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Countering Narcotics: Explaining the Variation in U.S. Counternarcotic Foreign Aid

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Countering Narcotics: Explaining the Variation in U.S. Counternarcotic Foreign Aid

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B.A., Emory University, 2012

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An abstract of
a thesis submitted to the Faculty of the
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Abstract

Countering Narcotics: Explaining the Variation in U.S. Counternarcotic Foreign Aid
By: Brandon Sibilia

What explains the variation in U.S. counternarcotic foreign aid? This thesis attempts to be the first study to answer this question through an analysis of three distinct determinants: domestic economic concerns, national security interests, and regime type. To empirically analyze these determinants, I construct a dataset that includes all potential drug trafficking and drug producing countries from 1996 to 2014. The main empirical result is that the U.S. consistently considers interests of national security when allocating counternarcotic aid. Countries that have an alliance with the U.S. and countries with an already established American military presence receive more aid than their counterparts. Economic interests may play a minor role in determining aid allocations, but only at the margins. Recipient needs, on the other hand, do not stand as an important determinant of U.S. counternarcotic aid. In fact, as countries become more economically developed, they receive more counternarcotic assistance even though they have additional resources to combat narcotics-related issues.

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Introduction

In 2011, the State Department spearheaded the development of a five-year, $60 million interagency, regional capacity-building program called the West Africa Cooperative Security Initiative (WACSI). WACSI combats transnational crime in West Africa, including drug trafficking, and mitigates the impact of such illicit activity on the security, stability and good governance in the region. U.S. counternarcotic assistance in certain Latin American countries, however, took an opposing turn in the past year. The American anti-narcotics office in Bolivia shut down in October 2014 and Bolivia received no funding for the 2015 fiscal year (Carillo 2013). Similarly, the Bureau of International Narcotics and Law Enforcement Affairs, whose mission is to combat international crime and illegal drugs, eliminated its Ecuadorian office in late September of 2014 (Parkinson 2014).

A strong U.S. posture against drug trafficking in West Africa, yet a curtailed focus on illicit activity in Latin America is puzzling because not a single country in the former region has been deemed a major drug transit or major illicit drug producing country in recent years, yet both Bolivia and Ecuador continue to be named major drug transit and drug producing countries (Obama 2013; Obama 2014).[1] This puzzle begets an intriguing research question: what explains the variation in U.S. counternarcotic foreign aid?

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[1] Consistent with the statutory definition of a major drug transit or drug producing country set forth in section 481(e)(2) and (5) of the Foreign Assistance Act of 1961, the reason major drug transit or illicit drug producing countries are placed on the list is the combination of geographic, commercial and economic factors that allow drugs to transit or be produced, even if a government has carried out the most assiduous narcotics control law enforcement measures. The President makes this determination annually. There are 22 countries designated as major drug trafficking or drug producing countries for both the 2014 and 2015 fiscal year, including all Central American countries, Colombia, Venezuela, Peru, Afghanistan and Burma.

This thesis answers the above question by examining the effects of three distinct factors on U.S. counternarcotic foreign aid: domestic economic concerns, national security interests and regime type. American companies with a stake in the global market need both relatively predictable and low-risk environments in order to achieve economic prosperity. Drug trafficking and/or drug production, however, stand to decrease predictability and increase risk due to the actions associated with these illicit operations: violence, corruption and extortion. Businesses with foreign direct investment (FDI) stocks in a drug producing and/or drug trafficking country, and companies relying on imports shipped from those locations to make a profit, need reassurances that illicit activities will not interfere in their licit operations. U.S. counternarcotic aid serves as a reassurance mechanism by providing the resources to enhance state capacity and strengthen rule of law; therefore, the U.S. will allocate higher levels of aid to countries with more FDI stocks and greater reliance on import commodities.

The cultivation and trafficking of narcotics poses a threat to the security of the United States and its allies. Illicit operations threaten citizen safety and the maintenance of rule of law; conflicts associated with the illicit marketplace can spill over into other countries, including the U.S.; lastly, the profits accrued from the illicit drug trade help non-state actors invest in more resources, making them a greater challenge to both the state within which they operate, as well as the global community. Counternarcotic aid strengthens the security of individuals and locations threatened by illicit activities. It can also limit the supply and presence of narcotics, thus hampering the profit-seeking operations of actors involved in this illicit enterprise. These aims are best achieved in

countries that allow for operational effectiveness; hence, the United States will provide aid to allies and to countries in which a U.S. military presence is already established.

Democratic regimes have the capability, resources and incentives required to combat illicit activities. Autocratic leaders, due to both necessity and dictatorial desire, can greatly limit the presence of drug trafficking and production. Regimes in the middle of the spectrum, however, those that are not consolidated democracies nor complete autocracies, may very well lack the resources and power needed to deter the cultivation and movement of narcotics.

As a result, the U.S. will assist these types of governments because they have a stronger need for counternarcotic aid. Additionally, the United States seeks to promote democracy throughout the world; hence, it will allocate more funds to countries transitioning to democracy in order to help them fully consolidate their regimes.

I conduct the first comprehensive, multitheoretic empirical tests to analyze variation in the allocation of U.S. counternarcotic aid. My sample includes all possible drug trafficking and/or drug producing countries from 1996 to 2014. After running numerous econometric models, I find that the United States consistently considers national security interests when allocating counternarcotic aid. More specifically, countries that have an alliance with the U.S. and countries with an already established military presence receive more aid than their counterparts. Economics may matter at the margins, as the United States grants more funding to countries with which it has a PTA, but the finances derived from trade can help build military power. Recipient needs, on the other hand, do not stand as an important determinant of U.S. counternarcotic aid. In fact,

more economically developed countries that have resources to combat narcotics-related issues receive more security assistance.

The remainder of this thesis proceeds in seven parts. In the following section, I review the literature on the determinants of U.S. foreign aid. In the second section, I discuss the U.S. counternarcotic policy framework and provide a few examples of counternarcotic programs. The third section explains the theoretical mechanisms behind the three sets of determinants: domestic economic concerns, national security interests and regime type. In the fourth section, I describe the sample, variables of interest and research methodology. The fifth section includes an analysis and discussion of the empirical results. Afterwards, I speak to potential endogeneity concerns before offering some concluding remarks in the final section.

DETERMINANTS OF U.S. FOREIGN AID

Scholars studying the determinants of foreign aid allocation tend to focus on two popular and competing models: the donor interest model and the recipient need model (McKinlay and Little 1977; Maizels and Nissanke 1984). The donor interest model focuses on the idea that donors use aid primarily as a means of promoting their own geo-political, economic and strategic interests. Conversely, the recipient need model postulates that aid decisions correlate with the economic needs of recipient countries, and that the amount of aid given to a certain country should be proportional to its economic needs and capabilities. According to the literature, both models hold true regarding U.S. foreign aid policy.

Security, economic and political considerations bore considerable weight on U.S. foreign aid allocation during the Cold War. McKinlay and Little (1977) found that the threat of Communist expansion and the military power capabilities of the recipient country stood as the main drivers of aid allocation. Lebovic (1988) concluded, through a comparison of U.S. aid policy during the presidencies of Carter and Reagan, that donor interest variables, especially political-military relationships, determined the largest portion of aid allocations. During the 1980s, the strategic, political and economic interests of the United States all influenced its foreign aid policy (Poe and Meernik 1995; Schraeder, Hook and Taylor 1998).

Following the Cold War, security interests lessened and the policy goals of the United States began to reflect the ideals of democracy promotion, human rights protection and economic development. Although their sample only included a few post-

Cold War years, Meernik, Krueger and Poe (1998) concluded that an increasing portion of U.S. aid targeted the neediest countries. Alesina and Dollar (2000) found that American aid targets countries with extreme poverty, democratic institutions, and policies of trade openness, but the United States still grants high amounts of funds to Egypt and Israel for strategic interests. Finding similar results, Apodaga and Stohl (1999) determined that a state's human rights record impacts the amount of U.S. economic aid it receives, but not the allocation of military aid.

Domestic considerations also began to bear greater influence on U.S. foreign aid policy after the Cold War. Fleck and Kilby (2006) examine how political changes within the United States affect aid allocation. Liberal regimes tend to distribute aid according to development-oriented and humanitarian goals, yet distribution under conservative regimes depends more on commercial interests. Milner and Tingley (2010) determine that the economic and ideological characteristics of an electoral district can help explain legislators' preferences on foreign aid. Aid to countries in Africa greatly depends on the configuration of party control over Congress and the Presidency, as allocations substantially decrease when the two branches are in opposition (Goldstein and Moss 2005).

Overall, considerable research has been conducted on U.S. foreign aid policy from the height of the Cold War to present day. That research, however, has either focused on total U.S. foreign aid, or economic or military aid more specifically. To my knowledge, no study exists that examines the determinants of counternarcotic aid; therefore, this thesis stands as the first attempt to analyze U.S. counternarcotic aid.

Similar to other types of foreign aid, counternarcotic aid can serve the interests of both the United States and its recipients. By combatting the illegal drug trade abroad, the American government believes it will ultimately curb drug availability and use within its borders, thus serving its own security interests. The recipients of counternarcotic aid also benefit by garnering additional funds and resources needed to combat non-state actors who pose a threat to public security and rule of law. For example, the Mérida Initiative, a bilateral and regional counternarcotics security agreement between the United States and Mexico adheres to four pillars: (1) disrupt and dismantle organized crime groups; (2) institutionalize justice sector reforms to sustain rule of law and respect for human rights; (3) create an efficient, economically competitive border crossing that ensures "secure two-way flows" of travelers and trade; and (4) support Mexican government efforts to build strong and resilient communities.[2] Clearly, the foundations of this security agreement target challenges in Mexico, but they also bolster the economic and security interests of the United States. This study stands as an important undertaking because it not only ties together the two competing models of aid allocation, but it also adds to the existing literature on U.S. foreign aid.

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[2] The Mérida Initiative was agreed upon between Presidents George W. Bush and Felipe Calderón in March of 2007. This bilateral security agreement remains in effect to present day; the U.S. Congress has appropriated a total of $2.3 billion since it began. For more information, please visit the State Department's webpage explaining the Initiative: http://www.state.gov/j/inl/merida/

U.S. COUNTERNARCOTIC POLICY FRAMEWORK

American involvement in international drug control rests on the main premise that helping foreign governments combat the illicit narcotics trade abroad will, in turn, curb drug availability and use in the United States. The U.S. government promotes two related objectives to achieve this outcome. First, and more essential to the main premise, it strives to reduce the flow of illegal narcotics coming into the country. Second, it seeks to curtail the amount of illicit substances cultivated, processed and consumed worldwide. To make strides against narcotic cultivation, transportation, and consumption, various governmental agencies and organizations adhere to a long-standing and robust set of multilateral commitments.

Established by Congress through the Anti-Drug Abuse Act of 1988, the Office of National Drug Control Policy (ONDCP) coordinates all U.S. counterdrug policy, both domestically and internationally. ONDCP exists within the executive branch and its director serves as the President's chief spokesperson for drug control. The Office advises the President on drug-control issues; coordinates drug-control activities and related funding across the Federal government; and authors the annual National Drug Control Strategy, which outlines governmental efforts to reduce illicit drug manufacturing and trafficking, drug-related crime, and violence. It also describes the total budget for drug control programs, both at home and abroad.

For example, the international component of the 2013 National Drug Control Strategy focuses on three specific goals: (1) collaborate with international partners to disrupt the drug trade, (2) support drug control efforts of major drug source and transit

countries, and (3) attack key vulnerabilities of drug trafficking organizations.[3] To achieve

these foreign policy goals, ONDCP provides a budgetary proposal based on the

magnitude of narcotic-related issues abroad, as well as past performance on reaching

target goals, to the presidential administration (Executive Office 2013). The

administration subsequently submits the proposal to Congress. For the 2014 financial

year, the Obama administration requested over $1.4 billion. Amongst many other

allocations, the Caribbean Basin Security Initiative (CBSI)—a project seeking to improve

regional cooperation and capacity on security issues—received a $10.1 million proposal

(Executive Office 2013). Similarly, the Central America Regional Security Initiative

(CARSI)—a program designed to stop the flow of narcotics, arms and bulk cash

generated by illicit drug sales, and to confront gangs and criminal organizations

throughout the region—received a $34.8 million allocation (Executive Office 2013).

Upon reviewing the proposal and its various allocations, Congress determines what

percentage of the budget will be granted for implementation.

Apart from ONDCP and its budgetary responsibilities, the State Department is

responsible for coordinating all assistance provided by the U.S. government to support

international efforts to combat narcotics production or trafficking.[4] It identifies fighting

the production, transportation and sale of illegal drugs among its primary goals; the State

Department's Bureau of International Narcotics and Law Enforcement Affairs (INL)

develops programs to achieve these goals. For instance, INL provides full-spectrum

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[3] A more detailed description of the international component of the 2013 National Drug Control Strategy
can be found in Chapter 6 of the report, starting on page 49.
https://www.whitehouse.gov/sites/default/files/ondcp/policy-and-research/ndcs_2013.pdf

[4] This responsibility is defined in Section 489 of the Foreign Assistance Act of 1961.

support to foreign law enforcement partners confronting dangerous and well-organized drug trafficking organizations. Aviation programs help counterdrug police reach remote areas where drugs are grown and processed, as well as improve their ability to interdict illicit shipments and eradicate illicit crops used to make drugs.

Other agencies and departments perform more specific duties within the U.S. foreign policy counternarotic framework. The U.S. Agency for International Development (USAID) provides assistance for long-term economic and social development. USAID plays a key role in counternarcotic development assistance, especially regarding livelihood programs, which are designed to offer alternatives to farmers that will enable and encourage them to discontinue planting poppy and other illicit crops. The Department of Defense (DOD) maintains the lead role in detecting and monitoring aerial and maritime transit of illegal drugs into the United States and plays a key part in collecting, analyzing and sharing intelligence on illegal drugs with U.S. law enforcement and international security agencies. DOD provides counternarcotic assistance to train, equip, and improve the counternarcotic capacity and capabilities of relevant agencies of foreign governments. Another executive department, the Department of Justice (DOJ) is responsible for federal law enforcement and promotes public safety against foreign and domestic threats, including illegal drug trafficking. This translates into an array of responsibilities that include law enforcement operations, drug-related intelligence analysis, and police and justice sector training. Primary agencies under DOJ that focus on international drug control include the Drug Enforcement Administration (DEA) and the Federal Bureau of Investigation (FBI).

Overall, U.S. counternarcotic foreign aid seeks to achieve a multitude of goals, including eradicating crops, seizing drugs, arresting and prosecuting major traffickers, destroying processing capabilities, developing and promoting alternative crops to replace drug crops, reducing demand, investigating money laundering and financial crime activities, and promoting the involvement of other nations in efforts to control the supply and demand for drugs. ONDCP and the State Department stand as the main players in this substantial undertaking. Still, other agencies and departments must fulfill their duties in order to reduce the flow of illicit drugs into the United States and curtail the cultivation and consumption of these substances worldwide.

EXPLAINING THE VARIATION IN U.S. COUNTERNARCOTIC AID

This thesis seeks to explain the variation in U.S. counternarcotic foreign aid by examining the effects of three distinct factors: domestic economic concerns, national security interests, and regime type. The following sections will elaborate upon the theoretical arguments related to each of these factors and present their corresponding hypotheses.

Domestic Economic Concerns

FDI

Foreign direct investment (FDI) can be defined as a lasting management interest in an enterprise operating in an economy other than that of the investor. In other words, FDI is a controlling ownership in a business enterprise in one country by an entity based in another country. OLI (ownership, location and internalization) theory explains why enterprises invest abroad, instead of joining a business venture and licensing out technology or relying on market forces for exports (Markusen 1995). By controlling ownership, the corporation can keep rents accrued from the production process. Transaction costs, including transportation and tariffs, can make operating abroad more profitable. Lastly, internalizing operations, rather than outsourcing, is cheaper because there are no transaction costs.

Even with these advantages, businesses take significant risks when investing abroad, including unpredictability, instability and political risk. The possibility of internal uprisings and ethnic strife can make investments less profitable and production more susceptible to outside interference. Government instability can result in increased trade

sanctions or expropriation, thus increasing the risk premium of investment projects (Busse and Hefeker 2007). Poor quality of institutions necessary for well-functioning markets and the potential for corruption raises the costs of doing business, and will most likely diminish FDI activity (Blonigen 2005). Furthermore, to the extent that poor institutions create poor infrastructure, especially public goods provisions, expected FDI profitability falls as well (Blonigen 2005). In sum, investors are less willing to invest in countries that lack a safe and supportive business environment because operational effectiveness and profitability diminish.

The presence of narcotic production and/or trafficking in the host country makes FDI very risky. Akin to any licit industry, individuals or organizations operating in this illicit industry want to make, sell and transport products. Their objectives are primarily financial and they can be characterized as entrepreneurs who seek economic advancement (Rios 2010); therefore, making a profit stands as their foremost goal. The illicit nature of their business practices results in the possibility of government intervention. Intervening actions, in turn, can incite violence, corruption and extortion by illicit actors seeking to either eliminate or subvert threats to their financial gains. Additionally, illicit actors producing and/or trafficking narcotics compete with each other to monopolize production zones and markets in order to maximize profits. Competition leads to conflicts that can only be resolved through violence because they lack legitimate business contracts and arbitrators. Lastly, the production and/or trafficking of narcotics serves as a gateway into other types of illicit activities, including money laundering, software piracy, human smuggling and eco-trafficking (the illicit transportation and sale

of natural resources). These additional activities increase the dangers of operating abroad and the possibility of being extorted.

Overall, violence, corruption and extortion can generate instability, reduce the quality of institutions, and inhibit the provision of public goods. Risk premiums and operation costs increase as a result, thus causing potential or actual profits to decrease. Businesses will not want to invest in entities forced to exist in this type of environment, unless they have reassurances that the environment will be considerably safe, secure and supportive. Similar to how foreign aid mitigates the negative consequences of domestic and transnational terrorism (Bandyopadhyay, Sandler and Younas, 2014), counternarcotic aid can reduce the threats posed by the production and/or trafficking of narcotics. Therefore, American companies seeking to invest or currently investing in areas characterized by the presence of illicit activities will lobby the U.S. government to provide security assistance to the host country. Once they secure the counternarcotic aid, businesses will be more inclined to begin investing, or increase current investments, abroad. Concurrently, political officials will fulfill the demands of their lobbyists in order to obtain greater electoral support, both at the polls and through donations. Drawing from this line of argumentation:

> **Hypothesis 1:** *The more FDI in a drug trafficking or drug producing country, the greater the counternarcotic aid granted to that country.*

Imports

Businesses relying upon import commodities to generate profits need those commodities to be shipped on schedule at a consistent price. In other words, predictability enables import competing businesses to operate efficiently and effectively.

Drug production and/or drug trafficking can limit the predictability of shipment times and

prices due to the violence, corruption and extortion associated with these illicit activities.

For example, drug traffickers seek to control major ports in order to transport their own

products, and conflicts over control can disrupt regular shipping schedules. Furthermore,

illicit actors who control shipping centers can utilize extortion tactics to delay the

shipment of goods and cause prices to spike.

As a result, businesses importing commodities from drug producing and/or drug

trafficking countries need assistance to ensure the arrival of their products at consistent

prices. Counternarcotic aid can be utilized to protect transportation and shipment points,

thus bolstering the movement and sale of import commodities. Therefore:

> **Hypothesis 2:** *The more the United States imports from a drug trafficking or drug producing country, the greater the counternarcotic aid allocated to that country.*

National Security Interests

The cultivation and/or trafficking of narcotics pose(s) a threat to the security of

the United States and its allies. Illicit drugs beget negative consequences, including

violence, corruption and extortion, all of which threaten citizen safety and the

maintenance of rule of law. If left uncontained or unchecked, internal conflicts regarding

narcotics can spill over into other countries, including the United States. Lastly, the

profits accrued from the illicit drug trade can allow non-state actors to invest in more

resources, making them a greater challenge to both the state within which they operate

and the global community. For example, thriving illicit drug trades in Afghanistan and

Colombia enhance the strength and capabilities of insurgencies operating within those

countries (Wyler 2013).

Counternarcotic aid helps bolster the security of both the United States and foreign nations by reducing the production and trafficking of narcotics through monitoring efforts, seizure and eradication operations, and decapitation strategies.[5] In turn, this security assistance strengthens citizen safety and rule of law at home and abroad. More importantly, it hampers the profit-seeking operations of non-state actors, which impedes their ability to achieve their goals. Lastly, counternarcotic aid can preserve the progress that both American and foreign militaries have made in their fight against non-state actors and prevent future deterioration of the state apparatus.

In order to maximize success, and thus security, the U.S. will direct counternarcotic efforts toward countries that allow for operational effectiveness. Three related, but distinct factors, can enhance operational effectiveness. First, operations will be more effective in countries that have a military alliance with the United States. The U.S. has a stronger vested interest in supporting allies, and will thus divert more resources and exert more effort to assist those countries. Furthermore, an ally will be more cooperative and compliant during counternarcotic operations. Accordingly:

> **Hypothesis 3:** *The United States will provide more counternarcotic aid to those countries with which it has a military alliance.*

Second, operations will be more effective in countries in which the United States has a significant troop presence. Similar to an alliance, a stronger American troop presence signals that the U.S. is willing to divert more resources and exert more effort to assist that country. At least a portion of the troops stationed there have specialized

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[5] Decapitation strategies refer to the goal of disrupting or defeating an enemy by eliminating its leadership structure.

training in counternarcotic operations. Moreover, those troops can train the host nation's

military to better prepare them for interdiction, seizure and decapitation efforts. After

thorough instruction, the U.S. and foreign military units can work together to achieve

their counternarcotic goals. For example, the 600 American troops stationed at Soto Cano

Air Base in Honduras conduct counter narcotics training and participate in combined

counternarcotic operations with the Honduran military (Joint Task Force – Bravo, 2015).

Overall, this targeted training and cooperative framework increase the probability of

operational success.

Third, counternarcotic operations will be more effective in countries in which the

U.S. has active military posts. Active military posts include not only major military bases

found in Iraq and Afghanistan, but also Forward Operating Locations (FOLs) and Joint

Task Forces (JTFs). FOLs are strategic, cost-effective locations from which the United

States can support the counternarcotic operations of the host country, coordinate

communications, monitor illicit activity and provide information. JTFs are joint military

formations between the U.S. and one or more foreign military units that work together to

foster security and stability.

Military posts increase operational success for multiple reasons. The U.S. needs

locations to house not only the troops involved in counternarcotic efforts, but also the

resources required to combat illicit activities: surveillance equipment, weaponry, and

aircraft. Without these resources, it will be extremely difficult to reduce the production

and transit of illicit drugs. Maintaining an established presence around key drug transit

routes extends the United States' monitoring capabilities, as its radar facilities will

possess greater reach when surveilling the skies and waters of the region. Additionally, having headquarters located around drug trafficking and drug production centers improves the communication and decision-making abilities of those in charge. Officials can quickly receive information, more easily supervise operations, and thus make better educated decisions.

The United States has established many FOLs and JTFs to help execute counternarcotic strategies. Since 1984, Joint Task Force Bravo (JTF-Bravo) has operated from Soto Cano Air Base, a FOL in Honduras. The Base houses both Honduran and U.S. troops, as well as monitoring equipment and aircraft, including Black Hawk and Chinook helicopters (Joint Task Force – Bravo, 2015). Overall, JTF-Bravo seeks to "build partnerships with Honduras and other Central American countries to foster security, stability and prosperity for the Americas" (Joint Task Force – Bravo, 2015). Amongst other missions, including humanitarian assistance and disaster relief, JTF-Bravo conducts counternarcotic operations and training.

In 1999, the U.S. and Ecuador agreed to a ten year arrangement whereby U.S. military surveillance aircraft could use the airbase at Manta, Ecuador, as a FOL to detect drug-trafficking flights and drug-laden fishing vessels in the region. About 450 U.S. Air Force personnel and contractors were stationed at the base until 2009, along with Airborne Warning and Control System aircraft used to detect planes, ships and vehicles believed to be trafficking drugs (Partlow 2008; Lindsay-Poland 2009). A year after the Ecuadorian agreement, the U.S. government also came to terms with the government of El Salvador that allowed the establishment of another FOL in Comalapa. With a staff of

25 permanently assigned U.S. Navy personnel and 40 civilian contractors, this FOL

provides an airfield in the eastern Pacific for "maritime patrol, reducing transit times and

increasing on-station effectiveness to support multi-national counternarcotic

missions" (CSL Comalapa, 2015).

Drawing from the aforementioned theoretical arguments and corresponding

examples, both troops and military posts create an established military presence in the

host country, which, in turn, allows the U.S. to better supervise and conduct

counternarcotic operations. Therefore:

> **Hypothesis 4:** *The United States will provide more counternarcotic aid to those countries in which it already has a military presence.*

Regime Type

The negative effects of drug trafficking and/or production, including violence,

corruption and extortion, can be most significant in countries that lack the resources

needed to combat narcotics-related issues. Governments that lack an effective public

security apparatus, such as a strong and capable police force, will be unable to maintain

rule of law. As a result, actors involved in drug trafficking and/or production will have

more freedom to operate, thus deteriorating citizen safety and reducing opportunities for

legitimate employment. Furthermore, security forces that lack appropriate materials to

monitor and combat the cultivation and movement of narcotics will be unable to stop the

development and spread of illicit operations.

A country may not experience the negative effects of drug trafficking and/or

production, however, if illicit activities do not occur in the first place. Political elites

seeking absolute control over government for an extended period of time will crackdown

on any activity that threatens the stability and ultimate survival of leadership, including the cultivation and sale of narcotics. Drug production and drug trafficking exhibit an individual's ability to take the initiative and act independently of the state. Also, the revenues derived from this illicit industry increase the economic power of the individual relative to the economic power of the state. Lastly, the presence of illicit activities will signal to the population that flaws exist within its ruling government. Consequently, leaders craving absolute power will adopt a no tolerance policy regarding illicit narcotics.

Longstanding democratic regimes usually possess the ability to maintain rule of law and have incentives to develop resources that can counter illicit narcotic activities. The peaceful transfer of power and citizen oversight of security apparatuses promotes a stable and effective approach to ensuring public security. Furthermore, the threat of removal from office encourages policymakers to confront pressing issues. Leaders of autocratic regimes, on the other hand, want to demonstrate power and uphold stability; hence, they will vigilantly crackdown on the cultivation and sale of narcotics. Countries that are not fully democratic nor entirely autocratic will probably lack sufficient resources and incentives needed to combat illicit narcotics. At the same time, they may not have the level of power required or dictatorial desire to fully crackdown on illicit activities. As a result, they are probably the most susceptible to the proliferation of drug trafficking and/ or production and their related consequences, and thus in the greatest need of counternarcotic assistance. Drawing from this line of argumentation:

> **Hypothesis 5:** *The United States will provide more counternarcotic aid to countries that are not consolidated democracies nor complete autocracies.*

In addition to assisting the neediest countries, the U.S. consistently promotes the spread of democracy throughout the world. Countries seeking to become consolidated democracies can be threatened by the presence of illicit activities and the financial boosts they provide to non-state actors. Counternarcotic assistance helps governments achieve full democratic standing by eliminating those threats. Furthermore, if a country transitioning to democracy wants to signal its democratic intentions to the U.S. in order to create an enduring partnership and receive aid in the future, it will be more likely to appropriately allocate the funds it receives. Since the United States cannot decide how the recipient distributes its aid, it wants to be fairly certain that the aid gets distributed in a preferred manner. In sum:

> **Hypothesis 6:** *The United States will provide more counternarcotic aid to countries transitioning to democracy than countries transitioning to autocracy.*

RESEARCH DESIGN

The theoretical arguments and various hypotheses presented above seek to answer a particular research question: what explains the variation in U.S. counternarcotic foreign aid? The remainder of the thesis will elaborate upon the research design and empirical methods employed to test the aforementioned hypotheses. In the following sections, I describe the sample, quantitative variables and research methodology, in turn.

Sample

I construct a dataset with one observation, per country per year, for all countries (except for those nations joining the OECD before 1990, not including Turkey) characterized by possible drug trafficking and/or drug production activities from 1996 to 2014. The sample is considerably inclusionary for two main reasons. First, the United States does not define which countries can and cannot receive counternarcotic aid, at least

according to publicly available information.[6] It is difficult to determine which countries

are candidates for counternarcotic aid as a result. Excluding OECD member countries

that joined before 1990 is important because they are some of the wealthiest nations in

the world, and are thus very unlikely candidates for counternarcotic aid. Otherwise,

without an explicit constraint distinguishing candidates and non-candidates, it is

necessary to include all possible countries in the sample.

Second, in addition to a lack of information regarding counternarcotic aid

candidates, there is not to my knowledge any sovereign state or institution producing

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[6] Although it can restrict the allocation of counternarcotic aid to certain governments through two separate mechanisms. (1) According to the Foreign Assistance Act of 1961, the President must annually identify any country characterized by a combination of geographic, commercial and economic factors that allow drugs to transit or be produced, even if a government has carried out the most assiduous narcotics control law enforcement measures. The countries identified are labeled as major drug transit or illicit drug producing countries; there are 22 major drug trafficking or drug producing countries for both the 2014 and 2015 fiscal year, including all Central American countries, Colombia, Venezuela, Peru, Afghanistan and Burma. Within that subset of countries, the Foreign Relations Authorization Act requires the President to identify any government that has "failed demonstrably" in its efforts to adhere to its obligations under international counternarcotics agreements and take certain counternarcotic measures. Countries found to have failed demonstrably may receive certain U.S. assistance only if the President determines that provision of such assistance is vital to the national interests of the United States, or if subsequent to the designation, the President determines that the country has made substantial efforts to meet the requirement. For example, President Obama designated Bolivia, Burma and Venezuela as countries that failed demonstrably in their efforts to adhere to counternarcotics agreements and combat narcotic cultivation and trafficking for the 2014 financial year, but he also determined that allocating counternarcotic aid to Burma and Venezuela is vital to the national interests of the United States. Therefore, they still received aid in 2014.

(2) The Leahy Law, first introduced in 1997 by Senator Patrick Leahy, prohibits the U.S. Department of State and Department of Defense from providing military assistance, including counternarcotic aid, to foreign military units that violate human rights with impunity. To implement this law, the State Department and U.S. embassies overseas vet potential recipients of security assistance. If a unit is found to have been credibly implicated in a serious abuse of human rights, assistance is denied until the host government takes effective steps to bring the responsible persons within the unit to justice. Unfortunately, the U.S. government does not publicly report on foreign armed forces units it has cut off from receiving assistance.

Overall, the first mechanism can only exclude a subset of drug trafficking and/or drug producing countries, yet it is fairly safe to posit that nearly all countries, if not all countries, have the potential to be traffickers and/or producers of illicit narcotics. The second mechanism does not publicly acknowledge human rights abusers. Plus, even if the U.S. restricts aid allocation to one military unit, it can still provide aid to another military unit within the same country. Both mechanisms only restrict countries from receiving aid for a finite time period; consequently, no government will always be classified as a non-candidate for security assistance. In sum, without an umbrella of restrictions that all countries face, a lack of publicly available information, and the absence of a continuous exclusionary rule, I cannot clearly distinguish between candidates and non-candidates of U.S. counternarcotic aid.

either a classification scheme or general list distinguishing between countries that

cultivate and/or traffic narcotics, and those that do not. Consequently, I devised a means

of determining countries in which drug traffickers and/or producers potentially operate.

The United Nations Office on Drugs and Crime (UNODC) maintains a dataset tracking

the number of drug seizures in a given year for a given country. Seizures can be detailed

to UNODC through three main sources: government data, reporting by non-governmental

organizations, or through an Annual Reports Questionnaire (ARQ).[7] The details provided

in UNODC's seizure reports include the type of drug, the amount seized and the unit of

measurement. Furthermore, this Office defines thresholds for significant seizures.[8]

Starting from 1996, I include in the sample every country reporting at least one

significant seizure during the sample period (UNODC 2013). In other words, regardless if

a country's first significant seizure occurs in 1996 or 2006, it still has an observation for

each year from the start to the end of the sample.[9] It is important to not remove country-

year observations that lack a significant seizure because even if the data do not list one,

drug trafficking and/or production may very well be continuing within the country, yet

the state itself or a third party cannot determine the location of the illicit substances, or

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[7] Under the International Drug Conventions, Member States are formally required to provide national drug control related information annually to the Secretariat of the UNODC. For this purpose, the Commission on Narcotics Drugs developed the ARQ which forms the basis of information in the World Drug Report. An ARQ is an annual questionnaire administered by UNODC that asks Member States to respond to a series of questions regarding the presence of illicit substances at home, some of which focus on the types and amounts of drugs seized.

[8] Please see **Appendix A** for the various thresholds defining significant seizures.

[9] The observation for Egypt 1996 was removed from the sample because the seizure total reported for that year was over 300 million kilograms higher than the next highest seizure total. Therefore, it stands as a significant outlier and can bias the model estimates as a result. Additionally, an extremely large degree of difference between the Egypt 1996 value and the next highest value calls into question the accuracy of the UNODC seizure report for this country-year.

prefers not to report on the issue. Only about 16 percent of the observations in the sample lack a significant seizure, thus implying that the majority of country-year observations experienced seizure activity. Overall, my sample includes 2,781 observations from 148 countries.[10]

Compared to drug usage, mortality, prevalence and treatment demand, seizures stand as the best means of determining which countries cultivate and/or traffic illicit drugs. High levels of drug usage correlate with the purchase and consumption of those substances, not their production and movement. Similarly, mortality and treatment demand say a lot about who uses narcotics, but very little concerning their source and flow. Drug prevalence demonstrates the point of final sale and who has the money to make illicit purchases, but does not speak to who serves as the originator and mover of those goods. Even UNODC drug seizure data has some shortcomings, such as a country's inability or unwillingness to make seizures, self-selecting into the reporting of seizures, and the Office's lack of enforcement mechanisms for non-reporters. As a result, the amounts reported may lack some precision. Still, significantly large quantities of illicit substances found in a certain location, whether it be in a secluded mountainous region or on an outbound airplane, communicate a strong message that this country harbors drug producers and/or traffickers. Additionally, since this paper focuses on U.S. counternarcotic foreign aid, it is necessary to develop a sample from non-American sources to avoid potential biases in reporting and information.

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[10] Although the overall sample includes 2,781 observations, the main empirical model reduces to 2,344 observations because of missing data. This missingness, however, does not significantly influence the empirical results.

Dependent Variable

Counternarcotic Aid

The dependent variable employed in this empirical analysis, **AID**, is a measure of the total amount of military, police and economic aid in constant millions of dollars that the United States gives to country i in time t for counternarcotic efforts. This data hails from the Security Assistance Monitor (2015), a program of the Center for International Policy that tracks and analyzes U.S. security and defense assistance programs worldwide. Four separate aid programs comprise this counternarcotic assistance. (1) The International Narcotics Control and Law Enforcement (INCLE) program provides equipment and training to foreign countries for counternarcotic and anti-crime efforts. (2) The International Narcotics Control Economic Aid allocates economic assistance to support alternative development programs that encourage cultivation of legal crops rather than illicit ones. (3) Authorized in the National Defense Authorization Act of 1991, Section 1004 permits the Defense Department to give U.S. and foreign security forces additional support for counternarcotic activities. (4) Section 1033 of the 1998 National Defense Authorization Act permits the Department of Defense to assist 35 countries' counternarcotic efforts by providing non-lethal protective and utility personnel equipment.

The descriptive statistics presented in **Table 1** summarize the counternarcotic aid data. Out of the 2,781 observations, 1,802 did not receive any counternarcotic aid, making the median of this variable 0. Still, only 29 countries in the sample received no

Table 1 **Descriptive Statistics of Continuous Variables**

	Mean	Median	SD	Min.	Max.	N
Aid	10.95	0	77.57	0	1,368	2,781
ln(FDI)	1.83	0	3.60	0	11.55	2,632
ln(Imports)	5.42	5.40	2.89	0	13.05	2,781
ln(Troops)	2.24	2.20	2.01	0	12.29	2,772
Regime	0.11	0.21	0.73	-2	2	2,411
ΔRegime	0.01	0	0.15	-0.99	1.10	2,408
ln(Seizures)	7.89	8.19	3.47	0	17.39	2,633
ln(GDPPC)	7.82	7.92	1.32	4.70	10.89	2,561
ln(Distance)	8.52	8.82	1.08	0	9.53	2,762

counternarcotic aid throughout the entire period.[11] The mean across time and space is $10.95 million. Some countries, however, received considerably higher amounts of aid. For example, Colombia received the largest allocation of total aid, $1.37 billion, in 2000. In 2004, the U.S. allocated to Iraq a nearly equivalent amount of aid totaling $1.36 billion. Summing over the entire sample, the United States granted the most counternarcotic aid to Colombia ($9.27 billion), followed by Afghanistan ($7.99 billion), and then Mexico ($2.97 billion).

Apart from descriptive statistics, it is worthwhile to compare the distribution of aid data across time and space. **Figure 1** displays the trend of total U.S. counternarcotic aid over time. Aid allocations vary considerably from 1996 to 2014. Counternarcotic aid seems to generally increase from 1996 to about 2010, but with spikes in 2000, 2004 and 2010, and significant drop-offs in 2001, 2006 and 2011. The U.S. allocated the least amount of aid in the first year of the sample, 1996, and it distributed the most funds in 2010. **Figure 2** shows the distribution of total U.S. counternarcotic aid across regions.

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[11] Countries receiving no counternarcotic aid throughout the entire sample include Angola, Bahrain, Belarus, Central African Republic, Cuba, Czech Republic, Israel, Lithuania, Mongolia, Namibia, Poland, South Korea, Syria and Zimbabwe.

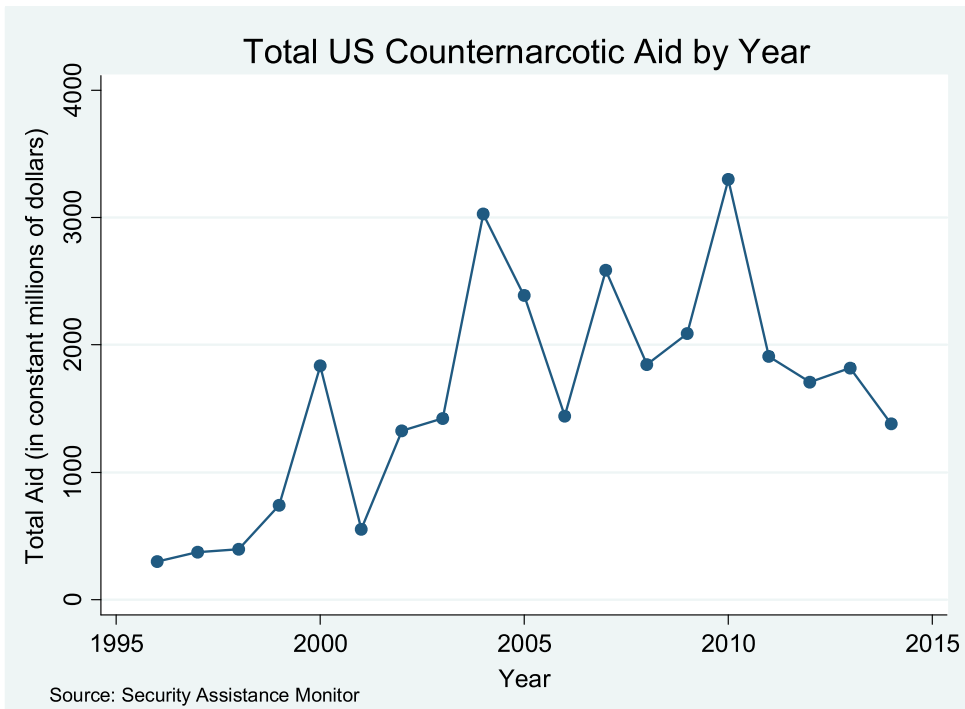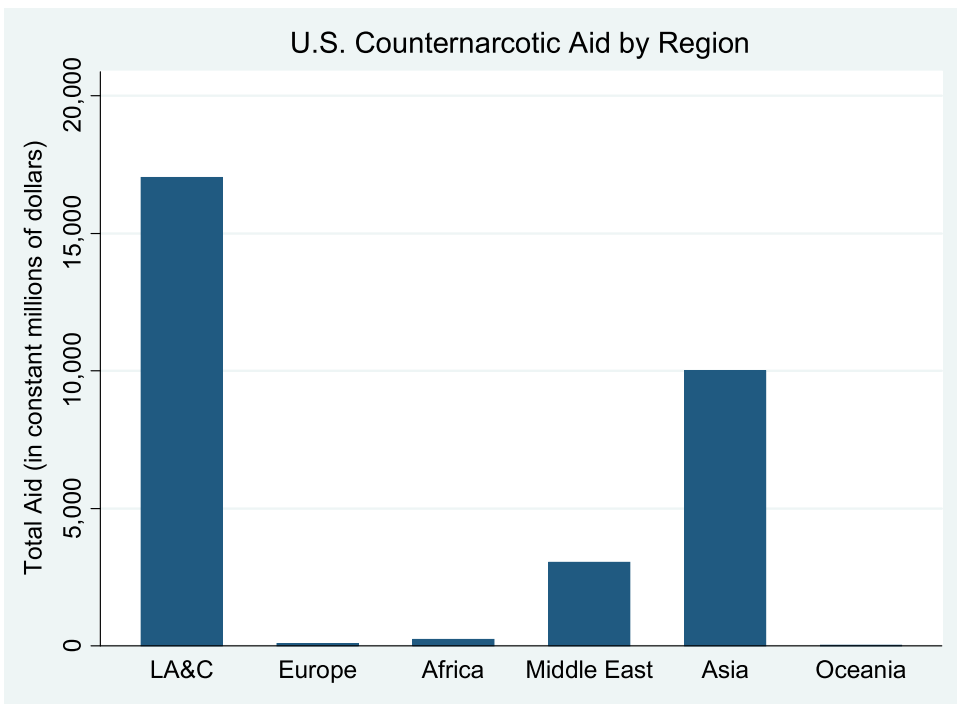**Figure 1**   **Distribution of U.S. Counternarcotic Foreign Aid over Time**

Total US Counternarcotic Aid by Year

Source: Security Assistance Monitor

Figure 2   **Distribution of U.S. Counternarcotic Foreign Aid across Regions**

U.S. Counternarcotic Aid by Region

Clearly, the United States administers the most aid to Latin America and the Caribbean with a total of over $17 billion. On the other end of the spectrum, Oceanic countries receive less than $1 million throughout the entire sample. Asian countries stand as the second highest aid recipients, receiving about $10 billion in total aid. The Middle East gets less aid than Asia, but still considerably more than countries in Europe and Africa.

Lastly, we can examine the distribution of counternarcotic aid across time within countries. **Figure A** in **Appendix C** contains the scatterplots, across time, of the four countries receiving the highest total amount of aid, all of which exceed $2 billion. Afghanistan and Iraq do not receive any counternarcotic aid until 2002, a year before the Iraq War began. During the war, it appears that the U.S. consistently allocated more aid to Afghanistan than Iraq. Colombia experienced a dramatic increase in aid in 2000 because of the implementation of Plan Colombia, a cooperative strategy to address security and development issues in the country.[12] Mexico began to receive significantly more counternarcotic aid one year after the Mexican government decided to dismantle powerful drug trafficking organizations through the militarization of public security.

Independent Variables

Economic Factors

To empirically test the impact of domestic economic concerns on U.S. counternarcotic foreign aid, I utilize three distinct variables: FDI, imports, and preferential trade agreements. ***FDI*** is a logged continuous measure of one plus the

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[12] The majority of contemporary counternarcotic efforts in Colombia stem from a 1999 Colombian government strategy called Plan Colombia. It was intended to be a six-year plan, concluding in 2005, to end the country's decades-long armed conflict, eliminate drug trafficking, and promote economic and social development. More specifically, the plan aimed to curb trafficking activity and reduce coca cultivation in Colombia by 50 percent over six years.

amount of stock, in millions (of constant U.S. dollars), U.S. investors have in foreign

businesses in country i at time t. The Bureau of Economic Analysis (BEA 2014) produces

comprehensive statistics on U.S. direct investment abroad through the administration of

mandatory surveys. It defines FDI as ownership by a U.S. investor of at least ten percent

of a foreign business; consequently, if a U.S. investor owns less than ten percent of a

foreign business, its stocks are not included in the dataset. Of the 2,632 FDI observations,

2,082 have no investments abroad.[13] According to the data, U.S. companies invest in only

35 of the 147 sample countries, but they invest a significant amount of money into certain

locations, especially Mexico and Brazil (whose total stock values both exceed $1 billion).

IMPORTS is also a logged continuous measure of one plus the total monetary

value, in millions of constant U.S. dollars, of all commodities imported into the United

States for consumption from country i at time t. The U.S. International Trade

Commission (USITC 2015) maintains in-depth statistics on the amount of imports that

annually enter the United States, disaggregating them into different categories based on

taxes and fees. This measure utilizes the customs value, or the value of imports as

appraised by the U.S. Customs Service. It is defined as the price actually paid or payable

for merchandise, excluding U.S. import duties, freight, insurance and other charges. The

United States imported goods from nearly all countries throughout the entire time period

in the sample, with a few exceptions: Cuba, Iran, Iraq, Libya and Myanmar (now Burma).

China and Mexico stand as the two most important import suppliers for the U.S.

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[13] The number of FDI observations does not match the overall sample size for two reasons. First, some FDI records are suppressed to avoid disclosure of data of individual companies. Second, FDI statistics have not yet been published for 2014.

PTA equals one if a United States Free Trade Agreement (FTA) with country *i*

was in effect at time *t*; it equals 0 otherwise. The Office of the United States Trade

Representative (USTR 2015) maintains records listing the countries with which the U.S.

has entered into FTAs, and when they were enacted. Overall, FTAs have been agreed

upon and enacted with only 17 countries in the sample, the majority of which come from

Latin America. Moreover, PTA equals one for a total of 145 observations. The United

States enacted the earliest FTA with Mexico in 1994 through the North American Free

Trade Agreement (NAFTA).

National Security Factors

To empirically test the effect of national security interests on U.S. counternarcotic

foreign aid, I again use three distinct variables: troop presence, military posts abroad, and

formal alliances. ***TROOPS*** is a logged continuous measure of one plus the total number

of American troops stationed in country *i* at time *t*. These data hail from the *Defensive*

Manpower Data Center (DMDC 2015), an office working to collate personnel,

manpower, training, financial, and other data for the Department of Defense. Its

Personnel, Workforce Reports and Publications track the spatial-temporal presence of

American troops. Troops are not stationed in certain countries for particular years, while

the median number of troops in this sample is 8. The United States lacks any military

presence in some African countries, such as the Central African Republic, Gambia,

Guinea-Bissau, and Libya. Observations for Iraq and Afghanistan during their war

periods appear to be outliers; from 2003 to 2009, the largest American troop presence was

consistently in Iraq, ranging from 164,100 to 218,500 troops. Troop levels in Afghanistan

exceeded 100,000 in 2010 and 2011. Even with the extraordinarily high U.S. military

presence, DMDC fails to report the number of troops in Iraq and Afghanistan from 2012

through 2014. As a result, I record those six values as missing.

BASE is a dichotomous variable that equals one if the United States has an

actively operating military post—Air Force, Army, Marine or Navy—in country *i* at time

t; otherwise, it equals zero. An actively operating military post refers to any property a

U.S. military department either owns, rents, or shares; these types of properties can be

used for major military bases, Forward Operating Locations, or Joint Task Forces.

Information on U.S. military posts comes from a variety of sources. The Department of

Defense (DoD) annually publishes a "Base Structure Report", which provides a

comprehensive listing of all foreign sites owned or managed by DoD that are larger than

10 acres or have a Plant Replacement Value greater than $10 million. I gathered

additional information on significant U.S. military posts from the Transnational Institute's

Google Earth file (2007) that maps over 800 bases worldwide. To account for smaller

operational posts, I rely upon two publications: a collection of articles on U.S. military

bases edited by Lutz (2009) and a map of global U.S. military bases created by Vine

(2009, 44). Even with this thorough collection process, more secretive or less well-known

military posts may be excluded from this dataset, especially drone bases.

According to the data collected, the United States has established military posts in

31 countries, some for the entire sample period (i.e. FOLs in Antigua and Barbuda and

Bahamas) and others for only a few years (i.e. FOLs in Chile and Argentina). **Figure 3**

compares the total allocation of U.S. counternarcotic aid and the number of countries

Figure 3 **Comparing Total U.S. Counternarcotic Aid and Countries with Active U.S. Military Posts across Time**
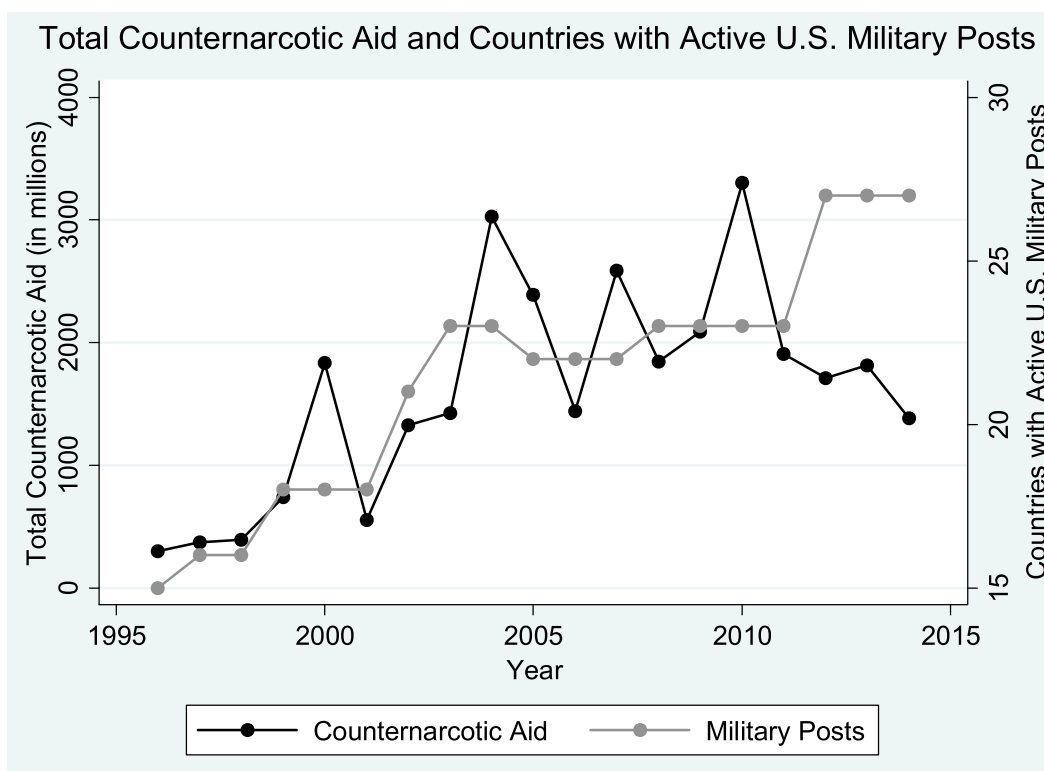
within which the U.S. has at least one active military post, by year. If there is a correlation between the two variables, one can expect to see aid levels rise the year after the number of countries hosting U.S. military posts increases. Generally speaking, it appears that this is the case. In 2000, a year after two additional countries began hosting U.S. military posts, total aid allocations jumped by more than $1,000 million. Moreover, counternarcotic aid levels more than doubled in 2004, following another increase in U.S. military posts in 2003.[14] To provide a more specific example of this relationship, a year after the U.S. established its FOL in Comalapa, El Salvador, aid allocated to the

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[14] The positive relationship between 2003 and 2004 is probably due, in part, to the war in Iraq and Afghanistan. Still, the U.S. conducted numerous counternarcotic operations, at least in Afghanistan, to reduce the economic gains the Taliban derived from opium sales.

Salvadoran government increased over fivefold, from $471,000 to $2.45 million. Lastly, the correlation coefficient between counternarcotic aid and lagged military posts is 0.32. Overall, there appears to be a correlation between the two variables.

ALLIANCE is another dichotomous variable which equals one if the United States has a formal alliance (regardless of alliance type) with country i in time t, and zero otherwise. The Alliance Treaty Obligations and Provisions (ATOP) project developed by Leeds (2005) seeks to compile detailed information on security arrangements over a wide spatial-temporal domain. More specifically, the dyad-year dataset describes treaty commitments shared by a pair of states in a given year up until 2003. I use this data to code alliances up until that time period. For the remainder of the sample, I assume that already established U.S. treaties with foreign countries have not been broken. To confirm the accuracy of this assumption, and to determine if new alliances have been enacted after 2003, I utilize the Correlates of War dataset (Gibler 2009) on formal alliances. Over the entire sample, the U.S. maintains alliances with over 40 percent of the observations.

Regime Type Variables

The third set of independent variables concerns the impact of regime type and regime transitions on U.S. counternarcotic foreign aid. *REGIME* is a continuous measure of regime type for country i in time t that ranges from -2 to 2, with scores on the negative end of the spectrum signifying more autocratic regimes, while scores on the positive end of the spectrum indicate stronger democratic tendencies. These data hail from the Unified Democracy Scores (UDS), a democratic coding project developed by Pemstein, Meserve and Melton (2010). Using a Bayesian latent variable approach, the authors synthesize a

new measure of democracy from ten extant scales. By doing so, they forgo the difficult,

and often arbitrary decision, to use one democracy scale over another. Furthermore,

unlike other democracy scores, the UDS measure has estimates for practically every

country in the world.[15] According to UDS, Cyprus maintains the most democratic regime

for a portion of the sample with estimates reaching the highest score of 2 points for three

separate years. Saudi Arabia consistently scores the lowest for this measure, with

estimates approximating -2. Countries with multiple UDS scores closer to 0, the middle

of the spectrum, include Bosnia and Herzegovina, Georgia, and the Seychelles.

Δ***REGIME*** is another continuous measure drawn from the UDS project and is

used to determine if a country's regime is transitioning, and if so, in which direction. It is

the difference between a country's UDS score at time *t* and at time *t-1*. Positive scores

indicate that a country's government is transitioning towards greater democratic ideals,

while negative scores signify that a country's regime is transitioning towards more

autocratic practices. With a mean value of 0.01, it seems that the average regime lacks

any true transition in the sample. Still, Niger undergoes the most drastic transition

towards autocracy from 1995 to 1996, while the Maldives experiences the strongest move

towards democracy from 2007 to 2008.

Control Variables

In addition to the variables previously discussed, the degree of drug production

and/or trafficking occurring within a given country can influence the allocation of

counternarcotic aid. Countries with a more severe drug problem will need higher levels of

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[15] Even though UDS has estimates for practically every country in the world, there are still missing data in the sample for two reasons. First, no scores have been recorded for Tonga, Yemen and Serbia and Montenegro. Second, UDS scores have not been recorded for 2013 or 2014.

counternarcotic assistance; therefore, the U.S. will allocate more aid to those countries.

Similarly, high-profile traffickers maintain the most developed illicit markets in the

business, making them extremely difficult to dismantle. They are also the most sought

after and intriguing individuals (at least to ordinary citizens) in the industry. Due to their

established presence and prominence, as well as public intrigue, the United States will

provide more aid to countries within which high-profile traffickers operate, once they

have been identified. In short, it is necessary to control for the degree of a country's drug

problem and the presence of high-profile traffickers.

     SEIZURES measures the prevalence of a country's drug problem. It is a logged,

five year moving average of the amount (in kilograms) of narcotics seized in country i

from time $t - 5$ to time $t - 1$.[16] A moving average stands as an appropriate measure of a

country's drug problem because narcotics trafficking and production is an evolving

process that takes years to establish and develop. The United States most likely accounts

for this evolving process and analyzes narcotics statistics over time when making

counternarcotic budgetary decisions. These data hail from the same UNODC (2013)

dataset used to construct the sample. A challenge with the UNODC data is that even

though it contains a comprehensive description of seizures within countries, the myriad

observations do not share a common unit of measure. For example, UNODC measures

some cannabis seizures in kilograms and others in number of plants; certain

amphetamine-type stimulants are measured in pills while others are measured in tablets.

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[16] There are missing data in the drug seizure measure because UNODC has not reported seizure amounts for 2013 and 2014.

Therefore, I constructed a list of conversion factors to convert all UNODC unit measures into kilograms. Information provided in **Appendix B** lists the exact conversion weights and explains how I obtained those conversions. It is important to note that these conversions are a rough measure and probably do not align exactly with the true seizure amount if everything was weighed in kilograms. **Figure 4** displays the trend of narcotics seizures over time. Seizure totals remain relatively constant from 1999 to 2006, increase dramatically from 2007 to 2009, and then undergo a significant drop-off starting in 2010. Analyzing the data country by country, the largest cumulative seizure amounts come from Egypt, Guatemala, Mexico and Colombia.[17]

The second control variable, *SDNT*, accounts for the presence of high-profile traffickers. It is a dichotomous measure indicating if the United States has designated an individual, company or organization as a significant participant in the trafficking of illicit drugs located in country i at time t. This information comes from the Specially Designated Narcotics Traffickers (SDNT) list and the Specially Designated Narcotics Traffickers Kingpins (SDNTK) list. Updated multiple times per year, these two lists, developed and managed by the Office of Foreign Assets Control (OFAC), block the property and interests in property within the United States, or within the possession or control of any U.S. person, of any foreign person or entity known to be involved in the international trafficking of narcotics. In other words, those individuals or bodies designated cannot own or seek to own property in the United States.

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[17] I did create a bivariate scatterplot comparing the total amount of counternarcotic aid allocated at time t with the moving average amount of narcotics seized from time t-5 to time t-1. This scatterplot, however, provides minimal information, as there appears to be very little correlation between the two variables.

Figure 4   Total Amount of Narcotics Seized over Time
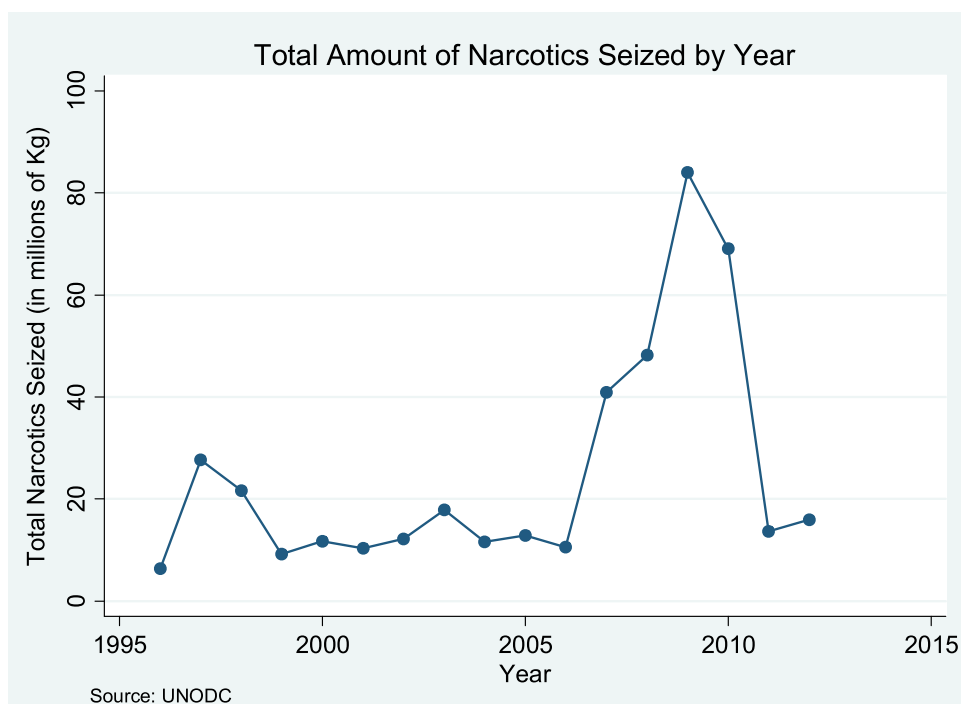
To gather information for this variable, I obtained all Department of Treasury press releases related to the SDNT and SDNTK lists. Each press release listed the persons and entities being designated and where they were currently located, thus providing me the details to construct this variable. If a person or entity situated in country i at time t is designated, **SDNT** equals 1 for that year, and every subsequent country-year; it equals 0 otherwise. Since removal from the SDNT and SDNTK lists requires lengthy proceedings full of documentation that are rarely initiated, it is acceptable to assume that once designated, the persons and entities will not be undesignated. Overall, 35 countries in the sample have at least one individual or entity designated on the SDNT or SDNTK list. Colombia stands as the only country hosting designated individuals and/or entities for the entire sample period. Moreover, it, along with Mexico, harbor the most persons and entities designated on the SDNT and SDNTK lists.

In addition to controlling for the degree of drug cultivation and/or trafficking, I also need to control for two other factors: a country's overall economic performance and its geographic location. Countries with more highly developed economies will have less need for counternarcotic aid because they have more resources available to combat illicit activities. Contrarily, poorer countries lack many of the resources needed to reduce narcotics production and trafficking; thus, they are more likely to receive aid. I control for economic performance through **GDPPC**, a logged continuous measure, in constant U.S. dollars, of country i's gross domestic product per capita at time t (World Bank 2014).[18]

Regarding geographic location, it is highly probable that the U.S. government concerns itself more with the production and movement of narcotics occurring closer to home, than it does halfway across the globe. This concern will cause the United States to provide more counternarcotic aid to countries with a closer geographic proximity to its borders. I control for geographic location with **DISTANCE**, the logged minimal distance (in km) from a point on country i's border to a point on the U.S. border (Weidmann, Kuse and Gleditsch 2010).

Methodology

Given the hypotheses presented in this project, as well as the set of variables used to test them, it is important to consider a few issues when determining the appropriate statistical model. First, there is a temporal issue. Budget requests and approvals for a particular year are made the year prior. For example, ONDCP submitted its budget

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[18] There are missing data for GDP per capita due to multiple reasons. The World Bank has not recorded measures for 2014. It has not posted values for Burma and Serbia and Montenegro. Lastly, the World Bank has no GDP per capita data for Afghanistan until 2001 and no data for Iraq until 2004.

proposal for 2013 in 2012, and Congress finalized that budget in the same year. In other words, the funds allocated in 2013 are based on information available and decisions made in 2012. This process implies that past values of the independent variables influence present values of the dependent variable. Therefore, I will be utilizing a one year lag for each of the time-variant independent variables.

Second, independent variables within the same grouping (economic, national security, regime or narcotics-related measures), and even across groups, share similar features and might be highly correlated with one another as a result. For example, FDI can possibly be highly predicted by imports, or PTAs can be strongly associated with alliances. Consequently, multicollinearity might be an issue because it widens confidence intervals and reduces t-statistics, making it more difficult to reject null hypotheses. Variables that are highly correlated include FDI and imports (with a correlation coefficient of 0.65), and troop presence and military posts (with a correlation coefficient of 0.53). Apparently, multicollinearity is present, but I do not believe the issue is so pressing to warrant removing or combining any of the independent variables, nor do I believe it will bear a highly consequential impact on the results.

Third, the sample contains a significant amount of unit heterogeneity. The countries' economies vary greatly, ranging from relatively wealthy and developed to extremely poor and undeveloped. They are widely dispersed geographically, resulting in different climates suitable for the cultivation of myriad narcotics and different transit routes to traffic drugs. Furthermore, their diverse landscapes can make drug cultivation more feasible in some places than in others. Lastly, the countries themselves differ in

their levels of state capacity and ability to maintain rule of law, which influences the possibility and profitability of illicit activities. In short, unit heterogeneity may very well make the empirical estimates both biased and inconsistent. As a result, I will be using country fixed effects in all models to remove unit heterogeneity.

Fourth, the dependent variable, counternarcotic aid, contains excess zeroes and is over-dispersed. Nearly 65 percent of the country-year observations in the sample receive no aid, and the conditional variance of the data greatly exceeds its conditional mean.[19] **Figure B** in **Appendix C** shows the distribution of counternarcotic aid. Many observations equal zero, another significant percentage of the observations have aid values that do not greatly exceed zero, and few observations have significantly high levels of aid allocation. Furthermore, the zero outcome observed in the aid data may be due to two different processes: countries who are never potential candidates for aid, and countries that may or may not receive aid due to some set of factors.

In order to obtain the most accurate results, I need to employ empirical models that account for excess zeroes, over-dispersion and the separate data generating processes. Zero-inflated negative binomial regression is for modeling count variables with excessive zeroes and over-dispersion. Furthermore, it can model both data generating processes through two stages. Stage one estimates the process by which states go from receiving no aid to receiving some level of aid. Stage two of the model then estimates the process that generates the non-zero values through a negative binomial regression. When attempting to add fixed effects, however, the zero-inflated negative

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[19] More specifically, out of a total of 2,781 observations, 1,802 did not receive any counternarcotic aid. The conditional mean of the untransformed aid variable equals 10.95, while its conditional variance is 6,017. Even the log transformed aid data has a conditional mean of 0.50 and a conditional variance of 1.30.

binomial models would not converge; therefore, I could not incorporate them into my analysis. Instead, I use negative binomial regression models with fixed effects as my primary empirical tool. Although this approach often under-predicts the number of zeroes in real data and only allows for analysis of one data generating process, it does contain an alpha value that accounts for over-dispersion in the dependent variable.

EMPIRICAL RESULTS

In this section I present the findings from the negative binomial and OLS regression models. Afterwards, I discuss the results.

Table 2 includes the results from the negative binomial regression models.[20] *Model 1* displays the regression results for the complete sample. The findings do not lend support for Hypotheses 1 and 2, as both FDI and imports are statistically insignificant, and thus indifferent from 0. PTA is positive and statistically significant, meaning that the U.S. grants higher predicted levels of aid to its most important trading partners. The coefficient for alliance is positive and statistically significant, which supports Hypothesis 3. Regarding Hypothesis 4, more predicted aid goes to countries that either host or share military property with the United States, but American troop presence has no statistical effect on aid allocations. In other words, these findings still support the empirical prediction, but the type of military presence may matter in its relationship with counternarcotic aid. More democratic regimes receive higher predicted levels of funding, which does not support Hypothesis 5. Hypothesis 6 also garners no support, as the regime transition variable is statistically insignificant. When analyzing the results of the control variables, it appears that the severity of a country's drug problem has no statistical effect on funding levels. Wealth and geographic proximity to the U.S. do statistically influence aid allocations, however, as the coefficients for both GDPPC and distance are positive and statistically significant.

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[20] With a p-value < 0.01 in all models, a significant likelihood ratio test for alpha $= 0$ indicates that a negative binomial model is more appropriate than the Poisson model.

Table 2 **Negative Binomial Models of U.S. Counternarcotic Foreign Aid**

	Model 1	Model 2	Model 3	Model 4
ln(FDI)$_{t-1}$	-0.026	0.023	-0.049	-0.035
	(0.041)	(0.040)	(0.126)	(0.038)
ln(Imports)$_{t-1}$	-0.094	-0.014	-0.133	0.070
	(0.082)	(0.087)	(0.094)	(0.104)
PTA$_{t-1}$	0.440*	0.510*	-0.973	0.552*
	(0.207)	(0.200)	(0.509)	(0.213)
ln(Troops)$_{t-1}$	-0.027	-0.094	0.084	-0.090
	(0.084)	(0.068)	(0.131)	(0.095)
Base$_{t-1}$	1.226**	1.342**	0.429	1.170**
	(0.262)	(0.271)	(0.598)	(0.258)
Alliance$_{t-1}$	3.176**	2.002	3.789*	-3.107*
	(1.094)	(1.133)	(1.667)	(1.426)
Regime$_{t-1}$	1.495**	2.190**	1.609**	2.025**
	(0.252)	(0.324)	(0.337)	(0.341)
ΔRegime$_{t-1}$	-0.291	-0.340	-0.401	-0.304
	(0.321)	(0.357)	(0.417)	(0.386)
ln(Seizures)	-0.048	0.036	-0.024	-0.018
	(0.032)	(0.036)	(0.043)	(0.037)
SDNT$_{t-1}$	0.103	0.202	1.365**	-0.134
	(0.169)	(0.187)	(0.338)	(0.176)
ln(GDPPC)$_{t-1}$	1.610**	1.759**	2.177**	1.210**
	(0.164)	(0.174)	(0.213)	(0.193)
ln(Distance)	9.950*	8.702*	11.058*	10.655**
	(3.964)	(4.084)	(4.389)	(4.052)
Constant	-101.514**	-93.019**	-115.556**	-105.175**
	(33.972)	(34.948)	(37.611)	(34.659)
N	2,344	2,239	1,803	1,970
Alpha	1.021	0.936	1.468	0.897
Log-likelihood	-2,303	-1,646	-1,160	-1,714

NOTE: Robust standard errors in parentheses
* p < .05, ** p < .01

Model 2 displays the results for the sample that excludes the top 7 recipients of U.S. counternarcotic aid: Afghanistan, Bolivia, Colombia, Iraq, Mexico, Pakistan and Peru. In total, these countries receive nearly 90 percent of all counternarcotic funding, or about $27 billion of the $30.4 billion allocated. Consequently, they are outliers that can be biasing the results. Excluding them from the analysis can provide a more global explanation of the variation in U.S. counternarcotic aid allocations.

Compared to Model 1, the second model provides similar findings. There remains to be no empirical support for the two economic concerns hypotheses, but countries that share PTAs with the U.S. receive more counternarcotic aid. Surprisingly, alliances are not statistically significant when excluding the primary aid recipients; therefore, this model does not lend support to Hypothesis 3. Once again, Hypothesis 4 receives mixed support, as American troop levels have no statistically significant effect on aid allocations, but the military posts variable is positive and statistically significant. The findings do not support the regime type hypotheses. Lastly, the severity of the drug problem has no bearing on counternarcotic aid, but more wealthy countries and countries located further from U.S. borders receive more predicted aid.

Model 3 shows the findings for the analysis that excludes all Latin American and Caribbean countries. Since this region receives considerably more aid than any other region, it may be biasing the results in certain directions; excluding it can tell us about the direction and magnitude of those biases. In this model, there is still no support for Hypotheses 1 and 2, but the PTA variable is now negative and statistically insignificant. This makes sense, however, because the U.S. maintains PTAs with numerous Latin

American countries. Military posts are also statistically insignificant in this model, implying that bases, FOLs and JTFs in Latin America are driving the previous support found for Hypothesis 4. Contrarily, this model does provide support for Hypothesis 3, as allies still receive higher levels of predicted counternarcotic aid than non-allies. The results for the regime variables remain basically the same. Even though seizures have no statistical effect on aid allocations, countries in which high-profile traffickers operate do receive more aid than their counterparts, thus implying that Latin America and the Caribbean greatly reduce the effect of this variable. Finally, excluding Latin American and Caribbean countries from the analysis increases the effects that wealth and distance have on counternarcotic aid.

Model 4 adopts a similar approach to Model 3, but this analysis excludes all Asian countries instead of Latin American and Caribbean countries. Nearly all the results in this model align with the findings from the main model, Model 1, with one exception. When removing Asian countries from the analysis, the effect of alliances on counternarcotic aid reverses. In the first model, the coefficient for this variable is positive and statistically significant, but in this model it is negative and statistically significant. In other words, it seems that allies in Asia greatly influence the statistical effect that alliances have on aid allocations.

To further empirically analyze the relationships between the independent variables and counternarcotic aid, and to determine the consistency of previous findings, the models displayed in **Table 3** are OLS regressions with fixed effects. *Model 5* includes all observations in the analysis; *Model 6* excludes the top 7 aid recipients; *Model 7*

excludes countries from Latin America and the Caribbean; and *Model 8* excludes all

Asian countries. In order to employ an OLS approach, one must eliminate the over-

dispersion in the dependent variable. I do so by adding 1 to all counternarcotic aid values,

and then log-transforming the variable. Although this transformation does not completely

eliminate the over-dispersion, it does enough to serve as an effective comparison tool.

Apart from changes in magnitude (and some signs), the majority of the findings in

the OLS models align with the findings in the negative binomial regressions. Hypotheses

1 and 2 do not garner any support: the coefficients for FDI and imports are either

statistically insignificant, or when they are significant, their signs are in the opposite than

predicted direction. Except for Model 7, countries that have a PTA with the United States

receive more counternarcotic aid, compared to their counterparts. Also with the exception

of Model 7, increases in troop numbers have no effect on counternarcotic funding.

Military posts, however, retain their positive and statistically significant effects on aid,

implying that the type of military presence matters when the U.S. allocates aid. Similar to

the negative binomial models, allies receive more counternarcotic aid than non-allies, but

that finding gets reversed when excluding Asian countries from the analysis. The OLS

findings still do not support Hypotheses 5 and 6.

Regarding the control variables, the severity of the drug problem has no effect on

aid allocations, except for Model 7, as the coefficients for both seizures and high-profile

traffickers are positive and statistically significant. Latin American and Caribbean

countries appear to be biasing the results of these two variables downwards. Wealthier

Table 3   **OLS Models of U.S. Counternarcotic Foreign Aid**

	Model 5	*Model 6*	*Model 7*	*Model 8*
ln(FDI)$_{t-1}$	-0.015	-0.016*	-0.015*	-0.014
	(0.008)	(0.008)	(0.007)	(0.008)
ln(Imports)$_{t-1}$	-0.022	-0.020	-0.031*	-0.001
	(0.012)	(0.011)	(0.012)	(0.009)
PTA$_{t-1}$	0.257**	0.403**	-0.099	0.374**
	(0.092)	(0.084)	(0.079)	(0.089)
ln(Troops)$_{t-1}$	0.020	-0.002	0.051**	-0.012
	(0.018)	(0.017)	(0.016)	(0.018)
Base$_{t-1}$	0.559**	0.549**	0.326*	0.427**
	(0.120)	(0.119)	(0.156)	(0.109)
Alliance$_{t-1}$	1.206**	1.935**	4.216**	-1.688**
	(0.324)	(0.531)	(0.520)	(0.312)
Regime$_{t-1}$	0.384**	0.373**	0.364**	0.409**
	(0.099)	(0.073)	(0.101)	(0.084)
ΔRegime$_{t-1}$	-0.171	-0.131	-0.174	-0.099
	(0.136)	(0.082)	(0.140)	(0.097)
ln(Seizures)	0.001	0.008	0.016**	-0.004
	(0.006)	(0.006)	(0.006)	(0.006)
SDNT$_{t-1}$	0.194	0.063	0.793**	-0.042
	(0.010)	(0.078)	(0.167)	(0.081)
ln(GDPPC)$_{t-1}$	0.294**	0.316**	0.349**	0.145**
	(0.039)	(0.036)	(0.043)	(0.033)
ln(Distance)	-0.265**	0.316*	0.709**	-0.562**
	(3.964)	(0.036)	(0.102)	(0.035)
Constant	0.465	-5.761**	-10.187**	4.681**
	(0.595)	(0.839)	(1.065)	(0.494)
N	2,344	2,239	1,803	1,970
R^2	0.80	0.60	0.67	0.84

NOTE: Robust standard errors in parentheses
* p < .05, ** p < .01

countries continue to receive more aid. One difference between the negative binomial results and the OLS results is that distance has a negative effect on counternarcotic aid in Models 5 and 8. Intuitively speaking, it would make sense for the U.S. to provide more aid to countries closer to home, but we also know that the American government allocates the most aid to Colombia and Afghanistan, two countries that are relatively distant from America.

Discussion

Statistically speaking, these findings lead to relatively clear conclusions, some of which go against the empirical predictions of this thesis. Hypotheses 1 and 2 do not garner support in any of the models, meaning that domestic economic concerns do not influence U.S. counternarcotic foreign aid decisions. Economics do matter somewhat when making allocation decisions, however, because countries that have PTAs with the United States receive more aid. In order to maintain a stable flow of goods with its most important trading partners, the U.S. wants to ensure that illicit activities do not interfere with trade transactions through the provision of counternarcotic aid. This finding also has national security implications. Trade enhances the military power of any country that engages in it (Gowa and Mansfield 1993); thus, counternarcotic assistance protects key trading relationships, which, in turn, augments military power.

Hypotheses 3 and 4 do garner empirical support, thus implying that national security interests influence aid decisions. Allies consistently receive more counternarcotic aid than non-allies. The theoretical argument behind this result is that the U.S. seeks to direct aid towards countries in which operations will be most effective; allies increase

operational effectiveness because they will be cooperative and compliant. Although this finding holds in the complete sample model, Asian countries certainly bias the relationship between alliances and counternarcotic aid. Military presence influences funding levels as well, but this depends on the type of presence. Increases in troop numbers have no statistical effect on aid allocations, while countries with military posts attract more aid. Therefore, it may not be the specialized training of American military personnel that determines aid provisions, but rather the locations that store equipment, augment monitoring capabilities and enhance communication. Moreover, similar to alliances, military posts in Latin American and the Caribbean appear to be most important in this relationship.

Even though national security interests influence counternarcotic aid decisions, recipient needs do not seem to matter much, if at all. Contrary to the prediction made in Hypothesis 5, countries that become more democratic receive higher levels of counternarcotic funding. This is a surprising finding, but still plausible. When providing counternarcotic aid, the U.S. cannot decide how the recipient country allocates its funds; instead, it is up to the recipient to determine how to distribute the aid. Lacking complete discretionary control, the U.S. will provide more aid to countries that will allocate it appropriately. Democracies, due to accountability mechanisms and the threat of removal from office, will be most likely to use counternarcotic aid in a preferred manner. Apart from regime type, regime transitions appear to not be a determinant of aid allocations.

Countries confronting more severe drug problems do not receive more assistance, although countries in Latin America and the Caribbean heavily influence this finding.

When excluding that region from the sample, all other countries in which high-profile traffickers operate appear to receive greater counternarcotic support. This is surprising, however, because according to reports, the most high-profile traffickers operate from Colombia and Mexico. Poorer countries may be in greater need of aid, but it appears that wealthier countries receive more assistance. This too is surprising because one would assume that developed economies have the resources required to combat narcotics. Lastly, the U.S. administers more aid to countries located further from its borders. Intuitively this may not make sense, but the top three counternarcotic aid recipients do not have a close geographic proximity with the United States: Colombia, Afghanistan and Iraq.

It is also important to analyze the substantive effects of these determinants on U.S. counternarcotic foreign aid, especially because the negative binomial coefficients lack a clear interpretation. **Figure 5** displays the marginal effects with 95 percent confidence intervals of particular independent variables on U.S. counternarcotic foreign aid when holding all other factors at their means. When looking at the marginal effects of regime type, ranging from the minimum UDS score to the maximum UDS scores, it is surprising to see predicted levels of aid increase minimally as regimes move from being complete autocracies to hybrid regimes. As governments become more democratic, however, expected changes in counternarcotic aid are considerably more substantial.

The second plot displays the marginal effects of changes in troop presence from about its mean minus one standard deviation to its mean plus one standard deviation for

Figure 5   Marginal Effects of Select Independent Variables on Counternarcotic Aid

Marginal Effects of Regime Type

Marginal Effects of Troop Presence

Marginal Effects of Wealth

Y-axis: Expected Change in Counternarcotic Aid

X-axis: ln(GDPPC)
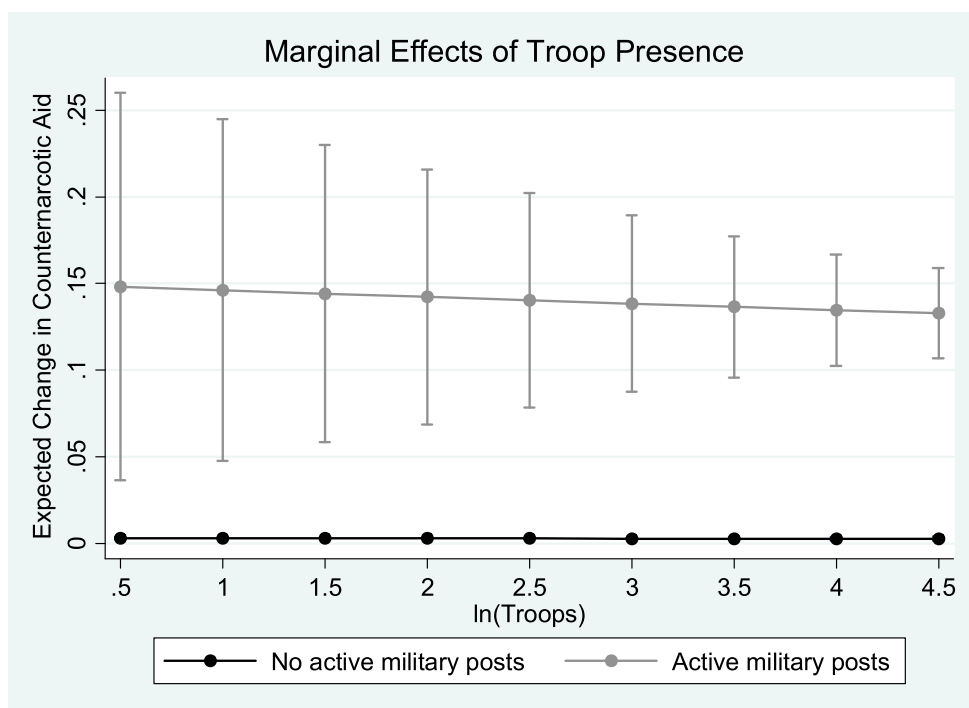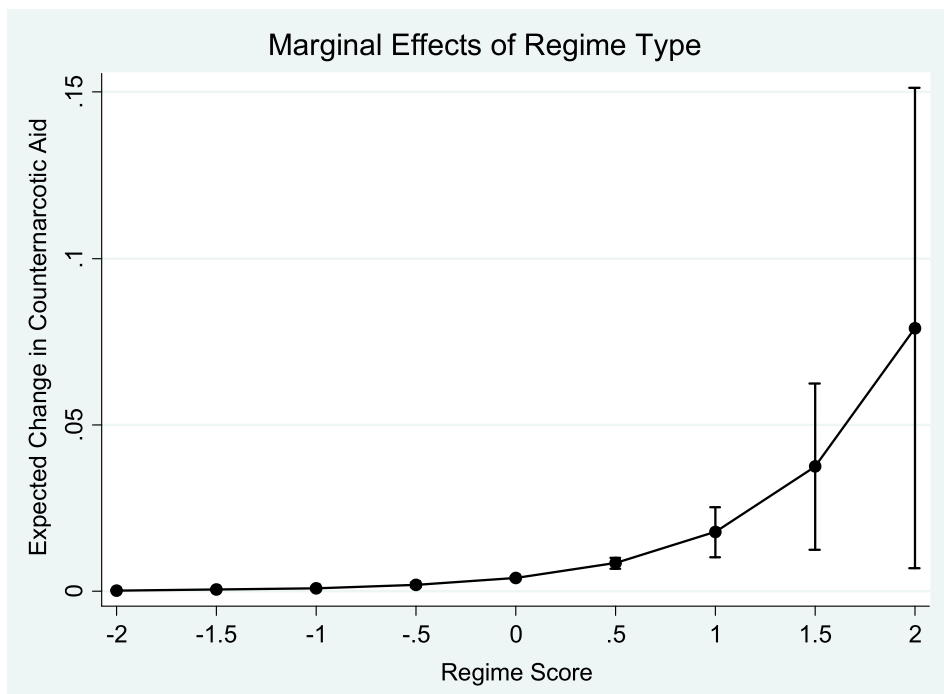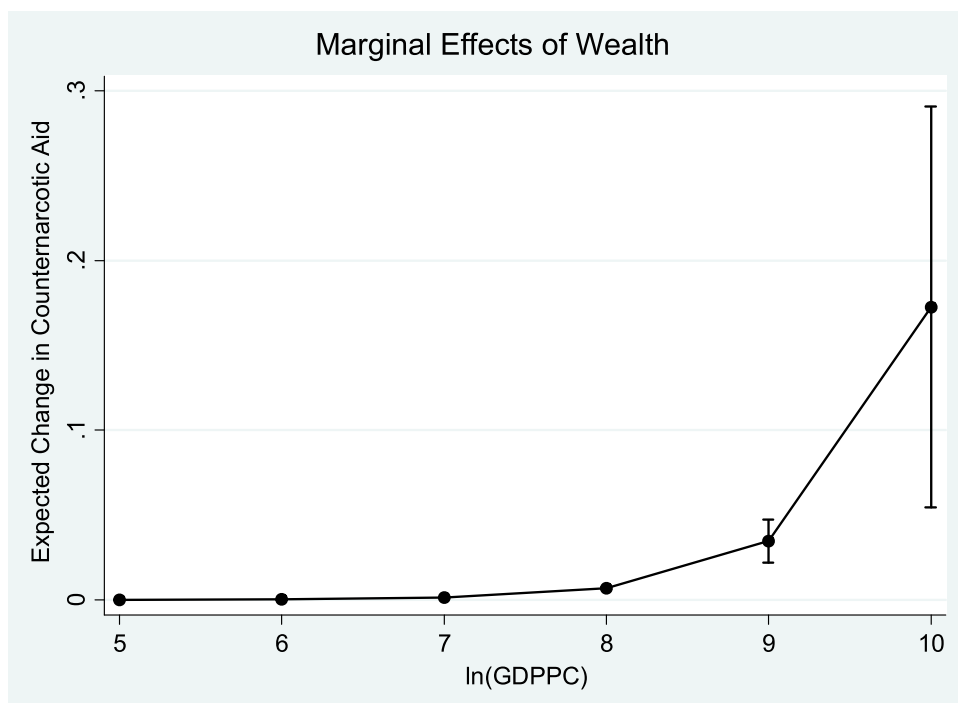
countries hosting U.S. military posts and countries in which the United States does not

have an active military post. Regardless of troop levels, there is basically no expected

change in funding for countries that do not host American military posts. For countries in

which the U.S. has a military presence, increases in American troops cause expected aid

levels to drop slightly, but not substantially. The third plot displays the marginal effects of

wealth. As poor countries become more economically developed, they do not receive

significantly higher levels of funding. It is not until countries become developed that the

U.S. allocates to them considerably more counternarcotic aid.

Overall, what do these statistical and substantive results tell us about the

allocation of U.S. counternarcotic aid? Counternarcotic aid primarily serves the national

security interests of the United States. This implication corroborates with the American

government's strategy of combatting narcotic production and trafficking. U.S.

involvement in international drug control rests on the central premise that helping foreign

governments combat the illegal drug trade abroad will ultimately curb illegal drug availability and use in the United States. To this end, the U.S. "maintains the goal of reducing and eliminating the international flow of illegal drugs into the United States through international cooperation to disrupt the drug trade and interdiction efforts" (Wyler 2013, i). Alliances and military posts allow the U.S. and other countries to work together and ultimately disrupt the illicit drug market.

The other major implication of this thesis is that U.S. counternarcotic aid does not serve recipients' needs. This comes as a surprise, especially because in recent years the United States has allocated foreign aid, at least in part, in accordance with the needs of recipient countries (i.e. Meernik, Krueger and Poe 1998). Strategic interests, however, still play a major role in aid decisions. Therefore, the U.S. may very well, in accordance with its rhetoric, treat drug trafficking and drug production as security related issues. When security is of the utmost importance, the American government tends to disregard the needs of other countries (Alesina and Dollar 2000).

ISSUES OF ENDOGENEITY

Regardless of how plausible the theoretical arguments are and how consistent the empirical findings tend to be, this thesis remains subject to issues of endogeneity. Domestic economic concerns and national security interests might determine the allocation of U.S. counternarcotic foreign aid, but the provision of counternarcotic assistance can also influence economic activity and security projects. For example, after seeing the progress a country makes against drug trafficking and/or drug production with the help of U.S. counternarcotic assistance, businesses will be more inclined to invest in an enterprise in that country. This process may be occurring in West Africa. In August of 2014, the United States signed a Trade and Investment Framework Agreement (TIFA) with the Economic Community of West African States (ECOWAS) (Office of the United States Trade Representative 2014). This TIFA provides a mechanism for expanding trade and investment between the United States and the 15 ECOWAS Member States. Moreover, major American companies have committed to invest $14 billion in Africa's future (Office of the United States Trade Representative 2014). In order to make the TIFA possible and encourage American FDI in the region, the American government needs to reduce the threats posed by illicit markets and criminal networks. That is currently being achieved by a five-year, $60 million interagency, regional capacity-building building program called the West Africa Cooperative Security Initiative.

Aside from counternarcotic aid influencing economic decisions, foreign security assistance can result in a stronger U.S. military presence. Government funds can be used to build bases and purchase additional resources, although in this paper it appears that at

least in regards to FOLs, it is the location that attracts the aid. Finally, higher levels of counternarcotic assistance, through specialized training and monitoring capabilities, can increase the amount of drug seizures.

I believe that lagging the independent variables reduces the aforementioned endogeneity concerns, but it certainly does not eliminate them entirely. As a result, the findings discussed above need to be examined further with different empirical models to determine if the related implications are accurate. Matching methods stands as one means of doing so. They try to recreate one of the key conditions of experiments: comparability between the treatment and control group. In experiments, the two groups are expected to be the same on every dimension, with the exception of the treatment itself. This means that confounding factors cannot be present. In order to make the treatment and control groups in observational data look the same, and thus eliminate the possibility of confounding, matching does an observation-by-observation comparison between the two and generates a new sample of only those cases that are most closely comparable. If the process is successful, then the only difference between the two groups should be the treatment. Matching is not within the scope of this project, but it stands as an approach that can significantly reduce endogeneity concerns.

CONCLUSION

I have presented the first theoretical propositions and empirical analyses regarding the allocation of U.S. counternarcotic foreign aid. I used a negative binomial regression with fixed effects as my primary model to examine a dataset of potential drug trafficking and/or drug producing countries from 1996 to 2014. The central finding of this thesis is that the United States consistently considers its national security interests when allocating counternarcotic aid. More specifically, American allies and countries hosting U.S. military posts receive more counternarcotic aid compared to their counterparts. Economics may matter at the margins, as the United States grants more funding to countries with which it has a PTA, but the finances derived from trade can help build military power. Recipient needs, on the other hand, do not stand as an important determinant of counternarcotic assistance.

Moving forward, research should delve further into analyzing the variation in counternarcotic aid allocation. First, empirical analyses need to include interactions between the predictor variables and geographic regions because the relationships between the independent variables and aid might differ region to region. For example, imports may have a statistically significant effect on counternarcotic aid in Latin America, but not any influence on aid in Europe. Second, research should analyze the determinants of counternarcotic aid for other countries. In doing so, scholars can have a better understanding of counternarcotic aid allocation worldwide, instead of in relation to a singular case. Third, future studies must look at the effects of counternarcotic aid. Recent research shows that U.S. military assistance may strengthen armed non-state actors, and

thus undermine domestic political institutions (Dube and Naidu 2014). Furthermore, according to Bartilow (2014), U.S. counternarcotic aid to the Americas increases overall violations of human rights. In sum, further exploration of counternarcotic aid can enrich our understanding of this understudied area of interest.

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APPENDIX A

Thresholds for Significant Seizures

According to UNODC, the defined thresholds of significant seizures are as follows (The link below provides more information regarding the reporting and significance of drug seizures):

Opium, cannabis herb, cannabis resin and cannabis plants:	≥ 1 kilogram
Heroin, morphine, cocaine:	≥ 100 grams
Psychotropic substances:	≥ 100 grams
Seizures referring to trafficking by mail:	All quantities
New psychoactive substances:	All quantities

http://www.unodc.org/documents/data-and-analysis/statistics/Drugs/
Seizure_Cases_Guidance_Note_English.pdf

Appendix B

Conversions of Various Units into Kilograms

This section of the Data Appendix describes how I created the conversions of various narcotic measures into kilograms, as well as a table of the actual weight conversions, along with links to the sources from which I derived the conversions.

I want to reiterate that the weight conversions employed in this project are a rough estimate; therefore, a percentage of the narcotic seizure measures probably do not align exactly with their true weights. This is due to a couple of reasons. First, the weights of narcotics seized in their natural form—seeds, leaves, plants—will vary from one unit to the next. Unless each of those seizures is weighed independently, there will always be some error in the estimated amount. Second, the weights of certain drugs vary by where production or creation occurs. For example, cannabis plants grown in California do not weigh the same as cannabis plants cultivated in Mexico. Similarly, ecstasy tablets in Africa do not weigh the same as ecstasy tablets in Asia. Third, for some seizures, the UNODC dataset lists very obscure unit measures. Some units are in bottles, while others are in barrels. Without the exact volume or weight of those units, I can only assume the capacity of those containers.

The following page presents the table of unit conversions. The information provided includes the unit as listed in the UNODC dataset, the conversion factor, the source of the information, and related notes. If the listed source is UNODC, then the conversion factor hails from there and is presumably very precise. Otherwise, the conversion factor listed comes from some other internet source, which most likely reduces the precision of the measure. I assume that the following units all weigh the exact same: units, tablets, capsules, vials, doses, flacons.

UNODC conversion information comes from one of the following 2 publications:
http://www.unodc.org/pdf/research/wdr07/seizure_reports_notes.pdf
http://www.unodc.org/documents/wdr2014/Methodology_2014.pdf

The barrel conversion measure hails from this Wikipedia page:
http://en.wikipedia.org/wiki/Barrel_%28unit%29

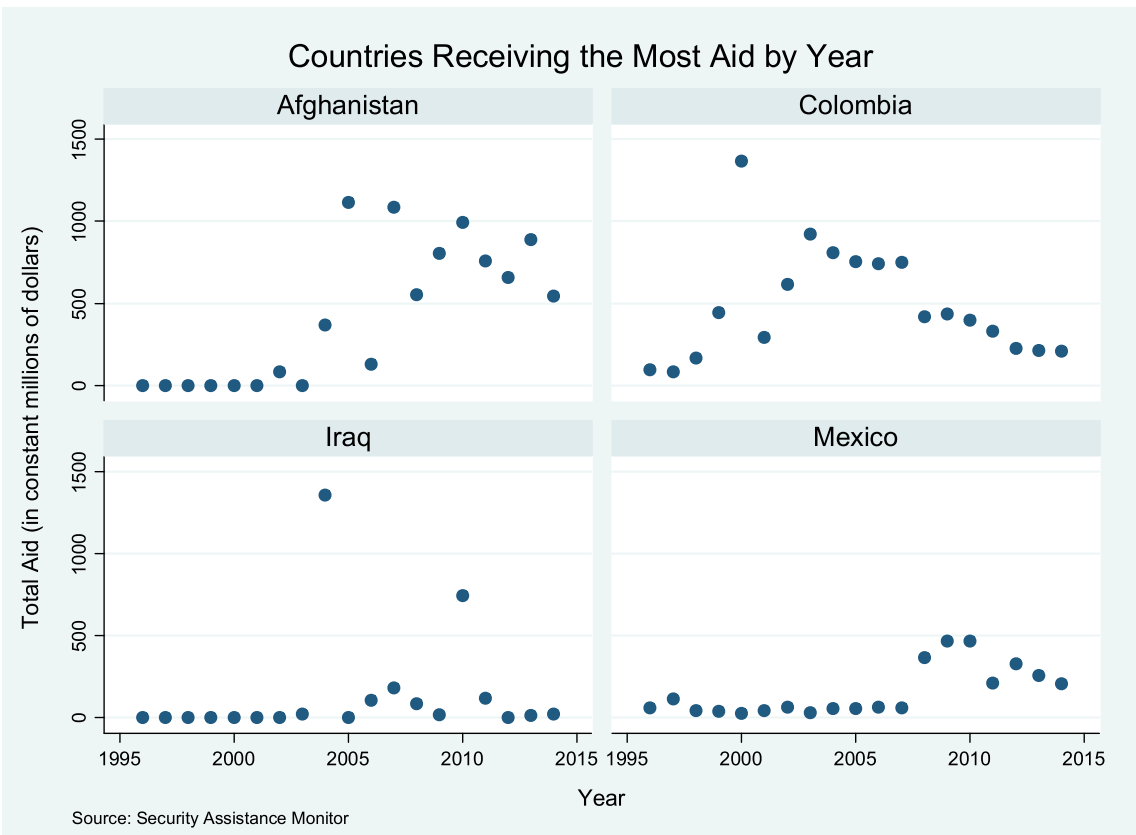The cigarette conversion measure hails from this blog:
http://viewknowdo.blogspot.com/2012/01/how-much-does-cigarette-weigh.html

Table A   Conversion Measures for Drug Seizures into Kilograms

Unit	Conversion	Source	Notes
Acres	2025	UNODC	5,000 kg/ha; 1 acre = 0.405 ha
Ampoule	0.0001	UNODC	1 ampoule = 0.1 g
Barrels	90	Wikipdedia	Average of potential barrel weights
Bottles	0.473	Generalization	Assume that bottle = 473 ml
Bottles (100 ml)	0.1	UNODC	1 l = 1 kg
Bush	3	Genralization	1 leaf = 10 g; Bush contains about 300 leaves
Capsule	0.00025	UNODC	1 capsule = 250 mg
Cc	0.000001	Conversion	1 cc = 1 mg
Cigarette	0.0005	Blog	1 cigarette = 0.5 g
Dose	0.00025	UNODC	1 dose = 250 mg
Flacons	0.00025	UNODC	1 flacon = 250 mg
Gallons	3.785	Conversion	1 gallon = 3.785 l; 1 l = 1 kg
Gram	0.001		
Hectars	5000	UNODC	5000 kg/ha
Kilogram	1		
Leaf	0.01	UNODC	1 leaf = 10 g
Litre	1	UNODC	1 l = 1 kg
Milligram	0.000001		
Millilitre	0.001	UNODC	1 l = 1 kg
Patches	0.0000005	UNODC	1 LSD patch = 0.00005 g
Pill	0.00025	UNODC	1 pill = 250 mg
Plants	0.1	UNODC	1 cannabis plant = 100 g
Point (1/10 gm)	0.0001		
Pound	0.454	Conversion	1 lb = 0.454 kg
Rock	0.0001	UNODC	Crack = 0.1 g
Seed	0.00001	UNODC	1 cannabis seed = 0.01 g
Tablet	0.00025	UNODC	1 tablet = 250 mg
Ton	907	Conversion	1 ton = 907 kg
Unit	0.00025	UNODC	1 unit = 250 mg
Vials	0.00025	UNODC	1 vial = 250 mg

Appendix C

Additional Figures

Figure A   Countries Receiving the Most U.S. Counternarcotic Aid, by Year

Countries Receiving the Most Aid by Year

Figure B   Distribution of Counternarcotic Aid

Distribution of Counternarcotic Aid