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ANTI-DRUG POLICIES: ON THE WRONG PATH TO PEACE[♥]

HERNÁN MALDONADO JARAMILLO[♦]

Abstract

The objective of this research is to analyze why drug prohibition policy is the observed outcome on the international political arena and its effects on the Colombian conflict. A gravity model based on Akerlof (1997) is implemented to examine the international drug policy equilibrium of a game that shows how drug prohibition is a stable suboptimal policy. Finally, this work suggests how applying a less restrictive regulatory framework to the drug market can lead to a reduction on the rents obtained by illegal groups from the drug business and, therefore, to a reduction on the intensity of the Colombian conflict.

Key words: Drugs rents, Gravity model, Colombia, Conflict resolution.

JEL Classification: F42, K42, O54.

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[♦] All comments and suggestions are welcomed to: hernan.maldonado@gmail.com. The author is the only responsible for the contents of this article.

POLÍTICAS ANTI-DROGAS: POR EL CAMINO EQUIVOCADO HACIA LA PAZ

Resumen

El objetivo de esta investigación es analizar por qué la prohibición de la droga es el resultado de las decisiones de política internacional y sus implicaciones en el conflicto colombiano. Un modelo de gravitación basado en Akerlof (1997) es implementado para examinar el equilibrio de la política internacional frente a la droga; en este juego la prohibición de la droga es un equilibrio sub-óptimo pero estable. Finalmente, este trabajo sugiere que aplicar un marco regulatorio menos restrictivo al mercado de las drogas puede llevar a reducir las rentas producidas en dicho negocio y obtenidas por grupos armados ilegales. Esto, a su vez, podría disminuir la intensidad del conflicto colombiano.

Palabras clave: renta de las drogas, modelo gravitacional, Colombia, resolución de conflictos.

Clasificación JEL: F42, K42, O54.

*To my big and small families;
Especially to all those who have
kept questions on my mind*

1. Introduction

The internal conflict in Colombia is costly for the country in terms of environmental, social, political and economical development (i.e. depletion of natural resources, human rights violations, economic growth reduction, institutional deterioration, increase on the social inequalities, reductions on the quality and quantity of the human capital; and deterioration of the Colombians international reputation, among others), (see Steiner and Corchuelo 1999 and U.N.D.P. (2003))¹.

This complexity and broadness of the conflict seems to be an endless source of studies in many fields. However, a literature review shows that some works take the actual policies as given or omit to analyze the implications of the national and international political stances towards the conflict causing a weakening on the analysis and its conclusions². This situation prevents the possibility of creating a critical mass of the actual political decisions inside and outside the country. However, notable exceptions to that circumstance are present in many works such as, Moreno-Sánchez, Kraybill and Thompson 2003, Naranjo 2004, Jacobson and Naranjo 2004, Echeverry 2004, Becker et al. 2004 and Tabares and Rosales 2005.

The relevance of the awareness regarding the policy implementation is determined by its potential to create a dynamic policy evaluation that allows the society to evolve by developing a better strategy towards the termination of the Colombian internal conflict, or at least oriented to reduce the violent effects of the situation.

This paper attempts to contribute on the policy decision making research literature. The objective here is to evaluate the determinant causes of the internal and external drug policy implementation, centered on the Colombian interests. The hypothesis is that, depending on the strength of the political links that Colombia creates with other countries, the outcome of the drug stance towards drugs will vary.

This research shows that strengthening the Colombian negotiation power by creating new alliances on the international political arena, might lead the country to choose an internal drug policy stance that could reduce the negative effects of drug business on the internal conflict.

This thesis is divided into seven main parts, the first part being this introduction. The second part makes a brief recount of historic facts that are relevant to the internal conflict in Colombia. The third part describes the illegal armed groups' sources of rents in the current (2005) Colombian conflict. The fourth chapter is focused on the international drug business. The fifth presents the theoretical model that serves as an analytical framework

¹ Studies have covered internal conflict on most of the mentioned subjects. This fact makes an attempt to summarize the literature on the topic, a huge effort that could be a goal for more than one paper. Even though, to give a sense of the work that has been made and to contextualize the present work, a very simple classification that divides works by issue is presented on the **Appendix 1**. This classification acknowledges some of the most representative works on each area for the interested reader.

² As an example Díaz and Sánchez 2004 claim their research led them to “conclude that the expansion of illegal crop growing is a consequence of the expanding conflict. In contrast, coca crops can only be used to explain a small part of the armed conflict in Colombia.” This conclusion ignores a basic fact of drugs, which is its illegal character.

for the study of the international game of drug policies. The sixth part recounts the previous parts, presenting a conflict resolution strategy to the drug business problem by designing a national policy focused on the international political arena. The seventh part concludes.

2. A Brief Review of the Colombian Conflict³

This section of the thesis describes the history of the Colombian conflict focusing on its main components in the present (2005). The first part consists of a chronological description of the most relevant facts. Its objective is to contextualize the current development of the conflict in a broader horizon. This set-up is an attempt to provide the reader with enough historical background to understand the causes and the actual interests of the parties in conflict. Once this is achieved, the design and analysis of a possible conflict resolution strategy can be better understood and described.

2.1. 1946 – 1966: Land, Parties and Gaitán

In this period of Colombian history, disputes between landlords and peasants were common sources of tension among social classes. Peasants claimed an agrarian reform that never happened under any government in power (Richani 2002).

On the political arena, La Violencia (The Violence - 1946 to 1965) was a period of disputes between the two main political parties (Conservatives and Liberals) for the control of government. In 1948, the murder of Jorge Eliecer Gaitán in Bogotá set off a national strike from the people against the state, in other words, radical liberals against conservatives; Gaitán was a democratic populist, the main leader of the radical liberal wing at that time in politics.

In 1953, to stop the numerous murders during The Violence, the army led by General Rojas Pinilla took over power. In 1958, traditional parties looking forward to recovering control came to an agreement known as the National Front. The objective of this agreement was to share power, avoiding violent aggression between the two parties' members. Two of the most relevant points of the agreement were the alternation of Presidents from each party and the setting apart of public positions for parties' members. The National Front agreement created a barrier that cut the opportunities for other parties to participate in the Colombian democracy; in particular, this was relevant for future events regarding the communist party which was declared illegal in 1954.

Meanwhile, in rural areas communism was gaining power, creating communist communities and strengthening its links to the people that were left out from the governmental benefits and decisions.

2.2. 1967-1990: Corruption, Drug Cartels and Guerrillas

It is very likely that, after the Spaniard conquest and colonization, this has been the most violent time in Colombian history. After the calm end of the 60's, in the year 1970, the two traditional parties fraudulently denied General Rojas Pinilla his right to take place as the elected President of the country. The decision of naming an undemocratic president created an atmosphere of exclusion and repression that evolved into the creation of several rebel movements, among others the leftist urban guerrilla called M-19. Later on, guerrilla movements such as the M-19 and the Revolutionary Armed Forces of Colombia

³ For a more detailed review see Sánchez et al. 2003.

(FARC), together with the drug cartels, gave birth to chaos in every aspect of the national arena.

The global struggle between right and left during the cold war period was also present in Colombia. The Colombian politically polarized situation was supported on the Colombian government side by the U.S. and on the guerrilla side by the U.S.S.R. The international tensions and their main players reinforced the Colombian internal disputes and provided financial and military support to generate a deepened internal conflict.

This situation kept all the attention of the government focused on political issues for a considerable period of time⁴. In the meantime, drug cartels were sending thousands of tons of drugs into the U.S. and other markets. The results of the cartels' operations did not take long to show up: Extremely wealthy, violent mobs ruling one of the most profitable businesses in the world, with headquarters in a developing country, and ruled by people that considered themselves gods on earth.

Drug cartels used every means to reach their objectives; they corrupted Colombian institutions with money and terror, even killing people they considered problematic to reach their goals. They also bombed cities to put pressure on the government to favor their interests with policies. They were rich and powerful violent criminals.

Naturally, the huge amount of resources that was transferred from drug users in developed countries to Colombian cartels became a central target for anti-drug policies and security institutions on drug consumer's countries.

The interaction of the established legitimate and illegitimate powers caused an expected confrontation. Guerrillas started kidnapping family members of the drug cartels to drain resources from them. This situation became a bridge to link the drug cartels to the besieged Colombian population by creating the self defense armies, which later on evolved into right wing guerrillas. Rich landlords, also targets of the guerrilla kidnapers, supported the creation of local armies to combat against the drain of resources. This was reinforced by the weak presence of the state in rural areas and the strengthening of the guerrillas' links to the population.

Once this polarization and confrontation was translated to the political arena, it caused one of the most dreadful political exterminations in Colombia. The leftist party known as the Patriotic Union, which was the political branch of the FARC guerrilla, was systematically exterminated by the right wing armies as a response to support obtained by them in democratic elections. In consequence, the Colombian people lost a democratic chance of terminating the internal guerrilla war by political means⁵.

At the same time, other small guerrillas were focused on the extraction of resources from the oil producing companies in the country. Extortion took place and pipelines blows were very common. This generated international disapproval since most of the companies in the oil business were foreign⁶.

⁴ The government switched its priorities on illegality control from guerrillas to drug cartels in 1984 when the Minister of Justice Rodrigo Lara Bonilla was assassinated by drug lords' hit men.

⁵ It is important to note that armed right and leftist movements have been exterminating opposing leaders in their influence areas. However, the national political power held by the Patriotic Union makes of its extermination one of the most relevant cases to understand the political history of Colombia.

⁶ For more details on this subject see Offstein (2002)

The U.S. pressure to stop the drug cartels combined with the high magnitude of attacks led by the drug cartels (i.e. Murders of Ministers and several Presidential candidates), and the weakness of some of the Colombian institutions (i.e. very weak and corrupted Judicial branch) led to a situation where the government started a strong war against drug cartels which involved extradition as one of the most frightening punishments against drug capos. Drug cartels answered back to that policy stance by increasing the assassinations of political leaders, city bombings and other means of terror against anyone that supported extradition or the war against drugs.

2.3. 1990-2005: End of Big Cartels and the Raise of the Guerrillas

In 1991 a new Constitution was established creating an emotive atmosphere toward a fairer, more equitable society for the people. Nevertheless, some of the changes were less than perfect, and the initial effervescence was turned into a more prudent attitude on the actual outcome.

It is important to mention that some changes did give the opportunity of governmental participation to former excluded groups (aborigines, blacks, leftists, etc.). This environment created, during the first five years (1990-1994), a flexible society able to adapt to the needs of a multicultural society.

This new set-up created an appropriate environment for a large demobilization of most of the leftist guerrillas. Many were demobilized under agreements, except for the FARC, the ELN and the AUC. The successful demobilizations were:

- Labor Party (Partido de los trabajadores) January 25, 1991.
- People Liberation Army (Ejército Popular de Liberación - EPL) January 15, 1991.
- Quintín Lame May 27, 1991.
- Guerrilla National Coordinator (Coordinadora Nacional Guerrillera) April 9, 1994.

This momentum changed under President Samper's regime, when most reforms were either stopped or even back-warded under his polemic and corrupted government. During this government, the Colombian state had a weak and disorganized army compared to the guerrillas; the government was ineffective, corrupted and distrusted by the national and international communities. The Colombian society kept its inequitable character and experienced a lack of reforms (Maldonado 2004).

Nevertheless, during the 90's, drug cartels were mostly dismantled, though the drugs crops and structures remained. This situation caused a re-accommodation of drug structures. The new system left smaller cartels in charge of the drug commercialization process, and illegally armed groups (ELN – National Army for freedom, FARC – Colombian Revolutionary Armed Forces and AUC – Colombian United Self Defense) in charge of the drug production.

Drug cartels were part of the drug business as profit oriented structures, but under the new arrangement guerrillas and self defense groups, which are presumably not only profit oriented structures, took control of the large profits generated by the drug business. As a result, the money coming from the drugs reinforced the structures of the guerrillas and self defense armies, giving them more power to buy weapons and to extend their influence on more regions.

In 1998 President Samper's convoluted presidential period ended and a slow recovery started under President Pastrana. The economic growth, as one of the most important motors of social stability, stopped its poor performance after 1999 (Maldonado 2004).

On January 7 1999 President Pastrana, working in cooperation with the FARC guerrilla, initiated a peace process. All members of the FARC group were allowed to stay in a demilitarized zone conformed by 42.000 km² in southern Colombia. The peace process was an initial step toward negotiation, but in the end both parts blamed each other for not showing a real willingness for cooperation. Experiencing a slow economic recovery and still under an uncertain political situation, Colombia ended the twentieth century.

As a response to the lack of cooperation in the peace process, reinforced by the suspicion of an internal reform plan ran by the FARC guerrilla, the government decided to reinforce the army. That was the strategic answer from the government to face an eventual military confrontation against the FARC guerrilla. The strategic reinforcement was called Plan Colombia, which attempted to attack all of the illegally armed groups' structures by weakening their financial sources (especially drug related) and by implementing a stronger military structure to fight them. The Plan Colombia agreement was first implemented by former President Pastrana, and developed by President Uribe Vélez⁷.

Up to today, donations from the U.S. to Plan Colombia have been successful in some of their objectives, but not in others. The Government has recovered its presence in many Colombian regions, but the reduction of drug crops and drug exports has not been as successful as expected. Plan Colombia has always been questioned on its effectiveness to control the drug business, but its effectiveness in stopping guerrilla attacks and their negative impact to the economy is widely accepted.

The project consolidation was achieved by the improved and now effective Colombian armed forces led by President Uribe Vélez, with a remarkable combination of an army strengthened by the Plan Colombia resources and the leadership of pro military President Uribe Vélez. To all lights, the army has gained a better position on the internal armed conflict.

In the 90's and early 00's, the AUC right wing self defense army gained more power. Nevertheless, in 2004, President Alvaro Uribe Vélez started a negotiation process with them to reincorporate their leaders and troops into the civil society. The leaders have explicitly stated their intentions to be a part of the democratic process as a new force in the Colombian political arena.

The historic review of the conflict presented here accounts for some of the most important historic trends that led to the actual situation of the Colombian conflict. Nevertheless, the description only intends to act as a context to analyze the drug business and the policies related to that phenomenon. The next chapter will classify the strategies utilized by illegal armed groups in Colombia to obtain rents according to rents origin. This in order to explain that Colombian conflict depends economically on different factors, and also can be mitigated in different ways.

⁷ For more information on Plan Colombia visit US Department of State: www.state.gov; to see the aid expressed in terms of money go to **Appendix 2**.

3. Illegal Armed Groups' Rent Sources

The illegal players in the Colombian conflict typically use three main sources of rents to finance their activities:

1. **Rent Creation:** Mainly defined as production and trafficking of cocaine, heroin or other drugs to obtain rents, and also less relevant incomes such as donations (i.e. U.S.S.R. help to guerrillas in the 80's and recent donations sent by Danish leftist to the FARC-EP).
2. **Private Rent Extraction:** Kidnappings and extortions of persons or enterprises to extract their private wealth.
3. **Public Rent Extraction:** Kidnappings and extortions of persons or state entities to extract rents from a public fund.

All of these subjects have been analyzed creating a vast amount of subfields of research. Understanding the relation between any or all of these phenomena to the conflict can create alternatives to solve or reduce the intensity of the conflict. Some of the most relevant studies on rents appropriation in the subject are summarized below.

3.1. Rent Creation

Díaz and Sánchez (2004) among others have found evidence of the strong linkage between operations of illegally armed groups and drug crops. Also other information sources⁸ have shown that rents from drugs are one of the main funds for the illegally armed groups to keep the structures working properly and to finance the war expenditures (i.e. troop's wages, ammunition, weapons, etc). For this reason there are policies oriented to stop the linkage between drug's rents and illegal armed groups. These policies are supported mainly by the Colombian government and by the U.S. government, because both have interests in cutting off the drug business and its associated rents.

The literature shows interesting features of drug policies oriented to reduce the size of the drug market. Naranjo (2004) concludes that a reduction on the demand side of the drug market has a larger impact on drug consumption than efforts on the supply side. This is complemented by Tabares and Rosales (2005) who conclude that alternative developments to coca crops have larger effects reducing drug crops than crops eradication.

From the analyses of Naranjo (2004) and Tabares and Rosales (2005), it can be concluded that the creation of an alternative source of rents to drug farmers causes an effective reduction of drug production which affects the supply side of the drug market. But moreover, the policy objective should not be only focused on drug production, but on drug consumption as well.

The logic behind the argument is that a reduction on the drug cultivated area could possibly move the drug business out of Colombia. This, added to a reduction in the effectiveness of drug distribution in the U.S. market, might increase the cost of the drug trafficking business.

These conclusions leave one question remaining; by implementing these policies, is it possible to terminate the drug business in the U.S.? In other words, is it possible to

⁸ "Las cuentas de las FARC", Semana magazine ed. 1187, January 2005.

terminate the drug crops in the world and drug consumption in the U.S. by any of the afore mentioned policies? The evidence shows that cocaine crops may have been reduced in Colombia, but the price and expenditures have been declining and the consumption has been recently increasing in the U.S. market; even under an expansion of counter drug expenditures on the production side such as Plan Colombia (See **Appendix 2** and **Appendix 3**). All these are symptoms of an ineffective policy, which leads to conclude that drug policy should be reviewed by both countries.

In particular for the Colombian interests it could be relevant to identify if prohibition and repression of the drug business is an optimal policy to reduce the rents that are transferred from drug business to illegal groups^{9 10}. Moreover, Colombian policy designers and makers should be able to identify the optimal policies that could lead Colombia to reduce the size of the drug rents that feed the internal war. The answer to that question could give a clue about the possibility of reducing one of the three main financial sources of the war in Colombia.

3.2. Private Rent Extraction

Another source of rents in the Colombian conflict is extortion to private individuals or companies. On this matter Offstein (2002) shows that guerrilla attacks are related to oil company extortions. He found that guerrilla groups expect to receive compensation from the oil companies for not blowing-up their oil-pipelines. Rubio (2003) presents a historical recount of the kidnappings in Colombia, by showing the links between illegal groups and this form of private rent extraction. Another example of private rent extraction is shown by Pshisva and Suárez (2004); they analyze the impact of crime on firm investment. The central finding of the paper is that firms invest less when kidnappers target them.

3.3. Public Rent Extraction

Finally, and closely linked to the last subsection, is the public rent extraction. This kind of rent extraction is associated with extortions or kidnappings made by illegally armed groups against public servants to obtain public funds.

The main study on public rent extraction is Rubio 2002. This study found that the most relevant public rents associated with the presence of illegal groups are oil rents transfers to municipalities¹¹ and rents from gambling.

Bottía 2003, found that there is no evidence to affirm that state absence is a cause of increment on the presence of illegal groups. This might be a clue to a tie between illegally armed groups' presence and rent extraction of state funds on the municipal level. This hypothetical relationship should be the objective of more studies to find more concluding evidence on the issue.

To sum up, this chapter has shown how illegal armed groups can access economic resources through three main channels: rent creation, private rent extraction and public

⁹ Echeverry (2004) found that war on drugs, as it is defined now, could make sense in the long run.

¹⁰ The termination of the drug consumption in the world is not as relevant to Colombia as the termination of the link that connects drug business and internal conflict in Colombia. The reason behind that fact is that drug consumption in Colombia is far from being as important as in other countries, while the incoming money from drugs to the internal conflict acts as the energy that keeps it as a main problem for the country.

¹¹ These transfers are given to the Colombian municipalities that have oil in their ground as a compensation for the extraction.

rent extraction. The weakening of any or all of these rent sources should be an effective way to reduce the intensity of the Colombian conflict, as limiting the rents will reduce the illegal armed groups' power to reproduce violence.

In the next section this work will focus on the first phenomenon mentioned: rent creation. The analysis will center on the role played by drug rents on the Colombian internal conflict but framing it on the international stage. A descriptive approach of the main links of drugs rents to the conflict and the international cycle of drugs rents will be addressed to provide an outlook on this economic phenomenon.

4. Drug Business and Colombian Conflict

Colombian conflict is particularly lucrative for the parties that have links to the drug business: it plays a key role in making available a very large amount of rents for its participants. In that sense, drugs business' rents in Colombia are used mainly for three things:

- 1) To finance large scale armed forces under a flag of an ideology (guerrillas or paramilitary groups).
- 2) To create or maintain working strong armed mobs (Cartels) that can keep the government apart from their illegal business (by the use of violence acts) and therefore from their source of profits.
- 3) A combination of the first two cases.

This section will present how the economics of drug business work in Colombia and also will explain the main interests of the parties in the process.

4.1. Recapitulation and Definitions

Recalling the historical review, Colombian drug business has changed its leading group many times. Leaders started as small drug traffickers during the 70's and evolved into the 80's Cartels. After a strengthening of government opposition to drug business, cartels mutated into a cooperative hybrid conformed by them and illegally armed groups during the early 90's. However, the level of influence by illegally armed groups over drug business has varied between leftist guerrilla and paramilitary groups. Since the 90's, small drug cartels and both kinds of illegally armed groups have worked closely on drug production and trafficking.

The mentioned context shows the scope of the influence reached by drug business in the Colombian conflict. However, to understand the drug business from an economic perspective some relevant concepts must be explored in a more explicit manner.

4.1.1. What is the Drug Business Market?

It is an illegal market conformed by a supply side (producers) and a demand side (buyers). Naturally, there are many different levels of relations between buyers and sellers concerning drugs. It starts at the farming stage and goes through a market chain until it reaches the final customer.

4.1.2. What is the Attractiveness of the Drug Business?¹²

The drug business, as with many other illegal businesses, is highly profitable. Typically there are not many players at some stages of the market. This situation creates a rent seeking behavior associated to a non-competitive market structure¹³. Additionally, the possibility of being caught by the state and subsequently being punished is incorporated in the price as a prime risk (see also Steiner and Corchuelo 2000). Finally, the demand side of the market is highly inelastic, which allows supply side players to transfer any cost variation as an additional price to consumers.

It is also important to mention the large size of the market in the case of drugs. Although revenues from drug traffic have been showing a declining participation in the Colombian G.D.P. in the last twenty years, the size of the market is still large. Rocha (1999) estimates the net revenue from drug trafficking to average U.S.\$2,229 million annually between 1982 and 1998¹⁴. Steiner (1997) estimated revenue in the range of U.S.\$1,500 - \$2,500 million annually between 1980 and 1995¹⁵.

Steiner and Corchuelo (2000) point out that those revenues have fallen from around 6% in 1990 to 2.3% in 1998. This can be explained by the drug cartels disarticulation that took place in Colombia throughout the 90's, a process that might have created a more competitive structure on the Colombian drug business, moving part of the revenues that were going to Colombian traffickers to other countries (i.e. Mexican mafia has been gaining market power and more control over trafficking).

The general aspects presented above are useful to understand some of the main details and motivations behind the drug business and the cruelty of the internal conflict in Colombia. The next step in creating a picture of drugs in the Colombian conflict is to articulate the drug business to the Colombian conflict from an international perspective.

4.2. Colombian Conflict from the Drug Business Perspective

The drug business conflict in Colombia is represented by **Figure 1** and can be explained as follows:

- Drug consumers in high income countries demand drugs (mainly the United States of America and European countries; in general, all high income countries),
- Governments of high income countries where drug consumers live prohibit drug production and consumption within their borders. This implies they spend money to control the drug market.
- As a policy to decrease drug consumption in high income countries, governments try to cut drug supplies coming from low income countries by supporting governments of those countries on drug business eradication.
- Drug demand is satisfied by drug producing structures located in low income countries (in this case Colombia).

¹² For more detail on this subject see Corchuelo and Steiner 2000.

¹³ In the 80's and early 90's the Colombian drug market structure was an oligopoly conformed by three main cartels: Medellín, Cali and Bogotá.

¹⁴ Quoted by Steiner and Corchuelo (2000).

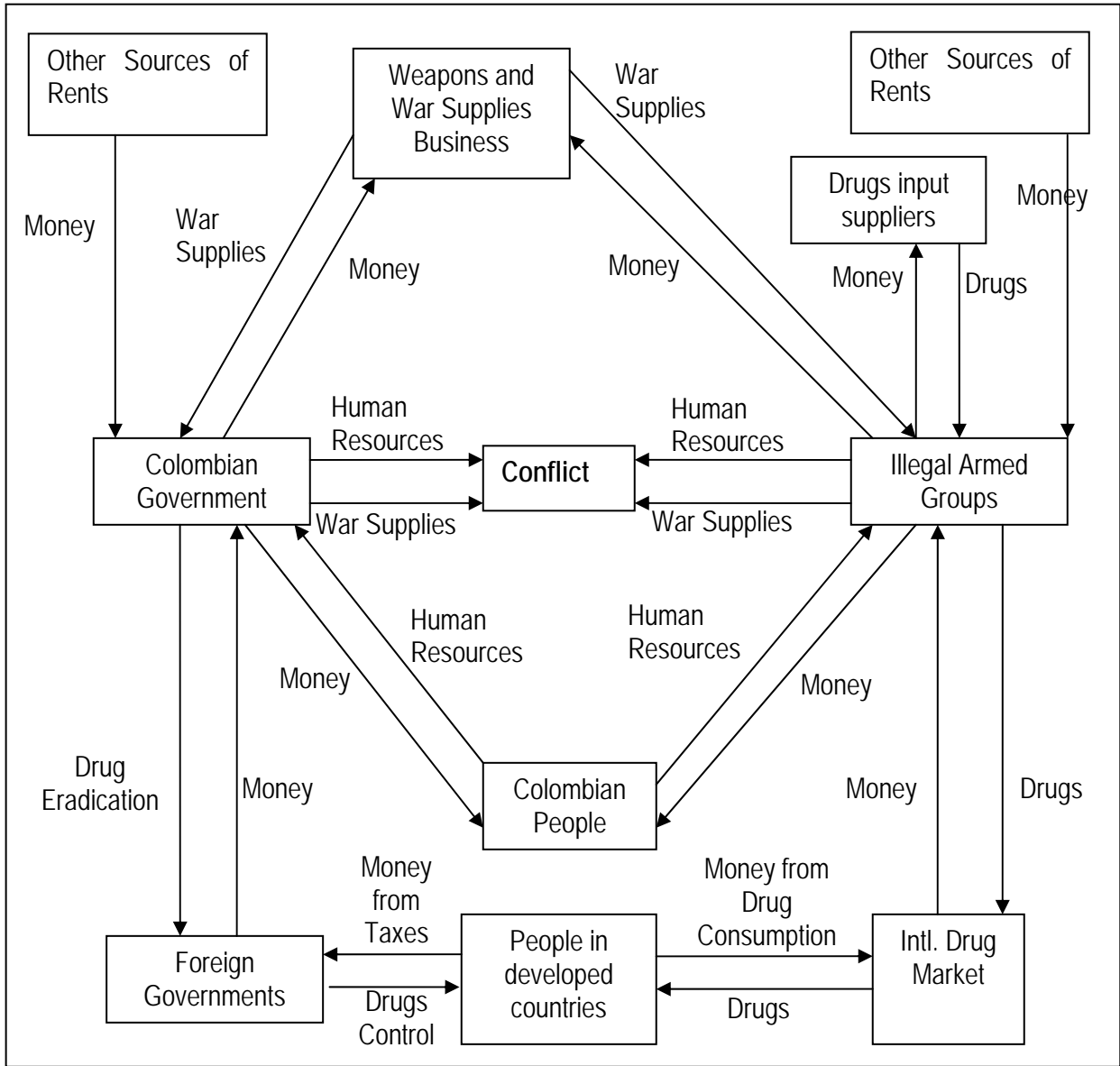
¹⁵ Quoted by Steiner and Corchuelo (2000).

- The inputs for drug production are bought in the national and international market.
- Colombia prohibits drugs production and consumption. In consequence:
 - Drug producers are more likely to be people already living outside the law because they have lower marginal costs of doing more illegal activities. For example, illegally armed groups have constituted drugs production structure to finance their objectives in Colombia.
 - Also, since drugs are illegal in Colombia and foreign countries pay for its control, Colombian security forces such as the police or the army pursue drug producers such as the illegally armed groups.
- The drugs business represents a large amount of profits for suppliers, and with that money, state corruption and armed opposition to the state are made to retain the profits obtained from the drug traffic and in some cases to keep other illegal structures working (i.e. insurgency or self defense armies for the Colombian case).
- To keep illegal structures working and also to keep running the drug business, war supplies are bought on the international market. Also, people are hired to be part of the illegal armies or structures to combat the state in Colombia, and to reach those groups objectives.
- To combat the illegal structures, the Colombian state buy war supplies on the international market or receive them as transfers from the governments in drug consuming countries. As part of the strategy, Colombian people are hired to be part of the national army or state structures to combat the drug business in Colombia.
- The result of the drug business cycle money in Colombia is a reinforcement of the Colombian internal conflict. Without the presence of that money the Colombian conflict would have been financed by other sources of rents presented in chapter 3 on the illegal side and by taxes that are already spent on the war against illegally armed groups.

The big picture of the market and its consequences for Colombia are: Colombia has a conflict supported on the government side by resources¹⁶ coming from foreign governments in high income countries. The objective of that money is to reduce drug supply by reducing the drug production and traffic. On the other side the conflict is also financed by money coming from drug consumers in high income countries to satisfy their drug demand. That money serves to maintain a supply of drug crops, reinforcing the power of drug producers to reach their objectives and their drug producing structures. In the end, a large amount of the money used on the war against drugs goes back to developed countries to buy war supplies and the rest stays in Colombia to finance armies on both sides.

¹⁶ Resources are offered in many different kinds: money, military training, social support, trade benefits and last but not the least weapons and military tools.

Figure 1: Colombian Conflict from the Drug Business Perspective



4.3. Alternatives to Stop the drug Business Cycle and Its Impact

To stop the illegal drug business cycle there are four options:

- 1) Reduction of drug demand by high income countries
- 2) Reduction of drug supply from low income countries
- 3) A combination of the last two options
- 4) Drug business legalization

Scientific literature and political decisions still debate on what is the best way to achieve those policy objectives. The discussion goes back and forth between the use of repression to combat the illegal drug market versus legalizing and the implementation of a less shocking regulatory framework. Interestingly, opposing answers come from

different arenas: the political answer to the question is repression, but the scientific answer is regulated legalization.

The puzzle has been cleverly resolved in a paper by Becker et al. (2004), as they illustrate why policy makers support some particular kinds of repression instead of a legalization process. The argument in the paper basically states that drug legalization is difficult to achieve through the political process. Drug legalization represents an increase of drug consumption in middle and high income people, which is not in their interest, as high income persons with power to be policy decision makers. The authors go further and explain that penalties for being part of drug business as consumers are more flexible and soft than those for being part as traffickers or producers. The article argues that the consumers group is composed by both rich and poor people but producers and traffickers are mainly poor people. Since rich people are more influential on policy design, they tend to be more benevolent when determining the policies that punish their practices (Becker et. al. 2004).

Nevertheless, it is not clear why a legalization policy is not implemented in countries like Colombia, where high income people are also incurring in high costs by the strengthening of illegally armed groups; costs such as an increase on the total number of kidnappings or extortions, and the direct and indirect effects of the different kinds of rent extraction. The question is even more relevant if it is acknowledged that the drug business costs more to Colombia than the rents that are received by the country (Steiner and Corchuelo 2000).

The last question leads to the main query of this thesis which is: why doesn't Colombia legalize the drug business to reduce the magnitude of the internal conflict? In this thesis it will be argued that the answer to that question can be found by analyzing and understanding the international political stance toward drugs that Colombia has been assuming.

The next chapter provides a game theoretic approach to solve the above mentioned question. After the analysis, this paper will examine the actual international stance assumed by Colombia and will present some plausible paths to reduce the importance of the drugs market in the Colombian conflict.

5. Drug policy as an International Game: Background and Insight

In a general framework Akerlof (1997) notes that social interaction theory explains why social decisions are not simple choices based primarily on individual considerations. Particular examples of this reasoning are several of Becker's and Akerlof's (1997) articles. Those studies have shown how everyday life involves decisions with power to influence other people's decisions¹⁷. Analogously, it is possible to understand countries as individual units that make decisions on national politics with repercussions on the national politics of foreign countries (i.e. international politics).

This is particularly true in the case of countries that work closely on some interests, cooperating while establishing policy guidelines. The political relation between Colombia and the U.S. on the specific case of drug policy has a twenty years tradition of cooperation and policy alignment against drug production, traffic, and consumption. This tie has been reinforced more than ever during the last years, when terrorist acts and drug business have been understood as closely related. As it was presented above, the

¹⁷ Becker 1971, 1973, 1974, 1977.

“Plan Colombia” is today the explicit manifestation of cooperation between the two countries. This aid package implies a policy alignment from Colombia to U.S.’s decisions in order to receive help on the “war against drugs and terror”, as it has been manifested to be in the U.S. politicians’ interests.

This section, parallel to the model in Akerlof (1997) on social decisions, analyzes the effects of political decisions made by basic agents, namely politicians, deciding on several different countries.

The model is considered appropriate for this analysis since political links between countries creates economic relations between politicians. They end up determining the political stance assumed on their home country and therefore affecting decisions on foreign countries too.

In this particular case, drug prohibition by the United States creates a threat of retaliation against drug producing countries such as Colombia if they do not align their national policies with U.S. policy (i.e. with aid reductions, strict economic controls on trade, reduction of trade benefits, immigration barriers, investment reductions, etc...). Hence a legalization policy could affect the political career of candidates in their countries by the means of a retaliation policy implemented by the U.S.

From the U.S. politicians perspective a misalignment of drug policies by a foreign country that has received funds for drug eradication programs could be perceived by voters as a waste of resources and a political failure on the policy implementation process. Moreover, a step towards drug legalization has been shown by Becker et al. (2004) not to be in the U.S. policy makers’ interests.

This argument aims to point out why politicians in both countries are interested in doing their best to reach the policy objectives of a particular stance (i.e. drug prohibition) when implemented.

5.1. Drug Policy as an International Game: The Story Behind the Model

Among others, Becker et al. (2004) shows that drug legalization is an optimal policy according to the theory and evidence used in their article. Nevertheless, this policy is rarely implemented; all the more, perhaps the furthest policy stances to legalization are assumed on the countries that have the largest stakes in the drug market (for instance, U.S. as demand side and Colombia as supplier). In this paper, it will be shown how when countries set the suboptimal policy of drug prohibition it could constitute a stable suboptimal equilibrium in the international policy arena.

The first part of the model presents the choice that a single country would make on the drug legalization issue, when such a decision has to be made without being influenced by any other country. That choice is the optimal policy for the country, which in this case is assumed to be legalization.

The next step incorporates in the model a foreign country which affects the drug policy definition of the initial country. The model will show how under certain conditions, once politicians set an initial suboptimal policy stance, then the result of the game will also be a suboptimal choice of drug policy stance for both countries. The initial position set by politicians is one of the determinants of the suboptimal policy result, which is also a drug prohibition policy.

The model also gives a central role to the economic benefits received by each side during the political process of policy definition. These are present in the case of

Colombia, in the huge amount of resources transferred to the country from the U.S. in the war against drugs and terror. In the case of the U.S. there are also established benefits for U.S. politicians by implementing such a policy. The situation makes Colombian politicians more likely to align their country policies with the U.S. rather than with other countries that are more politically distant (i.e. Netherlands) in terms of cooperation¹⁸. This happens because a change in the political stance becomes costly for Colombian politicians, as it will be proved. On the other hand, a change in the political stance from the U.S. regarding drugs could cause an increase in the amount of drugs received by that country. This is interpreted as a cost in terms of the interests of the policy makers affecting the political exchange. A move toward drug legalization has been shown by Becker et al. 2004 not to be on the U.S. policy makers' interests.

5.2. Drug Policy as an International Game: Theoretical Settings¹⁹

The model presented in this article is based on the broadly used gravity model originally designed by Feynman (1963)²⁰ and implemented in economics by Krugman as quoted in Akerlof (1997), who also uses the gravity model and who designed the version adapted here.

The utility function in the model is the indirect utility function of the policy makers in each country playing the game. The payoffs are determined by an intrinsic value of the decision and a value that is affected by the decisions made by politicians in a different country.

The objective of the politicians is to maximize their utility function by incorporating decisions made by politicians in other countries. It is assumed that the utility of the politicians represent an economic value for them.

Following the set-up presented by Akerlof (1997), it is assumed that there are two players, one in each country; U.S. and Colombia. Each player sets its policy so that it will maximize its utility, knowing what foreign country policy makers did in their last policy definition regarding drugs and being aware of their preferences on the subject. Both politicians must form expectations about the policy stance in the other country and, taking into account that policies toward drugs in U.S. and Colombia have been stable for a long time, both will also assume that in the future, the other country's policy stance will remain the same²¹.

Based on the outline on games presented by Mas-Colell et. al. (1995) it is possible to define the game by a set of two players, $PL = \{Col, US\}$, where *Col* represents Colombian politicians and policy makers, and *US* United States of America politicians and policy makers. The information for both players is the same: each knows the last move of the other player, represented by a policy stance, but they cannot observe the

¹⁸ Eventually the links to the U.S. constitute an obstacle to create cooperative policies with countries under similar circumstances.

¹⁹ This section uses most of the explanations given by Akerlof (1997) since his model is the one adopted here.

²⁰ Quoted in Akerlof (1997).

²¹ In this model it is assumed that politicians in each country want to set the optimal policy for their countries. Even if politicians face a conflict of interests, here it is assumed they always prefer the best for their country's people. This assumption helps to show that even if politicians were benevolent decision makers, their decisions under certain conditions could lead to implement a suboptimal equilibrium policy.

actual decision of the other player. Both players decide the policy stance regarding drugs at the same time. All players have preferences defined by the indirect utility function represented by the expression:

$$U_i = \sum_{j \neq i} e \left[(f + d_{0,ij}) (g + d_{1,ij}^E) \right] + (-ax_{1i}^2 + bx_{1i} + c) \quad (0)$$

In (0) the d functions represent the political distance between two countries at a particular time (i.e. 0 or 1). The sub indexes i and j represent each country where politicians making decisions were designated. The super index E is attached to a distance function which indicates that its correspondent value is an expectation formed by politicians on country i at the time zero over the behavior of politicians of country j at the time 1. The variables f and g represent the political mass of each country on the economic exchange (e) determined by the policy decisions. Finally the concave function at the end of the expression represents the intrinsic value for a politician of the country i of a particular policy implementation.

The utility function represented by (0) can be more explicitly denoted by:

$$U_i = \sum_{j \neq i} e \left[(f + |x_{0i} - x_{0j}|) (g + |x_{1i} - x_{1j}^E|) \right] + (-ax_{1i}^2 + bx_{1i} + c) \quad (1)$$

As in Akerlof 1997, the problem confronting each player i is to choose x_{1i} depending on its initial position x_{0i} and the expected initial position x_{1j} of the other player. In order to make this decision the player must form expectations about the actual position of her potential “trading partner” in drug policy definition. Many outcomes are possible depending upon how these expectations are formed. The simplest assumption is static expectations that the acquired drug policy stance of all other players will coincide with their initial position; this means that $x_{1j}^E = x_{0j}$ ²².

It is also important to note that in (1) the variable x_{1j} plays the role of a political stance but it also represents an economic value for the politicians. The policy stance determines an intrinsic voters attitude or political party attitude that represent an intrinsic economic value for the politicians, in this case represented by: $(-ax_{1i}^2 + bx_{1i} + c)$.

5.2.1. The Economic Decision: One Party

This part shows how a country will choose the economic optimum decision toward a particular issue if its policy choice is not affected by decisions made in any other country. For this case it is assumed there is only one country (player) in the game. The politicians in that country have a utility represented by the indirect utility function shown in (1) but adapted to the case of one player. The utility function implemented for the case looks slightly different from (1), but after a careful glimpse it becomes clear that the terms removed only makes sense in the two-country case. Therefore, the objective utility function can be represented as:

$$U_1 = -ax_{1Col}^2 + bx_{1Col} + c \quad (1a)$$

²² As noted before, the assumption does not seem to be too strong since U.S.’ and Colombia’s drug policies have been aligned for a long time.

The optimization problem is:

$$\text{Max}_{x_{1Col}} U_1(x_{1Col}) = -ax_{1Col}^2 + bx_{1Col} + c$$

$$\frac{\partial U_1}{\partial x_{1Col}} : -2ax_{1Col} + b = 0$$

$$\frac{\partial U_1}{\partial x_{1Col}} : x_{1Col} = \frac{b}{2a}$$

The maximum is represented by $x_{1Col} = b/2a$ which, as mentioned, is assumed to be drug legalization and is the optimal economic decision made by politicians under the described circumstances.

5.2.2. The Economic Decision: Two Parties

This game is defined as a two-country; for each country the following segment will show how optimizing politicians will choose to locate their policy stance at the initial position of a foreign country. The requirements for that outcome are that both countries have implemented similar policies regarding drugs and that they have a strong linkage in both the political and economic arena.

At the end of the game Colombia locates its policy stance at the initial position of the U.S. (United States of America) (x_{0US}) and the U.S. chooses to locate its policy stance at the initial position of country Col (x_{0Col}). This happens even under the possibility of choosing a different position from the economic optimum value.

The mathematical maximization of the indirect utility function represented by (1) requires the preservation of the absolute values. For this reason the function is defined by parts, changing the sign of the quantity ($x_{1Col} - x_{0US}$) from positive to negative as needed. Consequently the function can be defined for the interval $x_{1Col} < x_{0US}$ as:

$$U_1 = \left\{ \frac{e}{f + (x_{0US} - x_{0Col})} \right\} \left\{ \frac{1}{g - (x_{1Col} - x_{0US})} \right\} - ax_{1Col}^2 + bx_{1Col} + c \quad (3)$$

Note that quantity ($x_{1Col} - x_{0US}$) is negative in this range since $x_{1Col} < x_{0US}$. The derivative of (3) for the range $x_{1Col} < x_{0US}$ is

$$\frac{\partial U_1}{\partial x_{1Col}} = \left\{ \frac{e}{f + (x_{0US} - x_{0Col})} \right\} \left\{ \frac{1}{[g - (x_{1Col} - x_{0US})]^2} \right\} + (-2ax_{1Col} + b) \quad (3a)$$

Note that the first term is a constant. In this case, for simplicity of argument, it is assumed that $x_{0Col} < x_{0US}$, which makes the whole first term positive. The part $[g - (x_{1Col} - x_{0US})]$ in the second term never changes its sign because in this range it is always true that $x_{1Col} < x_{0US}$, which guarantees that the key-bracketed term is not only positive, but that it never shows a peak. The last term is assumed to be positive ($-2ax_{1Col} + b > 0$) because it represents an intrinsic value for the politicians.

As a consequence, $x_{1Col} \geq x_{0US}$ must be true because otherwise the optimum could not be reached since (1) is a concave function.

For the interval $x_{0US} < x_{1Col} < b/2a$, the function U_1 is:

$$U_1 = \left\{ \frac{e}{f + (x_{0US} - x_{0Col})} \right\} \left\{ \frac{1}{g + (x_{1Col} - x_{0US})} \right\} - ax_{1Col}^2 + bx_{1Col} + c \quad (4)$$

The derivative for the mentioned range is:

$$\frac{\partial U_1}{\partial x_{1Col}} = - \left\{ \frac{e}{f + (x_{0US} - x_{0Col})} \right\} \left\{ \frac{1}{[g + (x_{1Col} - x_{0US})]^2} \right\} + (-2ax_{1Col} + b) \quad (4a)$$

Recall that derivatives are not well defined when the original function changes its direction abruptly creating a discontinuity on the derivative function. This kind of discontinuity can be observed on the function U_1 when $x_{1Col} = x_{0US}$, where the right hand derivative and the left hand derivative have different magnitude. This fact alone does not guarantee immediately that this point is the optimum value of x_{1Col} for country *Col*, but the optimality could be guaranteed if some conditions are fulfilled. It is required that: Distance between $b/2a$ and x_{1Col} is sufficiently large and the intrinsic value of x is small relative to the exchange value (e).

Finally, in the range $x_{1Col} > b/2a$, the value of U_1 is the same as (4) and the derivative remains the same as (4a). In this case, under the above mentioned conditions, the derivative does not change its sign. This concludes the proof and shows how under certain conditions it is possible to find that x_{1Col} will be chosen on the initial value of x_{0US} because U_1 reaches its maximum value at that point. A similar proof can be made to show that the same outcome holds true for x_{1US} .

5.3. Drug Policy as an International Game: Policy Implications

This game has shown how a suboptimal drug policy leads, under some circumstances, to a suboptimal equilibrium on drug policy decisions. In other words, it leads to the implementation of a drug policy that although not being the most advantageous tends to perpetuate itself through time given the design of the political process. One of the most important parameters in the model is the exchange value (e); if that value is large enough the equilibrium policy would remain suboptimal.

In the case of exchange value, Plan Colombia could be mentioned as an example as it represents a large amount of transfers from the U.S. Government to the Colombian government. This policy generates a very strong linkage between Colombian policy and U.S. policy decisions. It is also important to mention that for the U.S. politicians, the amount of resources transferred to Colombia represent a commitment to the initial policy stances towards drugs (prohibition) represented by (x_{0US}). The amount of resources transferred by the U.S. to Colombia, and the amount of resources spent internally²³ in the U.S. to control drug business, increases the value of the political exchange (e) and consequently the potential cost of a policy misalignment. This argument can be understood as the utility reduction for the politicians in the U.S. that could be created if a deviation on the policy stance is adopted by the Colombian government. A policy choice of that kind represents a utility reduction by an increase in the political stance distance of the two countries.

²³ A summary of the resources spent by the US society by drug abuse are presented on **Appendix 3: Drug Price, Users and Expenditure** on **Table 7** and **Table 8**.

Therefore, the model shows the relevance of the political exchange programs between U.S. and Colombia, which creates a strong link and constitutes an obstacle to reach the optimal policy objective for both countries.

An implication from the analysis is that Colombia could open its access to a broader spectrum of policies by strengthening the political links with other countries²⁴. To reach that policy it is important to design a negotiation process that can change the incentives established on the actual policy stance permitting the change to the new policy objective.

6. The Negotiation Process

From the Colombian government perspective the best outcome is to terminate the rent transfers from drug business to illegal violent groups (i.e. drug cartels, guerrillas or whatever comes in the future). To reach that objective Colombia has various possibilities. As it was shown, drug prohibition and extermination is the way that has been experimented, and it has been implemented together with some efforts to increase the life standard and therefore make more expensive the illegality attached to the drug business. As argued above, this policy is suboptimal and might not be in the best interests of the Colombian society.

On the other hand, the existence of a possibility to start a legalization process (pursuing legalization as the optimal policy) creates an alternative path to reduce the magnitude of the internal conflict. Under this option the government should try to either change the actual stance of other parties interested in terminating the problems caused by the illegal drug business rents (or drugs production), or to look out for new allies on a legalization policy. Those alternatives will reinforce the negotiation power of the country, increasing the possibility of success in the task.

To understand the Colombian government situation as well as the other parties' interests on drug business **Table 1** is presented. To read the table correctly, keep in mind that drug business owners are some of the most important, illegal and violent actors on the internal conflict at present. A brief explanation of each party's interest is offered below. There are maximum two parameters in each cell of the table: the first one is the magnitude of interest and the second is the direction of the interest.

²⁴ This consequence does not come directly from the model presented above, but it is possible to argue that under a three country game with another player located near to the economically optimal policy, it will be possible for Colombia to start building links with the new player (i.e. Latin American countries, Netherlands, etc.) and finally move towards the optimal policy. The proof of that fact can be obtained from the original paper by Akerlof 1997 or by a replication of his proof made on the **Appendix 4: The Economic Decision: Three Parties** of this paper. The proof shows how with three parties the stability of the equilibrium depends on the e (exchange value) between the involved parties. This means that if Colombia can diversify its relations to reduce its dependence from the US then the country will be able to have more options in terms of national regulation, in this case, drugs regulation.

Table 1: Interests on Drug Business: Colombia, Owners and U.S.

Interests Players	Drugs Production	Drugs rents to Colombian Conflict	Colombian Conflict
Colombian Government	Low (Against)	High (Against)	High (On objectives*)
Drug Business Owners	None**	High (For)	High (On objectives*)
U.S. Government	High (Against)	High (Against)	Low (keep safe its interests)

* Each party has different interests in the Colombian conflict, but they are all interested on the outcome, especially in reaching their particular objectives as persons and groups.

** Drug business owners do not care about the drugs by itself; their interests are in the monetary rents they can earn from that business.

6.1. The Parties' Interests

For the U.S. government the whole chain of the drug business has been manifested to be a problem. Politicians argue that it creates a social cost and illegal rent extraction²⁵. The argument presented by the politicians and policy makers is that drug production represents a cost for the U.S. society because their high drugs consumption.

As mentioned before, for Colombia the most important problems are the drug rents and the internal conflict, more than drug production since drug consumption is not as expensive to the country as other problems. Nevertheless, drug production could imply a large exposure of the population to drug consumption which could cause productivity reductions and other costs (i.e. as the problems observed in the U.S. population).

From the drug business owner's perspective, drug production is not an objective per se. Their objectives are to obtain rents to keep fighting the government or to benefit themselves, or both depending on groups and persons²⁶.

After exposing the incentives of each party with interests in the drug business in Colombia, it should be interesting to analyze the policy that had been implemented in the U.S. on this issue. It is also important to understand the conflict of interest between Colombia and the U.S. on drug policy, and what political alternatives are open to Colombian policy makers to pursue the best interest of the country.

²⁵ However, Becker et al. 2004 has shown that legalization is better for the whole U.S. society. His paper also has shown that the story behind the position of U.S. politicians and policy makers is that they do not have personal incentives to legalize the drug business. Moreover, this paper has shown that their attitude is committed to be stuck on that policy.

²⁶ Generalizations such as drug traffickers, terrorists, bandits, guerrilla or any classifications are avoided here; that is because all adjectives are at some level true depending on individuals and groups.

6.2. Conflict of Interests and Strategies

The war on drugs as actually conceived, and its subscribed cooperation programs between U.S. and drug producing countries like Colombia, have increased the political barriers that impede changing the suboptimal policy of drug illegality. This situation results in the protection of U.S. politicians and policy makers' interests.

Colombian politicians have a commitment with the U.S. policies created by the huge support given by the U.S. politicians and policy makers to fight on the internal conflict. This is especially true on the issues where Colombian interests and U.S. politicians and policy makers' interests are aligned. Nevertheless, it is important to notice that the U.S. aid for the conflict has not been committed to a comprehensive solution for the Colombian problems²⁷.

By this exposition it is clear that Colombia and the U.S. decision makers' interests are not aligned on the comprehensiveness and the focus of the problem. Each side has different interests and each one should try to reach the best policy to address its own problems.

A strong linkage of the Colombian internal drug policy agenda with the U.S. policy will not help Colombia solve its conflict. Moreover, an active participation in cooperation programs that support the repressive war on drugs will maintain Colombia attached to the U.S. interests leading the national policies to be stuck on a suboptimal choice.

As proposed in the previous chapter of this thesis, Colombia should search to strengthen its links to countries with a policy stance that could better match the optimal policy of drug legalization. With such a change in the political links, Colombia may be able to change its own incentives and move toward drugs legalization.

Another possibility explored here for Colombia is to promote a change in the policy stance of countries that have similar interests to its own. As presented in **Table 2** some Latin-American countries may share those interests.

6.3. Potential Colombian Allies on a Legalization Policy

The countries added to the table are the ones closer to legalization. The Netherlands have one of the most liberal drug policy stances in the world. Their policy is an attempt to reach the optimal drug policy target: reduce the negative impact of drugs by preventing consumption, rather than repressing the business.

²⁷ For more on that issue see the composition of the US aid to Colombia in **Table 3**. It is clear that just a 20% has been transferred to social programs. Those policies do not show a commitment to change the social problems faced in Colombia that are the motor of the internal conflict.

Table 2: Interests on Drug Business: Colombia, Owners and Other Parties

Players	Interests	Drugs Production	Drugs rents to Colombian Conflict	Colombian Conflict
Colombian Government		Low (Against)	High (Against)	High (On objectives)
Drug Business Owners		None	High (For)	High (On objectives)
Latin-American Governments		Low (Against)	High (Against)	High (Stop spillovers)
Governments close to legalization		Low (Against)	None	Low
U.S. Government		High (Against)	High (Against)	Low (keep safe its interests)

However, Colombia has few links to the Netherlands and the interests on the Colombian conflict are not necessarily aligned between both countries. The drug production is, as usual, not approved by the Netherlands. The Colombian internal conflict by itself does not seem to represent a major concern for the Netherlands' government. Colombia is geographically and politically far and does not affect much of the Netherlands' interests²⁸.

On the other hand, Latin-American (L.A.) countries were also included in **Table 2**. It is important to mention that the closer the L.A. countries are to Colombia, the more affected they are by the Colombian conflict. This means that if there are more rents on the drug business, more weapons, traffic, and drug traffic is going through their countries. When the conflict is rough they have been affected by invasions to their lands and by external displacement. Furthermore, Peru and Bolivia also produce large amounts of drugs, and countries such as Mexico and Brazil serve as corridors for the drug traffic and are affected by internal cartels. Finally, Colombia has more links to Latin-America than it has to any country outside the region.

As a conclusion it could be argued that the best solution to reduce the drug impact by implementing a legalization process in Colombia should come from strengthening the links that tie together the Latin-American countries. Moving together towards drug legalization could reduce the impact of the drug business rents on each country's internal problems.

²⁸ It is still important to remember that a strengthening of the links that Colombia has with the Netherlands could lead to a better perspective of the drug market legalization.

7. Conclusions

From the Colombian history review it is possible to determine that drugs in Colombia are sources of rents and violence but are not necessarily linked to a particular guerrilla. Proof of that is the experience from the 80's, when drugs were mainly linked to a different kind of illegal and violent groups such as the drug cartels²⁹. This is a symptom that has shown how if drugs business keeps guaranteeing its large profits, its illegal character will remain as a source of violence for the country, no matter who is the violent player in control of the business.

Moreover, the internal conflict understood as the confrontation between illegally armed groups and the state will keep its highly violent nature if the drug remains illegal. The illegally armed groups will keep getting resources out of the drug business to fight against the state and the Colombian government will keep getting resources from the U.S government perpetuating³⁰ the Colombian internal conflict cycle described on the **Figure 1**.

From this perspective the legalization process appears as an alternative exit to the violent and traditional way of facing the problem. Certainly, to guarantee the success of the policy Colombia should turn its external policy to the creation of new links that support a legalization process and to generate alternatives to its dependence on the U.S. This process would be possible if made with countries that have policies close to legalization or by aligning interests with countries that share similar interests of Colombia.

Nevertheless, as long as Colombia stays strongly linked to the United States (i.e. aid programs or other means that make the country highly dependent on the U.S.) the internal drug policy will remain linked to the prohibitive and confrontational approach set by the U.S. internal policy; at least until the U.S. changes its drug policy stance by legalizing the drugs market.

Finally, it is not granted that Colombian conflict would be solved if the illegal drugs business rents are either legalized or extirpated from Colombia. Colombia has experienced internal conflicts for more than forty years now and rents are only one more source of financing the conflict. However, the causes of the problem are still making people work on illegal business and wars. The intensity of the conflict may be decreased by reducing the illegal drugs business rents; but all the causes of the conflict should be well identified and kept as a policy target to reach a comprehensive and lasting solution for the Colombian internal conflict.

²⁹ Drug business is also currently linked to drug traffic bands other than guerrillas.

³⁰ At least the conflict would last for an unknown period of time as mentioned by Echeverry 2004.

8. References

- [1] Akerlof, George A. (1997): "Social Distance and Social Decisions," *Econometrica*, 65, 1005-1027.
- [2] Archila N., Mauricio. Delgado G., Álvaro. García V., Martha Cecilia., and Esmeralda Prada M. (2002): *25 Años de Luchas Sociales en Colombia 1975-2000*. Cinep. Bogotá D.C., Colombia.
- [3] Becker, G. S. (1971): *The economics of Discrimination*, second edition. Chicago: University of Chicago Press.
- [4] Becker, G. S. (1973): "A Theory of Marriage: Part I," *Journal of Political Economy*, 81, 813-846.
- [5] Becker, G. S. (1974): "A Theory of Marriage: Part II," *Journal of Political Economy*, 82, 811-826.
- [6] Becker, G. S. (1977): "An Economic Analysis of Marital instability," *Journal of Political Economy*, 85, 1141-1187.
- [7] Becker, G. S. and K.M. Murphy (1988): "A Theory of Rational Addiction," *Journal of Political Economy*, 96, 675-700.
- [8] Becker, G. S. Murphy, K.M. and Michael Grossman (2004): "The Economic Theory of Illegal Goods: The case of Drugs," National Bureau of Economic Research. Working Paper 10976.
- [9] Bushnell, David (1993): *Colombia una Nación a Pesar de si Misma: De los Tiempos Precolombinos a Nuestros Días*. Planeta. Bogotá D.C., Colombia.
- [10] Díaz, Ana María and Fabio Sánchez (2004): "A Geography of Illicit crops (Coca Leaf) and Armed Conflict in Colombia," Documento CEDE 2004-19. Universidad de los Andes. Bogotá D.C., Colombia.
- [11] Duncan, Gustavo (2004): "Violencia y Conflicto en Colombia como una Disputa por el Control del Estado en lo Local," Documento CEDE 2004-11. Universidad de los Andes. Bogotá D.C., Colombia.
- [12] Echeverry, Juan Carlos (2004): "Colombia and the War on Drugs, How Short is the Short Run," Documento CEDE 2004-13. Universidad de los Andes. Bogotá D.C., Colombia.
- [13] García Durán, Mauricio (1992): *De la Uribe a Tlaxcala: Procesos de Paz*. Cinep. Bogotá D.C., Colombia.
- [14] Jacobsson, Adam and Alberto Naranjo (2004): "How do Drug Lords in Final Destination Countries Respond to Anti-Drug Policies?," Working paper. Stockholm University.

- [15] Maldonado, Hernán (2004): "What is in Progress and What has to be started. Colombia's Transition into an Open Market Economy" Term paper for the class: Transition Economics and North Korean Economy. Korean Development Institute School. South Korea.
- [16] Mas-Colell, Andreu. Whinston, Michael D. and Jerry R. Green. (1995): *Microeconomic Theory*. Oxford University Press. New York, New York, United States of America.
- [17] Moreno-Sánchez, Rocío. Kraybil, David S. and Thompson, Stanley, R. (2003): "An Econometric Analysis of Coca Eradication Policy in Colombia," *World Development*, 31, 375-383.
- [18] Naranjo, Alberto (2004) "Illicit Drugs, Rebel Movements and Anti-Drug Policies," Stockholm University. Working Paper.
- [19] Ofstein, Norman (2002) "An Extortionary Guerrilla Movement," Documento CEDE 2002-09. Universidad de los Andes. Bogotá D.C., Colombia.
- [20] Pécaut, Daniel (2001): *Guerra Contra a Sociedad*. Editorial Espasa. Primera Edición. Bogotá, D.C., Colombia.
- [21] Pshiva, Rony and Gustavo Suárez (2004): "Crime and Finance: Evidence from Colombia," Job Market paper. Harvard University.
- [22] Rubio, Mauricio (2002): "Conflicto y Finanzas Públicas Municipales en Colombia," Documento CEDE 2002-17. Universidad de los Andes. Bogotá D.C., Colombia.
- [23] Rubio, Mauricio (2003): "Del rapto a la Pesca Milagrosa: Breve Historia del Secuestro en Colombia," Documento CEDE 2003-36. Universidad de los Andes. Bogotá D.C., Colombia.
- [24] Raiffa, Howard. Richardson, John and David Metcalfe (2002): *Negotiation Analysis; The science and Art of Collaborative Decision Making*. The Belknap Press of Harvard University Press. Cambridge, Massachusetts, and London, England.
- [25] Richani, Nazih (2002): *Systems of Violence; The Political Economy of War and Peace in Colombia*. State University of New York Press. Albany, United States of America.
- [26] Rocha, Ricardo (1999): *La economía colombiana y la producción de drogas ilícitas: tras 25 años de inserción*, UNDCP.
- [27] Sánchez, Fabio. Díaz, Ana María and Michel Formisano (2003): "Conflicto, Violencia y Actividad Criminal en Colombia: Un Analisis Espacial," Documento CEDE 2003-05. Universidad de los Andes. Bogotá D.C., Colombia.
- [28] Steiner, Roberto (1997): *Los Dólares del Narcotráfico*, Cuadernos de Fedesarrollo, 2, Tercer Mundo Editores. Bogotá D.C. Colombia.

- [29] Steiner, Roberto and Alejandra Corchuelo (2000): "Economic and Institutional Repercussions of the Drug Trade in Colombia". Documento CEDE 2000-02. Universidad de los Andes. Bogotá D.C., Colombia.
- [30] Tabares, Elizabeth and Ramón Rosales (2005) "Políticas de Control de Oferta de Coca: "La Zanahoria" y "el Garrote"". Documento CEDE 2005-10. Universidad de los Andes. Bogotá D.C., Colombia.
- [31] United Nations Development Program (U.N.D.P.) (2003): *El Conflicto Callejón con Salida. (A cul-de-sac with ways out)*. Informe Nacional de Desarrollo Humano para Colombia – 2003. Bogotá D.C., Colombia. Segunda Edición. Available in English and Spanish at www.pnud.org.co/indh2003

9. Appendixes

9.1. Appendix 1: Literature Review

The following literature review offers a concise recount of conclusions found on studies about the Colombian conflict. Though, the main focus will be carried on the part devoted to the drug policies evaluation because it is the main interest of this work.

The presentation starts with a background of the conflict, followed by a recent picture of the conflict which summarizes the case studies on players' incentives. A third part accounts for the literature on consequences of the conflict and finally current studies on conflict resolution will be presented, mentioning comparative studies.

Before starting it should be noticed that the most comprehensive analysis of the Colombian conflict is the book "A Cul-De-Sac with Ways Out", by U.N.D.P. (2003). The mentioned study is not only a theoretical or empirical analysis; it is a project to promote the conflict resolution in Colombia. Nevertheless, it analyzes and presents most of the areas involved in the Colombian conflict.

9.1.1. Conflict Background

A panoramic presentation of the conflict background is offered by U.N.D.P. (2003); other studies offer detailed explanations on specific subjects. Bushnell (1993) presents an overview of the Colombian history that covers from the very beginning of the Colombian history until the early 90's. Presentations with particular focuses are offered by: Sánchez, Díaz and Formisano (2003) who make a review of the conflict history in their first chapter, García Durán (1992) presents a recount on several peace processes held in Colombia, Rubio (2003) offers a detailed historic explanation of the kidnappings practice in Colombia. Some facts are also offered in most of the studies, but not all show a historical review (see References on chapter 8).

9.1.2. Behavior and Incentives of the Actual Participants

Ofstein (2002) analyzes the private rent extraction in the conflict. His analysis is focused on attacks to oil pipelines. His findings provide evidence to support that some of the groups involved in the conflict are rent seekers. They utilize extortion as *modus operandi* to extract rents from legal businesses.

Similarly, Bottía (2003) found guerrilla groups to be rent seekers focused on rent creation by the operation of illegal businesses. She also found a contagious behavior that shows that these groups are more likely to expand their activities to territories near their control areas.

Díaz and Sánchez (2004) found a rent creation by the illegally armed groups. They found those groups to be linked to an extensive drug production in Colombia.

Sánchez, Díaz and Formisano (2003) show how the guerrillas create a violent environment in the Colombian territory. They found a statistical link between the presence of illegally armed groups and the leading violence trends in Colombia. Moreover, they found that violence creates room for more violent activities by spreading out the violent behavior in a region and making it time persistent.

The U.N.D.P. (2003) project shows the different perspectives of the players in the conflict. It presents a list of explicit actors' objectives while also analyzing the implicit causes of their actions. A further work on the U.N.D.P. (2003) project includes a

compilation of examples of conflict resolution strategies that have been successful on different Colombian regions.

Duncan (2004) presents a quantitative analysis of the Colombian conflict seen as a dispute for the control of the state on the local level.

9.1.3. Effects of the Conflict

Although, the Colombian conflict influences different spheres of society, the way of measuring its impact has been mainly by recounting its economic or social effects. Both are referred here:

Economic: Steiner and Corchuelo (2000) report the costs of drug traffic to the Colombian society. Pshisvha and Suárez (2004) evaluate the effects of kidnappings on firm investments.

Social: U.N.D.P. (2003) evaluates regional and national consequences imposed by war over society. Pécaut (2001) contextualizes and characterizes the main historic trends and actual actors focusing his study on the effects of war on society.

9.1.4. Conflict Resolution

The most notorious work in the field is the one made by U.N.D.P. (2003). The work is comprehensive on the national and international policies that must be taken into account. It states guidelines to address the main problems of the national conflict without losing its sense of reality and being aware of the role played by the international community.

9.1.4.1. Drug Policies Evaluation

Moreno-Sanchez et al. (2003) found empirical evidence that shows how crop substitution might be better than coca eradication. Tabares and Rosales (2005) show broadly the same findings as Moreno-Sanchez et al. (2003). Naranjo (2004) evaluates the effects of interdiction and involuntary crop eradication, concluding that interdiction is more effective than involuntary crop eradication. Díaz and Sánchez (2004) found that crop eradication via aerial spraying has not been an efficient tool in the fight against coca production in Colombia.

Echeverry (2004) found that war on drugs makes sense only in the long run because it depends on the price elasticity demand on the U.S. market.

The most relevant paper for this work on international drug policies is Becker et al. (2004). The study offers a literature review showing the state of the art in theoretical drug policy. It also develops and evaluates a model of drug policy effects, which concludes that fighting a war on drugs is a sub-optimal strategy when compared to the optimal strategy of drugs legalization with regulated consumption.

9.1.4.2. Comparative Studies

The last chapter of Richani (2002) offers a comparative analysis of the Colombian conflict to internal problems in Italy, Lebanon and Angola. He argues that other countries have also passed through struggles like the Colombian conflict. His analysis attempts to offer a case study guidance in order to address the Colombian conflict.

9.2. Appendix 2: Plan Colombia

Table 3: U.S. Aid to Colombia Since 2000: Summary Tables

Military and Police Assistance Programs							
(millions of dollars; numbers <i>underlined and italicized</i> are estimates taken by averaging previous two years)							
	2000	2001	2002	2003	2004	2005, estimate	2006, requested
<u>International Narcotics Control (INC, also known as "Andean Counterdrug Initiative)</u>							
State Department-managed counter-drug arms transfers, training, and services	688.1	46.4	254.2	431	324.6	321.8	331.9
<u>Foreign Military Financing (FMF)</u>							
Grants for defense articles, training and services	0	4.5	0	17.1	98.5	99.2	90
<u>International Military Education and Training (IMET)</u>							
Training, usually not counter-drug	0.9	1	1.2	1.2	1.7	1.7	1.7
<u>Emergency Drawdowns</u>							
Presidential authority to grant counter-drug equipment from U.S. arsenal " <u>Section 1004</u> "	0	0	0	0	<u>0</u>	<u>0</u>	<u>0</u>
Authority to use the defense budget for some types of counter-drug aid " <u>Section 1033</u> "	68.7	190.2	119.1	165	122	200	<u>161</u>
Authority to use the defense budget to provide riverine counter-drug aid to Colombia	7.2						
<u>Antiterrorism Assistance (ATA)</u>							
Grants for anti-terrorism defense articles, training and services	0	?	25	3.3	0	3.9	<u>2</u>

<u>Excess Defense Articles (EDA)</u>							
Authority to transfer "excess" equipment	0.4	0.5	2.4	3.4	<u>2.9</u>	<u>2.9</u>	<u>2.9</u>
<u>Discretionary Funds from the Office of National Drug Control Policy</u>							
	0	0	0	0	<u>0</u>	<u>0</u>	<u>0</u>
Subtotal	765	242.6	401.9	621	549.7	629.5	589.5
Percentage of total	78%	98%	77%	81%	79%	81%	80%

Economic and Social Assistance Programs
(millions of dollars)

	2000	2001	2002	2003	2004	2005, estimate	2006, requested
Economic Support Funds (ESF)							
Transfers to the recipient government	4	0	0	0	0	0	0
Development Assistance (DA)							
Funds for development projects	0	0	0	0	0	0	0
<u>International Narcotics Control (INC, also known as "Andean Counterdrug Initiative")</u>							
State Department managed funding for counter-drug economic and social aid	208	5.7	120.3	149.2	149.3	152.1	152.2
Subtotal	212	5.7	120.3	149.2	149.3	152.1	152.2
Percentage of total	22%	2%	23%	19%	21%	19%	20%
Grand Total	977.3	248.3	522.2	770.2	699	781.6	741.7

Sources: <http://www.ciponline.org/colombia/aidtable.htm>

International Narcotics Control:

1997: United States, Department of State, Bureau of International Narcotics and Law Enforcement Affairs, Fiscal Year 1999 Budget Congressional Presentation (Washington: Department of State: March 1998): 32.

1998: United States, Department of State, Bureau of International Narcotics and Law Enforcement Affairs, Fiscal Year 2000 Budget Congressional Presentation (Washington: Department of State: March 1999):

27.

1999: United States, Department of State, Bureau of International Narcotics and Law Enforcement Affairs, Fiscal Year 2001 Budget Congressional Presentation (Washington: Department of State: March 2000): 34 <http://www.state.gov/www/global/narcotics_law/fy2001_budget/latin_america.html>.

2000: United States, Department of State, Bureau of International Narcotics and Law Enforcement Affairs, Fiscal Year 2002 Budget Congressional Justification (Washington: Department of State: April 2001): 30 <<http://www.state.gov/g/inl/rls/rpt/cbj/fy2002/index.cfm?docid=3701>>.

United States Congress, Conference Report 106-701 on H.R. 3908, June 29, 2000 <<http://ciponline.org/colombia/confrept.pdf>>.

2001: United States, Department of State, Bureau of International Narcotics and Law Enforcement Affairs, Fiscal Year 2003 Budget Congressional Justification (Washington: Department of State: April 2002) <<http://www.state.gov/g/inl/rls/rpt/cbj/fy2003/>>.

2002: United States, Department of State, Bureau of International Narcotics and Law Enforcement Affairs, Fiscal Year 2004 Budget Congressional Justification (Washington: Department of State: June 2003) <<http://www.state.gov/g/inl/rls/rpt/cbj/fy2004/>>.

2003-2005: United States, Department of State, FY 2005 Congressional Budget Justification for Foreign Operations (Washington, DC: Department of State, February 2003) <<http://www.state.gov/m/rm/rls/cbj/2005/>>.

Foreign Military Financing:

1997: United States, General Accounting Office, "Drug Control: U.S. Counternarcotics Efforts in Colombia Face Continuing Challenges," GAO/NSIAD-98-60 (Washington: GAO, February 12, 1998) <<http://frwebgate.access.gpo.gov/cgi-bin/useftp.cgi?IPaddress=waisback.access.gpo.gov&filename=ns98060.txt&directory=/diskb/wais/data/gao>>.

1999: United States, Department of Defense, Department of State, Foreign Military Training and DoD Engagement Activities of Interest in Fiscal Years 1999 and 2000: A Report to Congress (Washington: March 2000) <<http://www.state.gov/www/global/arms/fmtrain/toc.html>>.

2000: United States, Department of State, Department of Defense, Foreign Military Training and DoD Engagement Activities of Interest In Fiscal years 2000 and 2001, Volume I (Washington: March 2001) <<http://www.state.gov/t/pm/rls/rpt/2001/fmtrpt/>>.

2002: United States, Department of State, FY 2004 Congressional Budget Justification for Foreign Operations (Washington, DC: Department of State, February 2003) <<http://www.state.gov/m/rm/rls/cbj/2004/>>.

2003 supplemental: Statement of Jess T. Ford, Director, International Affairs and Trade, General Accounting Office, United States Congress, Financial and Management Challenges Continue to Complicate Efforts to Reduce Illicit Drug Activities in Colombia, GAO-03-820T (Washington: GAO, June 3, 2003) <<http://www.gao.gov/docdb/lite/getrpt.php?rptno=GAO-03-820T>>.

2003-2005: United States, Department of State, FY 2005 Congressional Budget Justification for Foreign Operations (Washington, DC: Department of State, February 2003) <<http://www.state.gov/m/rm/rls/cbj/2005/>>.

International Military Education and Training:

1997: United States, Department of State, Office of Resources, Plans and Policy, Congressional Presentation for Foreign Operations, Fiscal Year 1999 (Washington: March 1998): 1013.

1998: United States, Department of State, Office of Resources, Plans and Policy, Congressional Presentation for Foreign Operations, Fiscal Year 2000 (Washington: March 1999): 1106-9.

1999: United States, Department of State, Office of Resources, Plans and Policy, Congressional Presentation for Foreign Operations, Fiscal Year 2001 (Washington: March 2000).

<http://www.state.gov/www/budget/fy2001/fn150/forops_full/150fy01_fo_military-asst.html>.

2000: United States, Department of State, Office of Resources, Plans and Policy, Congressional Presentation for Foreign Operations, Fiscal Year 2002 (Washington: April 2001) <<http://www.state.gov/documents/organization/3961.pdf>>.

2001: United States, Department of State, FY 2003 Congressional Budget Justification for Foreign Operations (Washington, DC: Department of State, April 15, 2002) <<http://www.state.gov/m/rm/rls/cbj/2003/>>.

2002: United States, Department of State, FY 2004 Congressional Budget Justification for Foreign Operations (Washington, DC: Department of State, February 2003) <<http://www.state.gov/m/rm/rls/cbj/2004/>>.

2003-2005: United States, Department of State, FY 2005 Congressional Budget Justification for Foreign Operations (Washington, DC: Department of State, February 2003) <<http://www.state.gov/m/rm/rls/cbj/2005/>>.

Emergency Drawdowns:

1997: United States, Department of State, "Summary Sheet," fax document, September 16, 1997.

1998: United States, Department of State, "Memorandum of Justification for use of Section 506(a)(2) special authority to draw down articles, services, and military education and training," September 15, 1998.

1999: United States, White House, "Draft Working Document: FY99 506(a)(2) Drawdown List Requested Items," Memorandum, September 30, 1999.

"Section 1004":

1997: H. Allen Holmes, coordinator for drug enforcement policy and support, United States Department of Defense, letter in response to congressional inquiry, Jan. 23, 1998.

1998: Ana Maria Salazar, deputy assistant secretary of defense for drug enforcement policy and support, United States Department of Defense, letter in response to congressional inquiry, Mar. 19, 1999.

1999: United States, Department of Defense, Office of the Deputy Assistant Secretary of Defense for Drug Enforcement Policy and Support, correspondence with authors, September 21, 2000.

2000: United States, Department of Defense, "Report on Department of Defense Expenditures To Support Foreign Counterdrug Activities", Washington, December 29, 2000.

United States Congress, Conference Report 106-701 on H.R. 3908, June 29, 2000 <<http://ciponline.org/colombia/confrept.pdf>>.

2001-2005: Congressional Research Service, "Andean Counterdrug Initiative (ACI) and Related Funding Programs: FY2005 Assistance," Washington, December 9, 2004 <<http://ciponline.org/colombia/041209crs.pdf>>.

"Section 1033":

1998-2002: same as "Section 1004" above.

Anti-Terrorism Assistance:

United States, White House, Office of Management and Budget, "Technical Language" for supplemental appropriations request (Washington: March 21, 2002): 80

<http://ciponline.org/colombia/02supp_technicallanguage.pdf>.

2003-2005: United States, Department of State, FY 2005 Congressional Budget Justification for Foreign Operations (Washington, DC: Department of State, February 2003)

<<http://www.state.gov/m/rm/rls/cbj/2005/>>.

Excess Defense Articles:

United States, Department of Defense, Defense Security Cooperation Agency, Excess Defense Articles online database <http://www.dsca.osd.mil/home/excess_defense_articles_bbs.htm>.

2003: United States, Department of State, FY 2005 Congressional Budget Justification for Foreign Operations (Washington, DC: Department of State, February 2003) <<http://www.state.gov/m/rm/rls/cbj/2005/>>.

ONDCP Discretionary Funds:

United States, Executive Office of the President, Office of National Drug Control Policy, memo in response to congressional inquiry, February 1998.

Economic and Social Assistance:

1997-2003: Same as "International Narcotics Control" above.

9.3. Appendix 3: Drug Price, Users and Expenditure

Table 4: Price of One Pure Gram of Powder Cocaine

Year	<2 grams Average	2 to 10 grams Average	10 to 50 grams Average	> 50 grams Average
1981	544.59	345.64	280.55	201.18
1982	590.86	337.46	267.12	186.54
1983	471.87	311.02	215.06	158.2
1984	400.69	252.74	170.08	136.53
1985	389.6	239.24	170.56	135.34
1986	296.94	186.06	130.5	100.19
1987	250.55	145.78	98.63	74.56
1988	223.55	126.83	73.79	56.95
1989	189.92	109.54	67.02	52.98
1990	234.94	133.17	84.74	71.6
1991	198.34	99.18	67.19	55.79
1992	153.96	97.27	62.19	52.28
1993	156.18	95.57	63.58	49.68
1994	147.43	86.42	55.45	43.55
1995	181.58	87.64	57.68	48.68
1996	150.13	84.13	50.67	42.59
1997	145.72	80.21	52.07	45.75
1998	132.09	78.71	47.02	38.59
1999	135.51	82.39	50.16	43.52
2000	161.28	99.4	55.26	48.02
2001	168.29	81.38	53.98	44.87
2002	124.54	74.36	47.27	41.59
2003*	106.54	70.52	44.17	37.96

* 2003 Prices are based on information from only the first two quarters of the year, and thus are likely to be updated in future reports. All prices are adjusted for inflation and reported in 2002 dollars. Estimates to the penny are provided to facilitate replication/confirmation and not intended to be meaningful interpreted given how broad the uncertainty bands are.

Source: System to Retrieve Information on Drug Evidence (STRIDE)

Prepared by: RAND Corporation 2/04

Quoted in: The price and purity of illicit drugs: 1981 through the second quarter of 2003. Executive Office of the President. Office on National Drug Policy. Washington, D.C., 2004.

Table 5: Total U.S. Expenditures on Illicit Drugs, 1988-2000 (\$Billions)

Year	Cocaine	Total**	Cocaine/Total
1988	107.0	154	69.5%
1989	88.4	132	67.0%
1990	69.9	115	60.8%
1991	57.1	97	58.9%
1992	49.9	88	56.7%
1993	45.0	77	58.4%
1994	42.8	78	54.9%
1995	40.0	75	53.3%
1996	39.2	74	53.0%
1997	34.7	68	51.0%
1998	34.9	67	52.1%
1999	35.6	65	54.8%
2000*	35.3	64	55.2%

Note: Amounts are in constant 2000 dollars

* Estimates for 2000 are projections

** Total includes: Cocaine, Heroine, Marijuana, Meth-amphetamine and other drugs

Source: Office of national Drug Control Policy, What America's users Spend on Illegal Drugs, 1988-2000 (December 2001).

Quoted in: National Drug Control Strategy. Data supplement. The White House, 2004.

Table 6: Estimated Number of users of Cocaine and Other Illegal Drugs

(Thousands)

Ages of 12 and older

Year	Current use of any illegal drug	Current cocaine use	Occasional cocaine use
1979	25,400	4,700	-
1982	-	4,500	-
1985	23,300	5,700	7,100
1988	15,000	3,100	5,100
1990	13,500	1,700	3,700
1991	13,400	2,000	3,800
1992	12,000	1,400	3,000
1993	12,300	1,400	2,700
1994	12,600	1,400	2,400
1995	12,800	1,500	2,500
1996	13,000	1,700	2,600
1997	13,900	1,500	2,600
1998	13,600	1,800	2,400
1999	13,829	1,552	1,926
2000	14,027	1,213	1,732
2001	15,910	1,676	1,995
2002	19,522	2,020	3,073

Note: "Any illicit drug use" includes use of marijuana, cocaine, hallucinogens, inhalants (except 1982), heroine, or non-medical use of sedatives, tranquilizers, stimulants, or analgesics. The exclusion of inhalants in 1982 is believed to have resulted in underestimates of any illicit use for that year, especially for adolescents.

- Data not available

Sources: National Institute on Drug Abuse (1979-1991), and Substance Abuse and Mental Health Services Administration (1992-2001), National Household Survey on Drug Abuse; Substance Abuse and Mental Health Services Administration (2002), National Survey on Drug use and Health.

Quoted in: National Drug Control Strategy. Data supplement. The White House, 2004.

Table 7: Estimated Direct¹ of Drug Abuse Costs to Society, 1992-2002
(\$2002 Millions)

Year	Health Care Costs	Other Costs	Total Direct Costs
1992	13,719	24,909	38,629
1993	14,736	24,662	39,398
1994	14,761	25,892	40,653
1995	14,087	28,091	42,178
1996	13,249	28,325	41,574
1997	13,337	29,905	43,242
1998	13,569	31,334	44,903
1999	13,873	33,572	47,445
2000	13,974	35,280	49,254
2001	14,700	35,118	49,818
2002	15,675	36,363	52,038

¹ Direct costs include health care costs attributable to drug abuse and other costs which include the costs of goods and services lost to crime and social welfare costs.

Source: Office of National Drug Control Policy . The economic costs of Drug Abuse in the United States, 1992-2002 (2004).

Quoted in: National drug control strategy. Data supplement. The White House 2004.

Table 8: Estimated Indirect¹ of Drug Abuse Costs to Society, 1992-2002 (2002\$, Millions)

Year	Premature Death	Drug Abuse related Illness	Institutionalization/hospitalization	Productivity loss of victims of crime	Incarceration	Crime careers	Total
1992	28,961	18,214	1,894	2,640	22,961	24,617	99,287
1993	27,877	17,138	1,870	3,098	24,110	24,595	98,688
1994	28,034	19,234	2,043	3,100	25,607	23,796	101,814
1995	28,406	20,938	2,210	2,806	27,130	23,812	105,302
1996	23,745	23,241	1,758	2,674	28,473	27,241	107,132
1997	19,901	22,323	1,863	2,570	30,511	29,824	106,992
1998	19,323	25,542	1,971	2,279	33,257	27,180	109,552
1999	22,535	26,995	1,873	2,111	35,399	26,952	115,865
2000	23,045	28,654	1,782	1,930	36,244	26,836	118,491
2001	23,686	30,681	1,870	1,835	36,869	26,957	121,898
2002	24,646	33,452	1,996	1,797	39,095	27,576	128,562

¹ Indirect costs are productivity losses attributable to drug abuse

Source: Office of National Drug Control Policy . The economic costs of Drug Abuse in the United States, 1992-2002 (2004).

Quoted in: National drug control strategy. Data supplement. The White House, 2004.

9.4. Appendix 4: The Economic Decision: Three Parties³¹

On this appendix will be proved, as in Akerlof (1997), that in the model introduced in chapter 5, under certain appropriate conditions, the introduction of a third player will not alter the suboptimal equilibrium even if the new player is located near the optimal equilibrium policy (drug legalization).

The model variables and parameters interpretations given on the 5th chapter also apply in this case.

Proof

This game is defined as a three country; for one country (Colombia) the following segment will show how under certain condition optimizing politicians will locate their policy stance at the initial position of the nearest foreign country. This means that Colombia will locate its policy stance at the initial position of the U.S. (United States of America) (X_{0US}) it could also be proved by a similar argument that the U.S. will choose to locate its policy stance at the initial position of country Col (X_{0Col}). This happens even under the possibility of choosing to locate the policy stance on a different position closer to the country "other" which is located near the economic optimum value (X_{00th}).

To maximize the indirect utility function of a Colombian politician represented by (1) preserving the absolute values, it is required to define the function by parts, changing the sign of the quantity ($X_{1Col}-X_{0US}$) from positive to negative as required. This means the general equation (1) can be defined for the interval $X_{1Col} < X_{0US}$ as:

$$U_1 = \left\{ \frac{e}{f + (x_{0US} - x_{0Col})} \right\} \left\{ \frac{1}{g - (x_{1Col} - x_{0US})} \right\} \left\{ \frac{e}{f + (x_{00th} - x_{0Col})} \right\} \left\{ \frac{1}{g - (x_{1Col} - x_{00th})} \right\} - ax_{1Col}^2 + bx_{1Col} + c \quad (5)$$

Note that the quantities $X_{1Col}-X_{0US}$ and $X_{1Col}-X_{00th}$ are both negative in this range, since $X_{1Col} < X_{0US}$ and $X_{1Col} < X_{00th}$.

Differentiating (5) in the range $X_{1Col} < X_{0US}$ the result is:

$$\frac{\partial U_1}{\partial x_{11}} = \left\{ \frac{e}{f + (x_{0US} - x_{0Col})} \right\} \left\{ \frac{1}{[g - (x_{1Col} - x_{0US})]^2} \right\} + \left\{ \frac{e}{f + (x_{00th} - x_{0Col})} \right\} \left\{ \frac{1}{[g - (x_{1Col} - x_{00th})]^2} \right\} - [2ax_{1Col} + b] \quad (6)$$

In this range the first and third terms are constant; moreover it is assumed that $X_{0Col} < X_{0US}$ and $X_{0Col} < X_{00th}$, what makes the first and third terms positive. On the second and third terms the parts $[g - (x_{1Col} - x_{0US})]$ and $[g - (x_{1Col} - x_{00th})]$ never changes its sign because on this range it is always true that $X_{1Col} < X_{0US}$ and $X_{1Col} < X_{00th}$, which guarantees

³¹ This proof is entirely taken (adapted) from Akerlof (1997) and does not show, or pretend to show any major difference to the proof in his paper. The only purpose of the proof is to be clear on the scope of the analytical framework for the case of drugs that is analyzed here.

that the terms are not only positive, but never show a change on their direction (none of them exhibit peaks).

The last term is positive $-2ax_{1Col} + b > 0$ because it represents an intrinsic value for the politicians.

In consequence, $x_{1Col} \geq x_{0US}$ must be true because otherwise the optimum could not be reached since (6) is a concave function.

For the interval $x_{0US} < x_{1Col} < x_{10th}$, the function U_1 is:

$$U_1 = \left\{ \frac{e}{f + (x_{0US} - x_{0Col})} \right\} \left\{ \frac{1}{g + (x_{1Col} - x_{0US})} \right\} \\ \left\{ \frac{e}{f + (x_{00th} - x_{0Col})} \right\} \left\{ \frac{1}{g - (x_{1Col} - x_{00th})} \right\} - ax_{1Col}^2 + bx_{1Col} + c \quad (7)$$

And in this range,

$$\frac{\partial U_1}{\partial x_{11}} = - \left\{ \frac{e}{f + (x_{0US} - x_{0Col})} \right\} \left\{ \frac{1}{[g + (x_{1Col} - x_{0US})]^2} \right\} \\ + \left\{ \frac{e}{f + (x_{00th} - x_{0Col})} \right\} \left\{ \frac{1}{[g - (x_{1Col} - x_{00th})]^2} \right\} - [2ax_{1Col} + b] \quad (8)$$

The reader may recall that derivatives are not well defined when the function changes its direction abruptly creating a discontinuity on the derivative function. This discontinuity can be observed on the function U_1 when $x_{1Col} = x_{0US}$, where right hand derivative and left hand derivative have different magnitude (the function shows a peak). This fact alone does not guarantee immediately that this point is the optimum value of x_{1Col} for country *Col*, but the optimality could be guaranteed if some conditions are fulfilled: The distance between x_{1Col} and x_{00th} should be sufficiently large but sufficiently small between x_{1Col} and x_{0US} and the intrinsic value of x should be small relative to the exchange value (e).

Finally, in the range $x_{1Col} > x_{00th}$, the value of U_1 is:

$$U_1 = \left\{ \frac{e}{f + (x_{0US} - x_{0Col})} \right\} \left\{ \frac{1}{g + (x_{1Col} - x_{0US})} \right\} \\ \left\{ \frac{e}{f + (x_{00th} - x_{0Col})} \right\} \left\{ \frac{1}{g + (x_{1Col} - x_{00th})} \right\} - ax_{1Col}^2 + bx_{1Col} + c \quad (9)$$

and in this range,

$$\frac{\partial U_1}{\partial x_{11}} = - \left\{ \frac{e}{f + (x_{0US} - x_{0Col})} \right\} \left\{ \frac{1}{[g + (x_{1Col} - x_{0US})]^2} \right\} \\ - \left\{ \frac{e}{f + (x_{00th} - x_{0Col})} \right\} \left\{ \frac{1}{[g + (x_{1Col} - x_{00th})]^2} \right\} - [2ax_{1Col} + b] \quad (10)$$

There is no guarantee that $\frac{\partial U_1}{\partial x_{11}}$ is negative in this entire range since $x_{1Col} < x_{00th}$ when it is negative for $x_{0US} < x_{1Col} < x_{00th}$; nevertheless, if the marginal value of intrinsic utility, $-2ax_{1Col} + b$, is sufficiently small, $\frac{\partial U_1}{\partial x_{11}}$ will be negative throughout this region. Thus it has been shown if the intrinsic value of x_{1Col} is sufficiently small relative to the value of social exchange, and if Col and US are sufficiently distant from Oth and also from $b/2a$, the optimal value of x_{1Col} will be x_{0US} .

A similar proof will show that under these same conditions the optimal value of x_{0US} will be x_{1Col} , and x_{10th} will be chosen close to $b/2a$.