2001	715	1804	427	1382
2002	592	1973	327	1816
2003	546	1675	385	2293
2004	680	1309	383	1955
2005	680	1133	318	1633
2006	660	1251	380	2151
2007	630	983	485	2064
2008	450	459	282	1163
2009	410	135	20	425

Table 3: Cocaine Production and Armed Actions by Non-state groups and the State by Department

Department	Cocaine Production	Actions by non-state Armed Groups	State Actions
Putumayo	886.5	142	87
Guaviare	582.6	40	46
Caquetá	408.1	326	266
Meta	292.5	261	219
Nariño	271.7	250	146
Norte de Santander	148.5	445	225
Vichada	116.2	15	23

Bolívar	82.9	541	267
Cauca	81.1	606	316
Antioquia	57.7	2432	1114
Vaupés	34.3	9	6
Arauca	31.6	348	220
Santander	13.5	490	446
Córdoba	13.3	106	25
Guainía	12.8	10	12
Amazonas	8.9	2	3
Magdalena	8.9	256	135
Boyacá	4.3	127	122
La Guajira	4.1	131	89
Chocó	3.8	153	85
Cesar	2	414	202
Valle del Cauca	1.1	414	241
Cundinamarca	0.2	290	295

References

- "Colombia: Conflict Timeline."a. <http://www.insightonconflict.org/conflicts/colombia/conflict-profile/conflict-timeline/> .
- "Foreign Travel Advice: Colombia."b. <https://www.gov.uk/foreign-travel-advice/colombia> .
- United states support for colombia: Plan colombia*. 2000. United States Department of State, .
- An exercise in futility: 9 years of fumigation in colombia*. 2010. Witness for Peace, .
- "Mapping Militant Organizations: Revolutionary Armed Forces of Colombia - People's Army."2012. <http://web.stanford.edu/group/mappingmilitants/cgi-bin/groups/view/89> .
- Acemoglu, Daron, and James A. Robinson. 2012. *Why nations fail: The origins of power, prosperity and poverty*. New York: Crown Publishers.
- Alagappa, Muthiah. 2001. *Coercion and governance: The declining political role of the military in asia*Stanford University Press.
- Andreas, Peter, and Joel Wallman. 2009. "Illicit Markets and Violence: What is the Relationship?" *Crime, Law and Social Change* 52 (3):225-9.
- Botero, Elisa. "Coca Production, Deforestation and Climate Change." <http://blogs.ei.columbia.edu/2010/03/24/coca-production-deforestation-and-climate-change/> .
- Botero, Juan C., and Alejandro Ponce. 2011. "Measuring the Rule of Law." *Available at SSRN* 1966257.

- Brownstein, Henry H., Susan M. Crimmins, and Barry J. Spunt. 2000. "Conceptual Framework for Operationalizing the Relationship between Violence and Drug Market Stability, A." *Contemp. Drug Probs.* 27 :867.
- Coffin, Phillip, and Jeremy Bigwood. 2005. "Coca Eradication." http://fpif.org/coca_eradication/
- Dal Bó, Ernesto, Pedro Dal Bó, and Rafael Di Tella. 2006. "'Plata O Plomo?': Bribe and Punishment in a Theory of Political Influence." *American Political Science Review* 100 (01):41-53.
- Drug Enforcement Admin, US Dept of Justice, and United States of America. 1991. "Coca Cultivation and Cocaine Processing: An Overview." .
- Duncan, Gustavo. 2014. "Drug Trafficking and Political Power Oligopolies of Coercion in Colombia and Mexico." *Latin American Perspectives* 41 (2):18-42.
- Glaeser, Edward L. 2005*Inequality*.
- Haass, Richard. 2008. "The age of nonpolarity: What will follow U.S. dominance?" *Foreign Affairs: The Council on Foreign Relations*.
- Helgersen, John L. 2008*Procedures used in Narcotics Airbridge Denial Program in Peru, 1995-2001*.
- Jachtenfuchs, Markus. 2005. "2 the Monopoly of Legitimate Force: Denationalization, Or Business as Usual." *European Review* 13 (S1):37-52.

Kaufmann, Daniel, Aart Kraay, and Massimo Mastruzzi. 2011. "The Worldwide Governance Indicators: Methodology and Analytical Issues." *Hague Journal on the Rule of Law* 3 (02):220-46.

Levi, Margaret, Audrey Sacks, and Tom Tyler. 2009. "Conceptualizing Legitimacy, Measuring Legitimizing Beliefs." *American Behavioral Scientist* 53 (3):354-75.

Martin, Richard T. 1970. "The Role of Coca in the History, Religion, and Medicine of South American Indians." *Economic Botany* 24 (4):422-38.

McAdams, Richard. 2007. "Economic Costs of Inequality." *U of Chicago Law & Economics, Olin Working Paper*(370).

McDermott, Jeremy. 2014. "The BACRIM and Their Position in Colombia's Underworld." <http://www.insightcrime.org/investigations/bacrim-and-their-position-in-colombia-underworld> .

Mejía, Daniel. 2008. "The War on Illegal Drugs in Producer and Consumer Countries: A Simple Analytical Framework." *CEsifo Working Paper*(No. 2459).

Mejia, Daniel, and Pascual Restrepo. 2013. "Bushes and Bullets: Illegal Cocaine Markets and Violence in Colombia." *Documento CEDE*(2013-53).

Roberts, Jon, and Evan Wright. 2011. *American desperado: My life--from mafia soldier to cocaine cowboy to secret government asset*Random House LLC.

Rocha, Ricardo. 2005. *Illegal drugs in andean countries*. USAID, .

Rocha, Ricardo, Alexander Guerrero and Luz Marina Taboada. 2004. *Incorporación de las drogas ilícitas a las cuentas nacionales*. DANE, .

Rocha, Ricardo and María Clemencia Ramírez. 2005. *The impacts of the illicit drug economy: Colombian country study*. USAID, .

Tina Rosenberg, "Colombia's Data-Driven Fight Against Crime," *The New York Times*, sec The Opinion Pages.

Rummel, Rudolph J. 1979. "Understanding Conflict and War: Vol. 4: War, Power, Peace." *Blackwell World War II Series*. Sage.

Schmallegger, Frank J. 2013. *E-study guide for: Criminal justice today: An introductory text for the 21st century*. Cram101.

Schulte-Bockholt, Alfredo. 2006. "Elites, Cocaine and Power in Colombia and Peru." In *The politics of organized crime and the organized crime of politics: A study in criminal power*, Anonymous . Lanham, MD: Lexington Books, 95-147.

Thoumi, Francisco E. 2002. "Illegal Drugs in Colombia: From Illegal Economic Boom to Social Crisis." *The Annals of the American Academy of Political and Social Science* 582 (1):102-16.

———. 2005. "The Numbers Game: Let's all Guess the Size of the Illegal Drug Industry." *Journal of Drug Issues* 35 (1):185-200.

Thoumi, Francisco E. 1995. *Political economy and illegal drugs in colombia*. Boulder: L.

Rienner.

———. 2009. "The Relationship between Illegal Drugs and Violence: Is there a Cause and Effect?" *LLILAS, the University of Texas at Austin*.

———. 2012. "Illegal Drugs, Anti-Drug Policy Failure, and the Need for Institutional Reforms in Colombia." *Substance use & Misuse* 47 (8) (06):972-1004.

Thoumi, Francisco E., and Susan Windybank. 2007. "What Creates Comparative Advantage for Drug Production? Lessons from Colombia." *Policy* 23 (1) (03):16-21.

UNODC. 2010. *World drug report 2010*. United Nations Publication, Sales No. E.10.XI.13.

Vanden, Harry E., and Gary Prevost. 2012. "19: Colombia." In *Politics of latin america: The power game*, Anonymous . New York: Oxford University Press, 509-535.

Villar, Oliver, and Drew Cottle. 2011. *Cocaine, death squads, and the war on terror: US imperialism and class struggle in colombia*. New York: NYU Press.

Weber, Max, Charles W. Mills, and Hans H. Gerth. 1965. *Politics as a vocation* Fortress Press Philadelphia, PA.

World Bank Data Bank. 2014. *World development indicators*. World Bank, .

Yepes, Rodrigo U., and Diana E. Guzmán. 2011. "Drug Policy and the Prison Situation in Colombia." In *Systems overload: Drug laws and prisons in latin america*, eds. Pien Metaal,

Coletta Youngers. Amsterdam / Washington: Washington Office on Latin America and the Transnational Institute, 39-49.