

Latin and South America: A Case Study of Emergent Geopolitical Viruses

R. Evan Ellis

Booz Allen Hamilton, Inc.
8283 Greensboro Drive
McLean, VA 22102
(703) 377-4174
ellis_evan@bah.com

This paper uses influence diagramming to examine the geopolitical significance of narcoterrorism dynamics currently observed in Colombia and the Andean Ridge region. It argues that the interaction between drug production, insurgency, and social marginalization can be viewed as a dynamic system that is relatively unstable. The extensive quantity of positive feedback relations in this system implies that the current violence and social chaos could spread across the region and overwhelm the capability of governments to respond, more rapidly than a traditional analysis of narcoterrorism and other regional phenomenon suggests.

INTRODUCTION

The civil war in Colombia escalated in the first months of 2003, with new campaigns of terror by the country's major leftist groups, the Fuerzas Armadas Revolucionarias de Colombia (FARC) and the Ejército Liberacion Nacional (ELN). In defiance of security measures by Colombia's newly elected president Alvaro Uribe, both leftist groups have stepped up rural terrorism,¹ and committed acts in urban areas that once considered themselves removed from the violence.² During 2001, 3,500 Colombians were reported killed by the war, 3,700 were reported kidnapped,³ and another 350,000 were displaced.⁴ In the first 45 days of 2003, 55 Colombian police officers were killed by armed groups,⁵ as well as numerous civilians and military officers.⁶ As one Colombia analyst noted, the country "has surpassed Chile, Argentina, and Peru for the record as the bloodiest land of this century in South America."⁷

Terrorist violence in Colombia has also increasingly impacted Colombia's neighbors. Ecuador, for example, has suffered 146 attacks on its oil installations.⁸ An estimated 3,000 Colombian guerillas are operating in Ecuador, using the area as a major weapons supply point.⁹ Similarly, as many as 750 armed guerillas are operating in and out of Venezuela, using that country's territory as a sanctuary, and for smuggling weapons and drugs into Colombia.¹⁰ As the FARC presence in Venezuela has increased, the country has also had a problem with groups kidnapping Venezuelan ranchers and selling them to guerillas in Colombia.¹¹ Colombian guerillas and militias also operate in the Darien region of Panama and use the country to smuggle arms into Colombia.¹² With the presence of the FARC, ELN, and AUC in Panama, Colombia's violence has begun to manifest itself in that country. A January 2003 attack by members of the Autodefensas Unidas de Colombia (AUC) against villages of indigenous Indians in the border region, for example, displaced 555 villagers and received widespread media attention.¹³ Even Brazil, which has taken significant measures in recent years to secure

its border with Colombia, has had difficulties with guerillas using its territory for arms smuggling and other operations.¹⁴

The growing disorder in the nations of the Andean ridge highlights a dangerous new phenomenon with significant national security implications for the United States. Criminal organizations and armed groups in the region have fallen into new forms of collaboration that allow them to finance their own operations without reliance on outside aid and its associated strings. The military and self-financing activities of these groups, in turn, creates dynamics that ultimately could break down the economic and sociopolitical fabric of the countries in which they operate.

As illustrated by the FARC, ELN, and AUC in Colombia, these organizations leverage the weakness of the states in which they operate to survive and grow. Their activities are financed, in part, by taxing or directly engaging in criminal activity such as narcotrafficking, embezzlement, and extortion.¹⁵ These criminal enterprises, in turn, leverage a unique combination of global commerce and information flows and the compromised character of the institutions within their own country. In short, criminal organizations conduct operations involving global shipments of narcotics and other goods, leveraging international banking, the international transportation infrastructure, and the ability to purchase “specialized human expertise” for certain operations on global markets.¹⁶ At the same time, the criminal activities depend on “safe havens” that they have created within compromised states to conduct key stages of their operations--such as money laundering and narcotics production.

Within their compromised societies, criminal organizations have enormous manpower needs, both to perform the daily physical labor required by their operations, and to provide protection from the state (and from rivals) for their activities. Armed groups on both the left and right serve the interests of criminal enterprises by physically protecting them in exchange for revenue. This loose partnership between criminal organizations and armed political groups thus generates capabilities, and promulgates incidents that contribute to the weakness of the state--thus sustaining the space in which criminal activity can take place.¹⁷ Both criminal organizations and armed groups thus are nourished by--and systematically destroy--the socioeconomic fabric of the state in which they grow. As the host state weakens, the activities of these organizations also infects and destabilizes neighboring states through flows of guerillas and refugees, and the violence and human suffering associated with them.

Although a great deal has been written about narcotrafficking, the spread of insurgency, and socioeconomic problems in Latin America,¹⁸ the current confluence of events is new and different with respect to the way in which multiple phenomenon reinforce each other to produce a potential escalating spiral of violence and economic malaise in the region. The individual perpetrators--such as drug cartels, terrorist cells, and insurgent groups--may not be coordinated, yet the combination of their individual goal-directed actions produces systemic effects that could ultimately destabilize the region and undercut the basis for U.S. global power.

Although the virus-like¹⁹ emergent threat may be seen most clearly in the Andean region, it is also manifested in Africa, the Middle East, the Former Soviet Union, and elsewhere. The U.S., which traditionally looks for threats in terms of rival states or

explicitly coordinated transnational groups, is not currently organized to recognize or effectively combat the new global danger.

When examined in traditional terms, one country or conflict at a time, Latin America appears beset by a series of serious, yet manageable problems. Colombia, with an army of over 150,000, and in the process of adding 35,000 more,²⁰ is currently waging a war against 17,000 leftist insurgents from the FARC, 4,000 from the ELN, and against 10,000 militia members loosely aligned under the far-right AUC,²¹ while simultaneously combating an endemic narco-trafficking problem.²² At the same time, each of Colombia's neighbors has been destabilized, to some degree, by the violence and refugee flows associated with its ongoing civil war.²³ Neighboring Venezuela is in the midst of a political crisis pitting the business and professional class against a controversial leader with the backing of the marginalized masses.²⁴ Argentina is slowly recovering from a political crisis of its own, which brought about the downfall of a series of governments, and ultimately the collapse of its financial system.²⁵ Both Ecuador²⁶ and Brazil²⁷ have recently elected left-of-center populist leaders that reflect the disaffection of the economically marginalized citizens of those countries, but who also risk taking their countries in the direction of Argentina, Venezuela, or Colombia.

When the current problems of Latin America are examined in **systemic terms**, however, the gravity of the situation becomes much clearer. Not only are many of the states of Latin America in a socioeconomically and politically weakened position, but the dynamics of those states lead them into unhealthy social and political responses to current problems, causing them to significantly compound an already bad situation. In the midst of this unstable environment, the character of the narco-terrorism phenomenon seen in Colombia makes it highly capable of spreading to other "weakened" states.

METHODOLOGY

This paper uses a system dynamics methodology to examine the threat posed by narco-terrorism in the Latin American context. Specifically, it uses influence diagramming to present the nature of counterterrorism and its complex interaction with the socioeconomic and political fabric of the countries in which it occurs.

System dynamics is a well-established methodology with an extensive literature, an active professional society of practitioners, generally-agreed processes and standards of proof.²⁸ System dynamics has been applied to a broad variety of analytical problems in the U.S., from business process re-engineering²⁹ to military issues, to healthcare,³⁰ to sustainable development.³¹ The system dynamics approach was chosen because it highlights the structural characteristics of a phenomenon, and the potential of that phenomenon to produce "non-linear" outcomes. This paper relies extensively on the system dynamics technique of influence diagramming³² to visually communicate those attributes of structure to a broad audience.

THE NATURE OF THE THREAT

The phenomenon described in this paper may be thought of metaphorically as a type of virus that has co-evolved with the international political and economic system over the years to act upon regions with increasingly deadly effect. This "geopolitical virus" must be understood as producing non-deliberate yet catastrophic system-level effects, which

arise from the goal-seeking actions of independent criminal organizations, insurgent groups, militias, hijacked states and other actors.

This paper uses states and groups found in Latin and South America to illustrate the threat from one particular manifestation of the virus. As with other types of geopolitical viruses, many variants may co-exist within the international system and adapt to the imperatives of particular regions over time, even as the international system itself evolves.

As suggested by the case of Colombia, geopolitical viruses require a weak state to initially grow and thrive.³³ In a state such as Colombia or Peru, the military and police cannot exert consistent, effective authority over the national territory.³⁴ Consequently, armed groups such as insurgents, terrorists, narcotraffickers, and other criminal groups are able to survive and conduct the activities that allow them to gain in size and strength.

The previously described organizations are sustained directly and indirectly through two complimentary mechanisms: international criminal commerce and cannibalization of the state that hosts them.³⁵

Both criminal organizations and insurgent groups leverage the multiple opportunities afforded by the international system, including markets and commercial infrastructure.³⁶ Narcotrafficking organizations sell the majority of their product in wealthy foreign markets, such as the U.S. and Europe.³⁷ Moreover, they hide the physical movement of their product and personnel in the great volume of international air and maritime traffic, as well as the large volume of workers and refugees flowing across international borders. Insurgent groups similarly use international flows as cover to move weapons and other material. As seen by the FARC's use of IRA and ETA "consultants" in Colombia,³⁸ both criminal and insurgent groups can tap into a global market of expertise and assistance. Both criminal and insurgent groups also utilize the international communication infrastructure and commercial electronics products to coordinate and protect their global operations.³⁹ Most utilize international banking to move and store their revenues, leveraging the poor financial regulation and oversight of weak states for otherwise vulnerable financial operations.⁴⁰

Both criminal organizations and insurgent groups also live off of the resources of the state--even while such activity inadvertently destroys the state and its ability to generate new resources. Insurgent groups such as the ELN and the FARC in Colombia, or Sendero Luminoso in Peru, for example, obtain part of their revenue through kidnapping, extortion, and providing protection for criminal organizations.⁴¹ In some cases, the groups become directly involved in criminal activities such as growing and processing cocaine and heroin.⁴² The ELN and the FARC in Colombia tap into oil pipelines in the northeastern part of the country. As noted previously, the collaboration between criminal and insurgent organizations has expanded into a natural and dangerously effective symbiosis, with criminal organizations funding armed groups, and armed groups protecting criminal activities and keeping host states weak through protracted violence. In the process, this symbiosis has raised aggregate levels of violence and economic hardship in the host nations, and has provided a mechanism by which the geopolitical virus has been able to grow to unprecedented proportions. As

Eduardo Pizano writes, “Gaining control over drug production in Colombia has permitted the FARC to grow, in fact doubling its size in the 1990s.”⁴³

The long-term effect of the combined activities of criminal organizations and armed groups is to destroy the economic and political fabric of the state itself.⁴⁴ Activities such as kidnapping and extortion discourage both foreign and internal investment, and also push foreigners, the upper classes, and people with economically valuable knowledge out of the country.⁴⁵ By undercutting the economic base of the state, these activities decrease the resources available to the government to assert authority over the national territory and deny criminal organizations and insurgent groups a space in which to operate.⁴⁶

A SYSTEM DYNAMICS PERSPECTIVE

For greater perspective into the nature of the relationship between criminal organizations, armed political groups, and the state...and the ultimate danger that they pose to the region, this paper now turns to processes and terminology from system dynamics.

One technique within the system dynamics methodology is the use of an “influence diagram” to represent postulated causal relationships between phenomenon. The specification of relevant causal relationships through influence diagrams or models allows the collection of phenomenon to be understood as a system. Systems tend to exhibit certain general characteristics, such as positive and negative “feedback” effects. “Positive feedback” occurs when a change in “variable A” causes changes in other variables in the system, one or more of which ultimately causes a change in the same direction variable A. The reader will quickly recognize that, without other factors to counteract this effect, a small initial increase in “A” would lead to a cycle of escalating increases in “B” then “A”. Systems in which such “positive feedback” dominates are regarded as unstable, because an input that displaces the system from equilibrium leads such a system to spiral out of control.

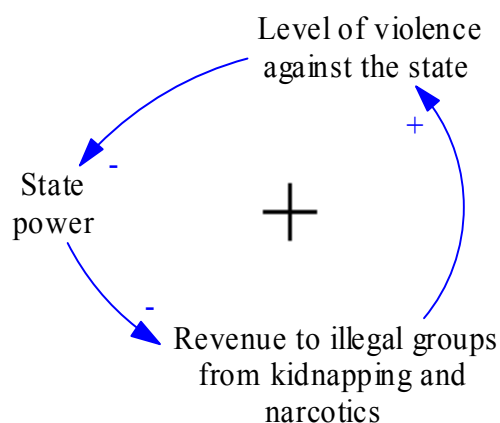


Figure 1

Figure 1 shows an influence diagram depicting a simplified example of such a “positive feedback loop. The three variables used for this example are “State power,” “Revenue to illegal groups from kidnapping and narcotics”, and “Level of violence against the state.” The arrows between the variables show the purported causal relationship,

flowing from the cause to the effect. A “+” associated with the arrow indicates that the relationship is positive. For example, an increase in “Revenue to illegal groups from kidnapping and narcotics” should help to bring about an increase in the “Level of violence against the state.” Similarly, a decrease in “Revenue to illegal groups from kidnapping and narcotics” should help to decrease the “Level of violence against the state.” A “-” associated with the arrow indicates that the relationship is negative. For example, an increase in “State power” should contribute to a decrease in opportunities for “revenue to illegal groups from kidnapping and narcotics.” Correspondingly, a decrease in “State power” should contribute to an increase in “revenue to illegal groups from kidnapping and narcotics.” Note that in the example provided above, the overall character of the feedback loop is positive, despite two “negative” relationships; a decrease in “State power” should lead to an increase in “Revenue to illegal groups from kidnapping and narcotics,” which in turn, should contribute to an increase in the “Level of violence against the state,” further decreasing state power. Without the intervention of other factors, the state would progressively weaken, illegal groups would gain more revenues, and violence would increase until the state itself collapsed.

In addition to “positive feedback loops,” complex systems are also characterized by “negative feedback loops.” “Negative feedback” occurs when a change in “A” leads to a change in other variables in the system, ultimately contributing to a change in “A” in a direction opposite to its original change. Negative feedback contributes to system stability because it counters or dampens the impact of a change. Negative feedback, like positive feedback, causes “non-linear” system performance, in the sense that the ultimate effect from a change in an input will be less than that predicted from examining its first-order effects alone.

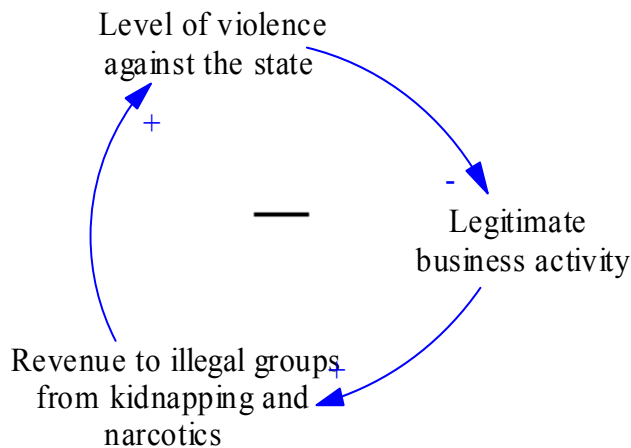


Figure 2

Figure 2 presents an influence diagram of a simple negative feedback loop. By following the causal connections postulated by the arrows, as well as the postulated direction of causality, the reader will note that an increase in the “Level of violence against the state” will contribute to a decrease in “Legitimate business activity.” In turn, this decreased “Legitimate business activity” will decrease opportunities for “Revenue to illegal groups from kidnapping and narcotics.” The effect of business pulling out of the country thus counteracts a tendency towards escalating narcoterrorist violence.

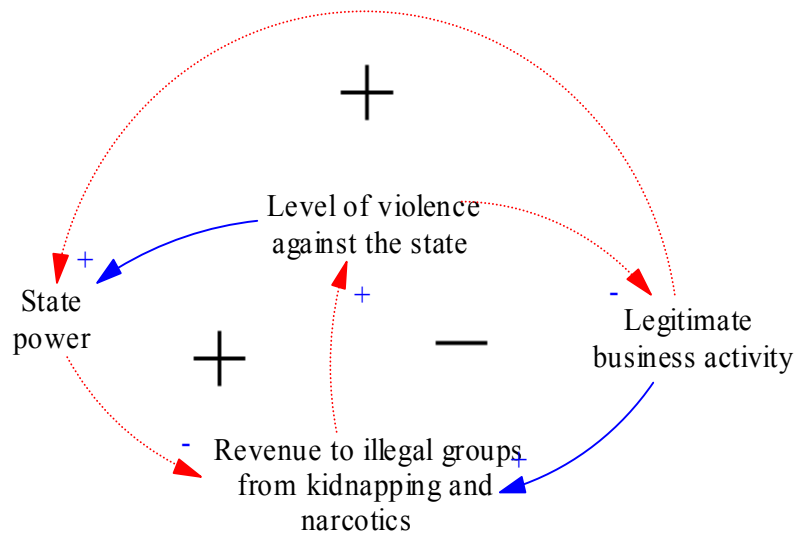


Figure 3

Complex systems generally contain both positive and negative feedback relationships, with the balance between positive and negative feedback, in turn, determining whether the system as a whole is stable or unstable. Figure 3 depicts the result of integrating the positive feedback loop shown in Figure 1 with the negative feedback loop shown in Figure 2. Note that the combination of the original positive and negative feedback loop has implied an additional positive feedback loop, depicted through red dashed lines. A decrease in “State power” will increase opportunities for “Revenue to illegal groups from kidnapping and narcotics,” which will help to increase the “Level of violence against the state.” Not only will this effect directly reduce “State power,” but by decreasing “Legitimate business activity,” it will also deprive the state of a source of revenue...thus decreasing “State power” even further.

Whether the positive feedback effects overwhelm the negative in this, or other particular cases, however, depends on the specific conditions of the system and the relative strengths of each feedback effect.

Figure 4 is the first of a series of influence diagrams presented in this section depicting the structure of narcoterrorism in Colombia in systemic terms. Beginning in the upper left-hand corner of the diagram, weaknesses in the “State control over national territory” in Colombia has contributed to “Opportunities to generate revenues through illegal activities.”⁴⁷ These opportunities have contributed to two principal types of criminal activity in the country--“Illicit Commerce” (narcotrafficking) and “Kidnapping and Extortion.” Both of these activities, in turn, increase the “Wealth of Criminal Organizations,” while “Kidnapping and extortion” also contributes directly to the “Resources of Armed Groups.”⁴⁸

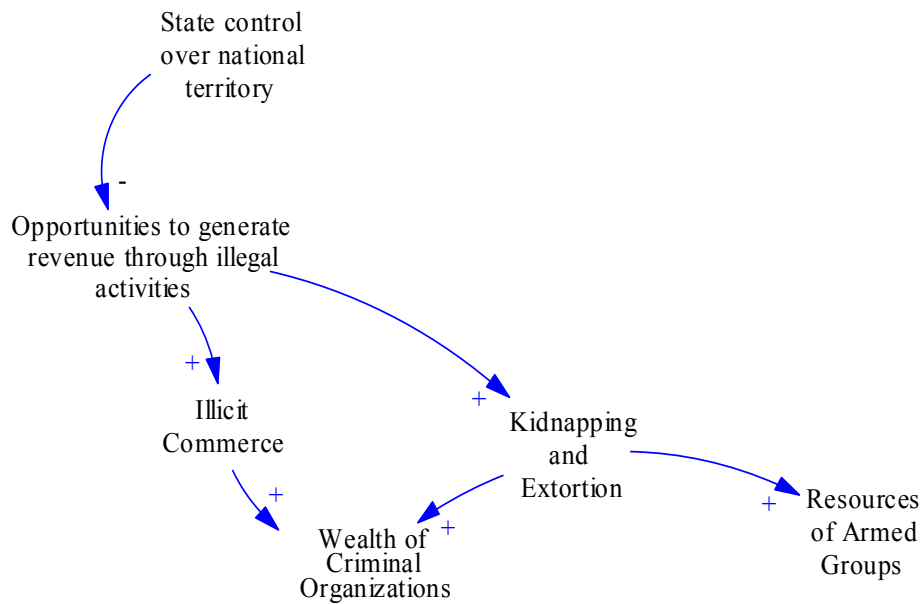


Figure 4

Figure 5 depicts a further extension of these systemic relationships. The increase in the “Wealth of Criminal Organizations” contributes to their ability to buy Protection of Criminal Enterprises by Armed Groups“. The revenue stream from this protection, in turn, compliments that earned by “Kidnapping and Extortion” and augments the “Resources of Armed Groups.” This expansion of their resources, in turn, contributes to an increase in the “Strength of Armed Groups,” The stronger the armed groups become, the more effectively they are able to provide protection to the criminal enterprises. The more effectively the criminal organizations are protected, the greater their “Opportunities to generate revenue through illegal activities.”⁴⁹

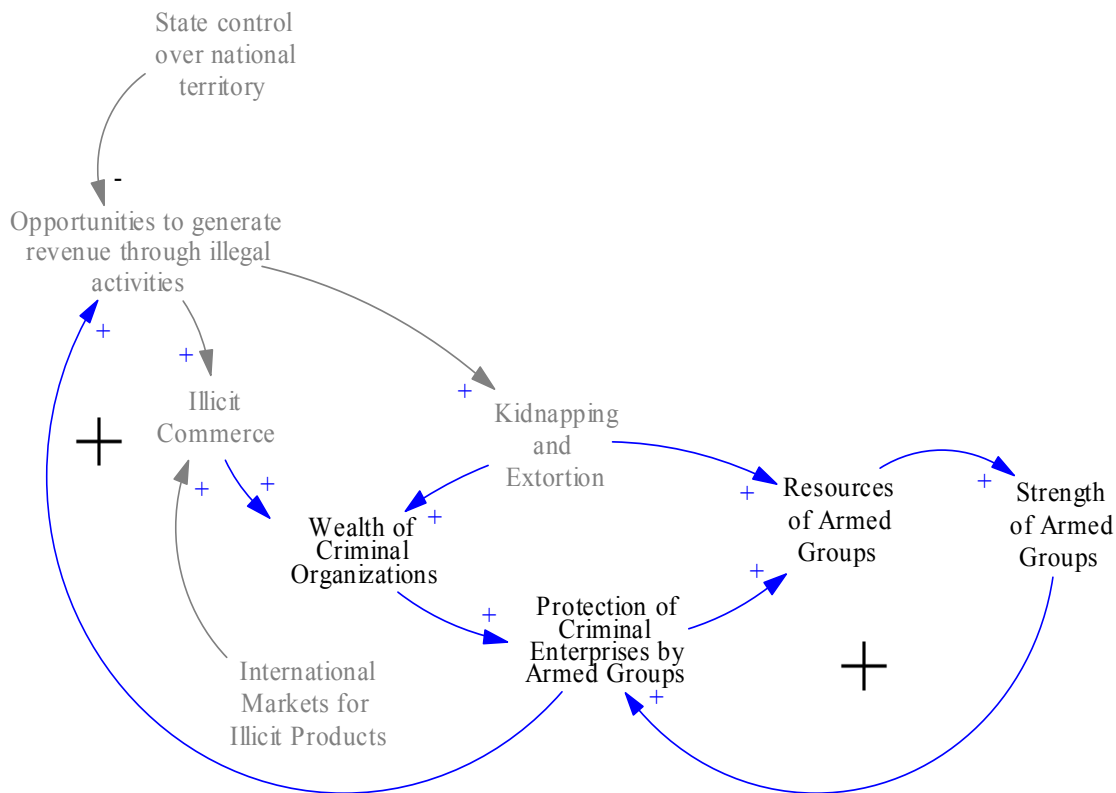


Figure 5

Note that two positive feedback loops are evident in the depiction provided by Figure 5. First, from the perspective of armed political groups, protection money from criminal organizations helps to provide resources for the groups, which helps them to increase their strength (by supporting recruitment, weapons purchases, and other activities). The increased strength, in turn, helps them to provide more effective protection for the criminal organizations, and also to increase their bargaining position vis-à-vis these entities, allowing them to command or extort even more resources from them.

The second positive feedback loop relates to the criminal organizations. The “Opportunities to generate revenues through illegal activities” leads to “Illicit commerce,” which expands the “Wealth of Criminal Organizations,” which allows these groups to buy more protection from armed groups, in turn broadening the “Opportunities to generate revenue through illegal activities.”

Figure 6 extends the influence diagram depicted in Figures 4 and 5 to represent the impact of the activities of criminal organizations and armed political groups on the economy and the state. As the diagram shows, the increasing “Strength of Armed Groups” leads to expanded “Action by Armed Groups Against the State.” Colombia arguably witnessed this phenomenon in the late 1990s when expanded FARC revenues from narco-trafficking gave that organization the ability to assemble and equip combat formations of substantial size, which launched a number of high-profile attacks against Colombian National Police outpost, and ambushed a number of Colombian Army units. Expanded “Action by Armed Groups Against the State,” in combination with high levels of “Illicit Commerce” and “Kidnapping and Extortion,” in turn, tend to discourage investment in commercial activities within the country—both through reducing the

incentive of companies in country to continue to put money into their enterprises, and by discouraging foreign investment.

The increase in “Action by Armed Groups Against the State,” such as the destruction of power substations and other economic infrastructure, serves to directly undercut the country’s “Economic Base.”⁵⁰ At the same time, the “Economic Base” is further undercut by the previously mentioned decrease in “Investment.” By contracting the tax base of the country, the reduced “Economic Base,” in turn, decreases the “Resources Available to the State.” Reduced state resources impairs the “State control over national territory” by undercutting the state’s ability to fund, equip, and train new military and police units, or other security entities such as the Soldados Campesinos.⁵¹ Through the weakening of the “State control over national territory” the phenomenon is brought full cycle.⁵² Through the dynamic presented in this section, the opportunity for criminal and guerilla activity opened up by the initial weakness of the state and its inability to exert sovereignty over the whole of the national territory supports a reinforcing cycle of escalating criminal activity, violence by armed political groups, and a further weakening of the state. If this cycle is not broken by external factors, the criminal organizations and armed political groups will ultimately destroy the state.

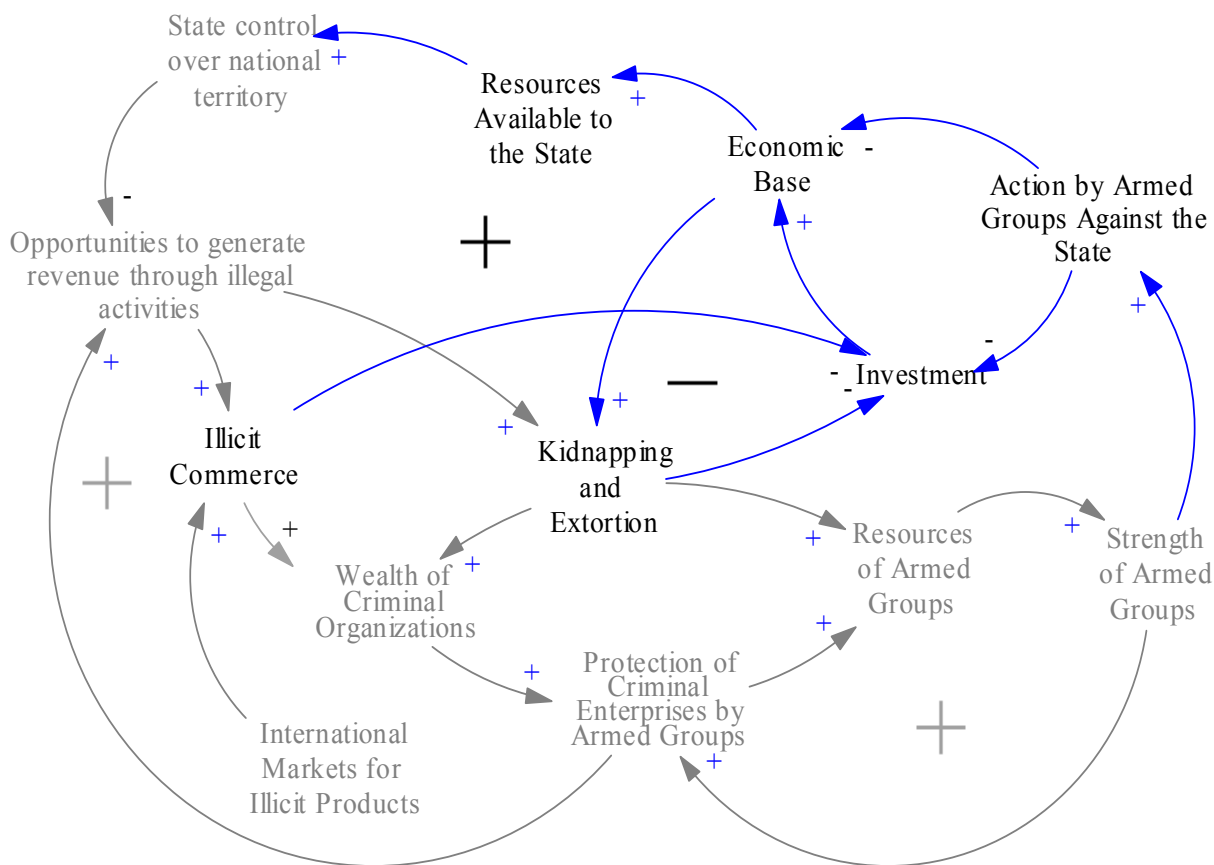


Figure 6

A structural analysis also suggests that the reduction of the state to chaos will undercut kidnapping and extortion as a source of group finance (because few middle class or business enterprises will remain to extort), while simultaneously increasing opportunities for illicit commerce. Moreover, the reduction of the revenue stream from kidnapping

and extortion will ultimately increase the dependence of armed groups on criminal organizations and international illicit commerce.

The sizeable “marginalized” class in weak states plays a key role in the operation and growth of the previously described criminal enterprises and insurgencies. Marginalization may coincide with ethnoreligious cleavages (as with the Indians in Ecuador and Peru) or the urban-rural divide (as in Colombia). The marginalized class has little economically, and few prospects for significant improvement by participating in the legitimate activities of the state.⁵³

It is this marginalized class that serves as the footsoldiers for the criminal organizations and insurgent groups. It is the marginalized who physically grow the coca and heroin poppies in Colombia and Peru, and who man the guerilla organizations that are funded by the revenues from this criminal activity.

Some of the marginalized are induced to participate because the criminal activity provides an economic opportunity that the legal economy in their weak state does not. Others are induced to participate in the guerilla organizations that seek to overthrow the state in the name of the marginalized. Yet others are induced to participate by the militias that seek to protect the people from the guerillas. Although guerilla groups and militias have political objectives, and although criminal groups have financial objectives, the specific character or program of each particular group is only incidental to understanding the systemic effects of the emergent behavior.

The marginalized class is also critical to understanding at the micro-level the mechanism by which the geopolitical virus spreads.

Within the state, the violence physically carried out by the marginalized directly or indirectly destroys means of economic sustenance in the legitimate economy, physically displaces people, and thus generates more marginalized people. Because basic human knowledge such as hygiene, shelter, or obtaining and preparing food is passed from parents to children within the family, the splintering of families through protracted violence also breaks down society at a fundamental level and helps to propagate disease, malnutrition, and a culture of violence.

Figures 7-10 depicts some of the reinforcing systemic relationships at a human level. The feedback loops involving both criminal organizations and armed groups are present, but are shown from a different perspective.

The “positive feedback loop” involving criminal activity is depicted on the left-hand side of Figure 7. In this relationship, the “Level of criminal activity” contributes to the “Wealth of the criminal organization.” The increased “Wealth of the criminal organization,” in turn, enables the expansion of the number of “Workers in the criminal organization.” The expansion of “Workers in the criminal organization,” in turn, creates pressures and capabilities that contribute to the “Level of criminal activity.”

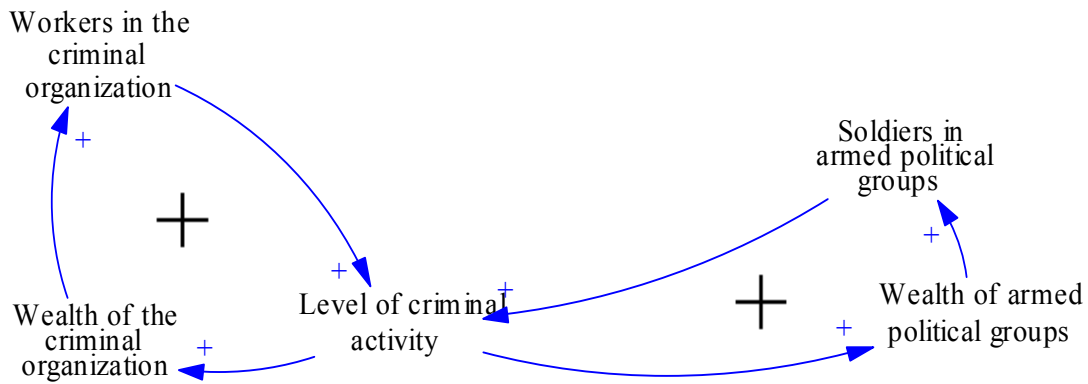


Figure 7

At the same time, the “Level of criminal activity” also plays a role in the activity of armed political groups. The expansion in the “Level of criminal activity” generates more income for the armed groups that protect them. Per Figure 7, it increases the “Wealth of armed political groups.” In turn, the increase in the “Wealth of armed political groups” creates incentives, and allows recruitment that ultimately increases the number of “Soldiers in armed groups.” With these greater capabilities, in turn, the success of criminal activity that is protected by these soldiers increases. In other words, an increase in “Soldiers in armed political groups” helps to bring about an increase in the “Level of criminal activity,” thus furthering the cycle. What Figure 7 thus shows is two positive feedback loops that reinforce each other within a society affected by narco-terrorism to increase both the level of criminality and the presence of armed groups within that society.

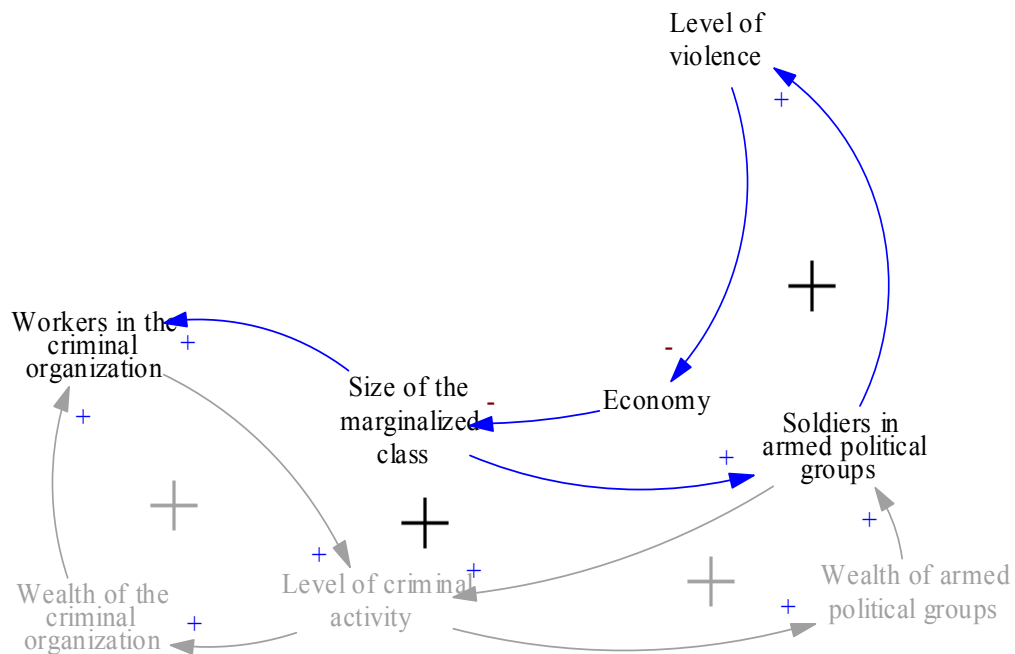


Figure 8

Figure 8 relates the criminal and insurgent activity presented in Figure 7 to the first-order economic consequences. As the diagram shows, an increase in the number of “Soldiers in armed political groups” tends to bring about an increase in the “Level of

violence.” This increase in the “Level of violence” disrupts business activity and discourages both local and foreign investment, thereby hurting the “Economy.” The shrinking “Economy” tends to inflate the “Size of the marginalized class” as workers are laid off, employers go out of business, and savings are lost to inflation, currency devaluation, and bank failures. Because it is the marginalized classes that typically fill the ranks of “Soldiers in armed political groups,” the increase in the “Size of the marginalized class” thus helps to increase the number of “Soldiers in armed political groups,” creating yet another positive feedback relationship.

Figure 8 also shows that as the “Size of the marginalized class” increases, the “Workers in the criminal organization” also tend to increase. For the marginalized, service as footsoldiers in criminal organizations, like service in armed political groups, is one of the few available economic alternatives. The increase in “Workers in the criminal organization” contributes to yet another positive feedback loop, increasing the “Level of criminal activity,” which increases the “Wealth of armed political groups,” increasing the number of “Soldiers in armed political groups,” increasing the “Level of violence,” further undermining the “Economy,” further increasing the “Size of the marginalized class,” adding even more to the ranks of “Workers in the criminal organization.”

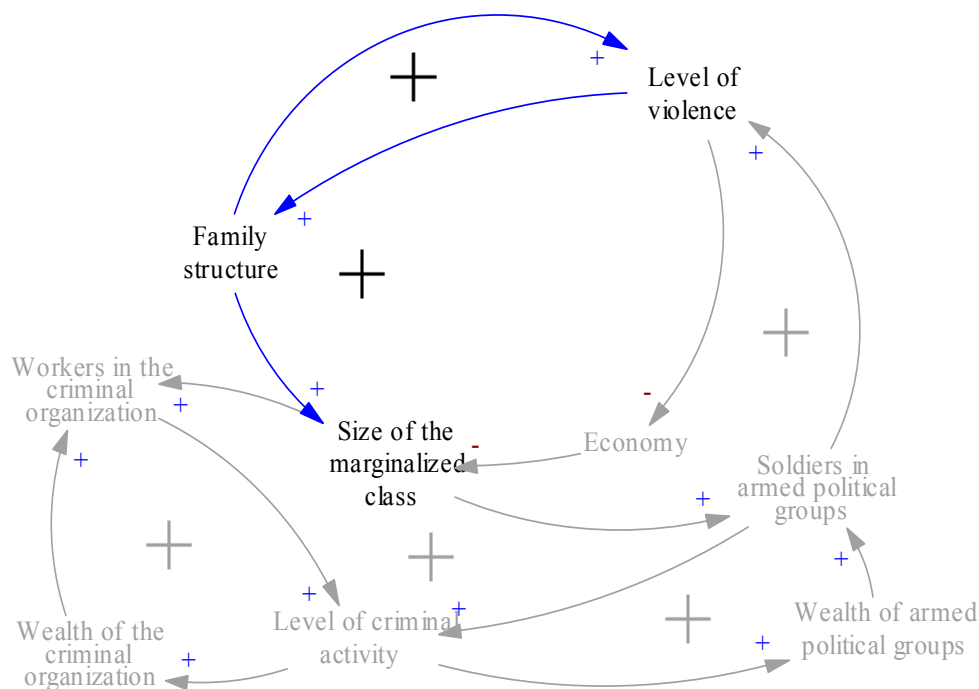


Figure 9

Figure 9 extends the diagram depicted in Figure 8 by adding the effects on family structure within the affected society. As Figure 8 shows, the increasing “Level of Violence” helps to destroy “Family structure” within the society. The vehicles for this relationship are varied, but include both the many children left orphaned by the violence, closely interrelated with the children recruited to take part in it. Because families are traditionally the keepers of social norms and restraints within a community, the disintegration of the “Family structure” helps to make the violence less restrained, creating yet another “positive feedback loop.”

Figure 9 also shows that the disintegration of “Family structure” also tends to increase the “Size of the marginalized class.” Because parents and relatives traditionally provide children with sustenance and the skills for functioning effectively in society, fewer viable family structures tends to mean a greater number of people who are uneducated, and/or lacking in economically valued skills. In short, the disintegration of the “Family structure” generates more people with an economic and mental disposition that makes them fodder for the guerillas and militias. The disintegration of “Family structure” thus contributes to another positive feedback loop, causing an increase in the “Size of the marginalized class,” bringing about an increase in “Soldiers in armed political groups,” bringing about an increase in the “Level of violence,” and bringing about yet greater disintegration of the “Family structure.”

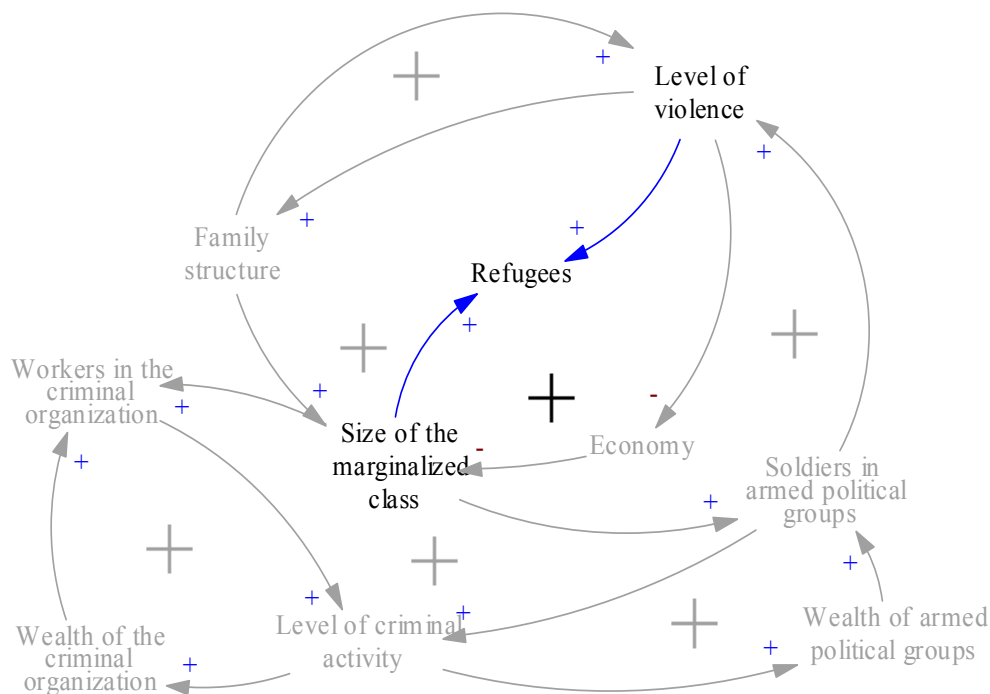


Figure 10

Finally, Figure 10 adds refugees to the relationship. Both the increase in the “Level of violence” and the increase in the “Size of the marginalized class” in the afflicted country generate refugees. Refugees, in turn, help to spread the geopolitical virus from the “infected” country to its neighbors.

The transmission of the “geopolitical virus” from one country to the next is perhaps the most strategically significant aspect of the “political epidemiology” from a U.S. perspective. The notion that the “virus” observed in Colombia can and will spread across the region distinguishes the phenomenon from the mere isolated failure of a state.

As observed in Colombia, the principle vehicles of contagion for the virus are the expansion of organized criminal activities and the expansion of armed political groups into neighboring states.⁵⁴ Although the meaning of each of these two transfers is self-

evident, their occurrence is related to two other important factors: refugees and the export of socially driven economic collapse.

Just as the new viruses manufactured by the infected host cell “break out” to infect the cells around them, it is in part refugees, shaped and set into motion by the “infected” country in which they operate, that help to spread the contagion of geopolitical viruses such as the archetype described in this section. As refugees flow across porous international borders of weak states, they put a stress on relief efforts and the often marginal economies of neighboring states. In Latin America, for example, violence in Colombia has displaced thousands of refugees into the border regions of each of its neighbors.⁵⁵ Refugees often spread physical disease across borders due to their weakened state of health, in combination with the poor sanitary conditions in which their flight has forced them to live. In the chaos of their numbers, refugees also help to conceal (and sometimes invite) the cross-border movement of insurgents, thus bringing terrorist violence into the host country. Armed political groups may include use of neighboring territory as a military refuge for guerillas or militias, as a transshipment point for illicit goods, or as a staging point cross-border military attacks.

In the transmission of the “virus” into neighboring states, the export of socially driven economic collapse is the key to sufficiently weakening the host state so that the emergent geopolitical virus can take hold. which facilitate the Through the analysis of those variables. The influence diagrams presented in figures 11-14 depict this dynamic and how it interfaces with refugee flows, crime and violence to introduce contagion into neighboring states.

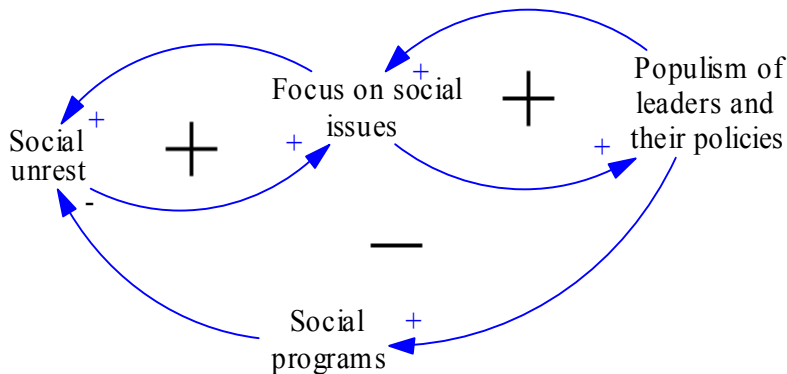


Figure 11

Figure 11 begins the presentation of the dynamic with a depiction of the relationship between populism and social unrest. Beginning on the left-hand side of Figure 11, the diagram shows that an increase in “Social unrest,” through the media and the rhetoric of the leadership, leads society to increase its “Focus on social issues.” Based on the notion that social discontent is in part, a matter of perception, the immediate impact of society’s heightened “Focus on social issues” is, ironically, to increase the level of “Social unrest.” Thus a positive feedback loop exists whereby which social unrest breeds societal attention to its causes--which spreads awareness of the discontent and brings about more unrest. At the same time, an increased “Focus on social issues” also helps to increase the “Populism of leaders and their policies.” As seen with the elections of Hugo Chavez in Venezuela, President Lucio Gutiérrez in Ecuador and

President Luiz Inacio Lula da Silva in Brazil, significant popular focus on social issues can bring leaders to power on a platform of addressing the grievances of the politically mobilized marginalized classes. Even where the mobilization of the poor does not bring new populist leaders to power, it may cause the existing leadership to adopt more populist policies to address the concerns of that key segment of the electorate. In an example of a negative feedback loop, the increase in “Populism of leaders and their policies” lead to the passage of “Social programs” which partially address the conditions causing “social unrest.” At the same time, however, because leaders have significant power to shape the national debate, the new populism of the leadership also reinforces the changed tone of society, magnifying the “Focus on social issues,” and thus ultimately magnifying social unrest. This is the classic paradox of left-of-center leaders who come to power and attempt to address the issues of the poor, only to see social unrest expand faster than their policy solutions can address the underlying grievances.

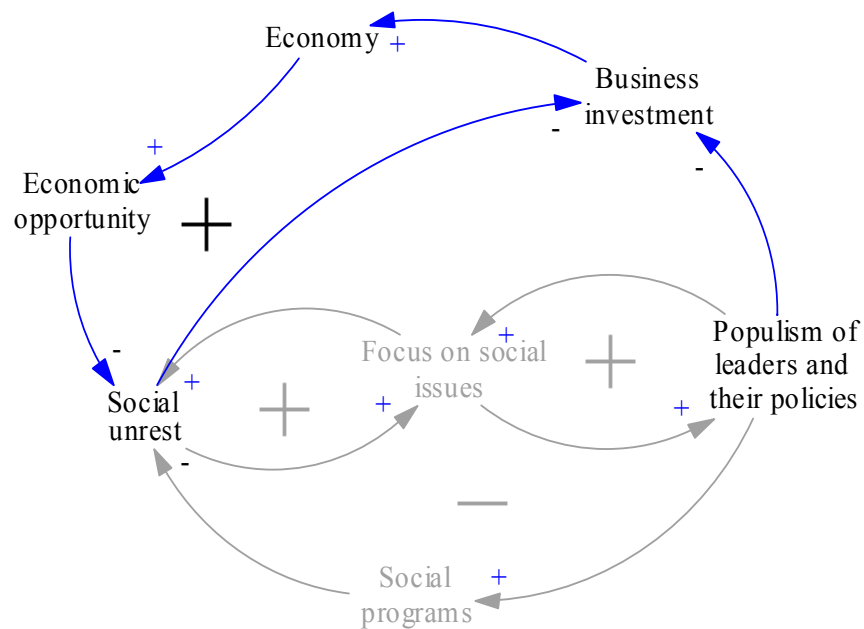


Figure 12

Figure 12 adds economic considerations to the dynamic. As the figure shows, both “Social unrest” and the increased “Populism of leaders and their policies” correlated with it discourage “Business investment.” The progressive capital flight from Venezuela following the election of Chavez⁵⁶ is illustrative of this tendency. The decreased “Business investment,” from both internal and external sources, hurts the “Economy,” which further undercuts “Economic opportunity,” ultimately deepening “Social unrest.” In yet another positive feedback loop, the expanded “Social unrest” that the demise of the economy brings about serves to further discourage “Business investment,” doing even more damage to the “Economy,” accelerating the cycle of unrest and despair.

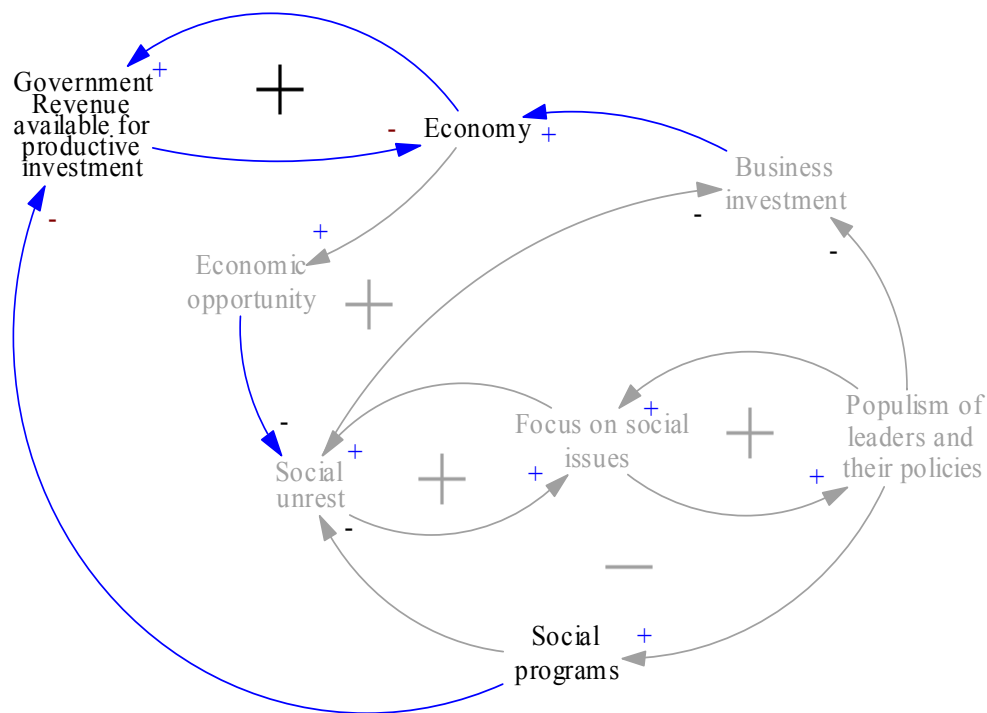


Figure 13

Figure 13 extends the diagram by showing how government programs relate the economy to social spending. Although many types of social programs are arguably investments in the current or future productivity of the society's labor base, this analysis draws a distinction between programs that are primarily designed to enhance the productive infrastructure of the country (such as transportation and education investments), and those designed for other purposes, such as defense or the alleviation of social ills. As Figure 13 shows, as populist leaders spend more money on "Social programs" (however necessary or morally correct), there is a corresponding decrease in "Government revenue available for productive investment." Over time, less investment money means a less resilient "Economy." Because the "Economy" provides the tax base for the government, however, another positive feedback loop is created. Less investment causes less growth in the "Economy," which shrinks the tax base and leaves even less "Government revenue available for productive investment."

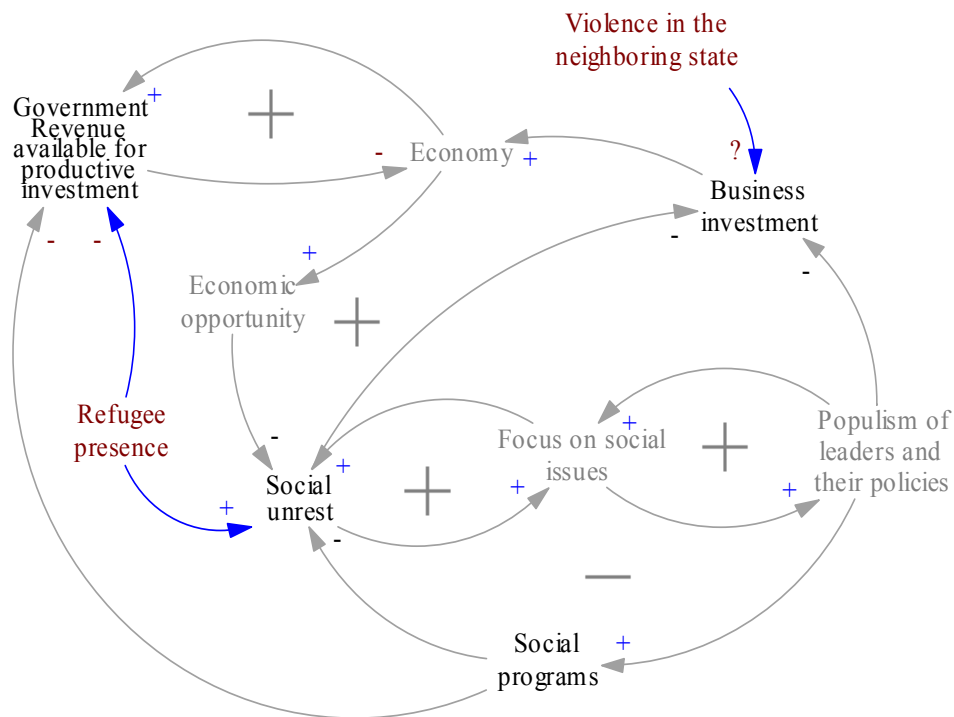


Figure 14

Having laid the groundwork for the dynamics of “socially driven economic collapse,” Figure 14 now shows how the presence of narcoterrorism in neighboring states operates through these dynamics to bring about a weakening in the condition of its neighbor, making it more vulnerable to contagion from the migration of criminal organization and armed political groups. “Violence in the neighboring state” depresses “Business investment,” helping to depress the economy, decreasing “Economic opportunity,” and increasing “Social unrest.” At the same time, the “Refugee presence” both contributes directly to “Social unrest,” and also forces the state to spend money that it would otherwise devote elsewhere, lowering the quantity of “Revenue available for productive investment.”

The dynamics of contagion discussed in this section suggest that each of the countries of Latin America are, to some degree, vulnerable to a variant of the emergent geopolitical virus.

IMPLICATIONS FOR THE GLOBAL SYSTEM

The security of the hemisphere is gravely threatened, both directly and indirectly, by the phenomenon described in this paper. In the near term, the implied spread of violence, economic malaise and political chaos across the Americas may significantly impair the standard of living of the people of the Americas.

From December 2002 through January 2003, the national strike in Venezuela paralyzed oil exports from that country. In Colombia, guerillas attacking Caño-Limon-Coveñas pipeline, and the Orensa pipeline in the central Magdalena valley have similarly reduced the flow of oil in that country.⁵⁷ Even Ecuador’s new oil pipeline has become vulnerable to guerilla activity in the proximity of its border with Colombia.

In addition to oil, the global economy relies on a number of raw materials and basic goods exported from the region. Although a disruption in any one source of supply can be circumvented, the economic impact of the Americas plunged into violence and disorder would be devastating.

In addition to the economic effects, the spreading chaos in Latin and South America would increase security threats from terrorism and similar sources. The activity of anti-U.S. Islamic groups in the Paraguay-Brazil-Argentina "tri-border region" is an illustration of how violence and weak states create a vacuum of authority in which terrorist groups can flourish.

The deepening of violence and economic malaise in the Americas would also increase flows of internationally displaced persons who would be drawn to the United States as an economic beacon in an ever widening sea of despair. Because of the collapse healthcare at a governmental and personal level, those refugees could also bring to the United States a range of physical diseases not seen in this country for half a century.

Ultimately, if unchecked, the emergent geopolitical virus described in this paper could bring about changes in the international system that could change the fundamental character of the global system. First, the economic and financial collapse of countries, such as we saw in Argentina, could cut off international lending to the defaulting countries, and depress such lending for the region in general. Because of currency losses and poor returns, companies would continue to be less willing to invest in the region. Because of the threat to personnel, as seen in Colombia, businesses become increasingly reluctant to put their personnel in the affected country. The economic malaise, the withdraw of foreign investment, and the and withdraw of the physical presence of foreign representatives would help to generate a new economic nationalism in the region, driven by the perception that international capital flows and foreign investment have helped to produce the economic collapse. The long-term effect could be an ever growing number of nations that effectively "drop out" of the world economy.

In the political sphere, the spreading chaos in the Americas may also undermine democracy and multinational cooperation in the region. In cases such as Colombia, democracy may be destroyed through war, anarchy, and the failure of the state. In other cases, such as Venezuela, Brazil, and Ecuador, the process may be more protracted...with the disenfranchised electing themselves to power and voting to distribute to themselves the national patrimony--forcing the military to intervene at the behest of the middle and upper classes.

Even in the realm of physical disease, the spreading chaos in the region could motivate governments to greatly increase restrictions on the physical flow of persons between countries.

Figure 15 shows the interrelationships between some of the principal economic, political, and social attributes involved in emergent geopolitical viruses, and their linkage to undesirable regional phenomenon. Because many of the internal social dynamics have already been presented in previous sections, the following treatment is restricted to tracing the rise of systemically undesirable results from the social dynamic.

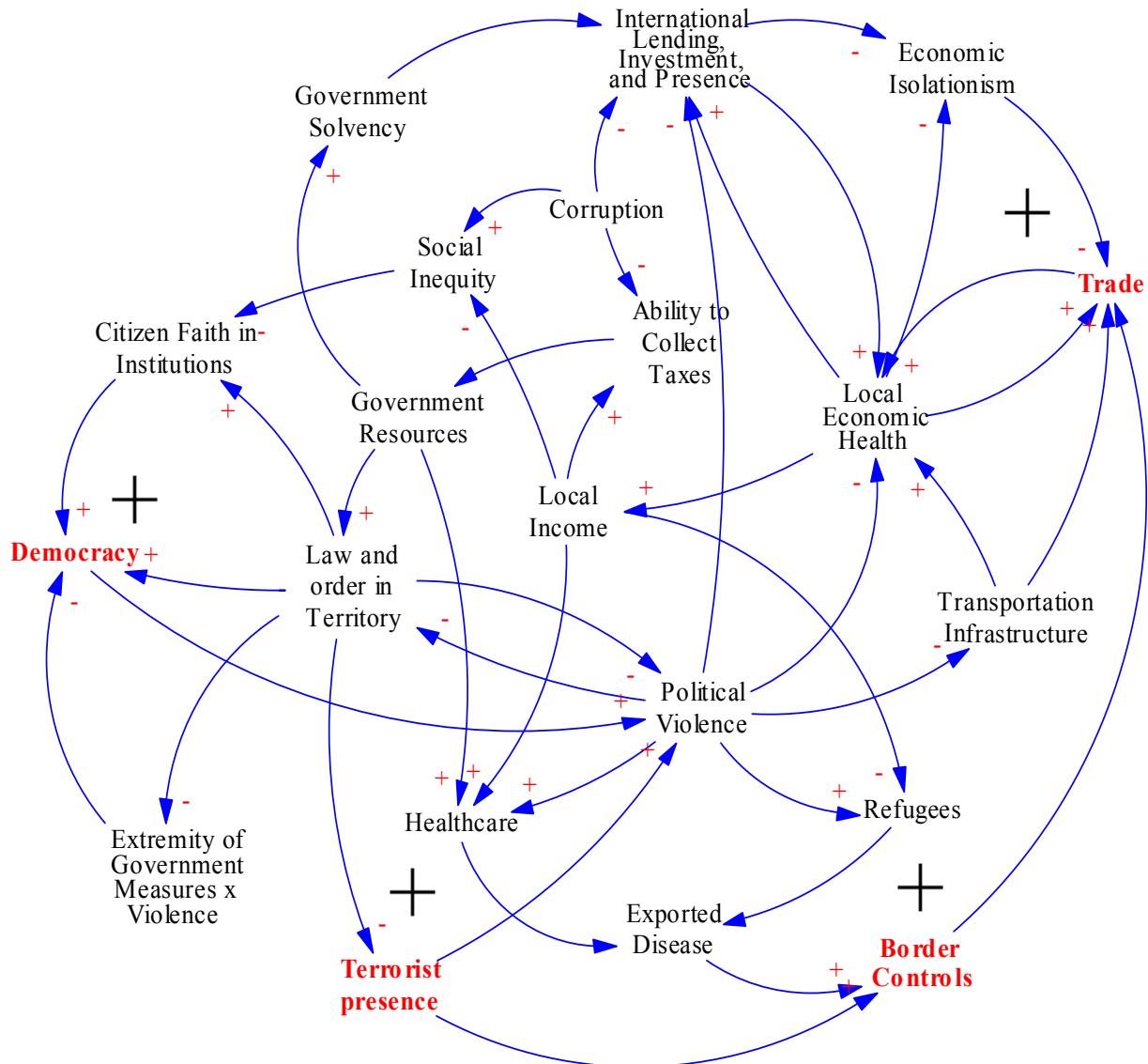


Figure 15

For clarity, Figure 15 presents attributes of interest to this discussion in bold red lettering. The large “+” next to each attribute: trade, terrorist presence, democracy, and exported disease is a reminder that each is part of a positive feedback loop that will tend to re-enforce a worsening problem.⁵⁸

First and perhaps most significant, democracy is a casualty of narcoterrorism. As the diagram shows, “Political Violence” undercuts “Law and order in Territory,” which brings about non-democratic practices, directly undercutting “Democracy.” Second, the demise of “Law and order in Territory” also leads to an escalation of the “Extremity of Government Measures x Violence,” leading to restrictions in democracy, such as those imposed in Arauca and Saravena in Colombia. Finally, the absence of law and order, in combination with “Social inequity” leads to diminished “Citizen faith in institutions.”

Moving in a clockwise direction around the edge of Figure 15, an increased “Terrorist presence” is another byproduct of the decline in “Law and order in Territory” as “Political

violence” rises relative to the level of “Government resources.” In yet another positive feedback loop, the “Political violence” that undercuts “Law and order in Territory” creates a space in which terrorists can operate more freely to generate even more political violence. From an external perspective, however, the increased “Terrorist presence” not only refers to groups that directly threaten the regime, but to terrorists of all types. The operation of the PIRA, ETA, and Hezbollah in Colombia, and the operation of an array of Islamic militant groups in the “tri-border region” are but two examples. Thus the failure of the Colombian government to contain the threat from the FARC, ELN, and AUC not only has implications for that country, but helps to create an anarchic space in which other terrorist groups can operate, including those directly opposed to the United States.

Returning to the diagram, the proliferation of terrorism in a country (increased “Terrorist presence”) presents a particular threat to neighboring countries when combined with health and social issues that arise from the combination of a collapsing healthcare system and the flight of large number of refugees from the country. In this circumstance, the threat from “Terrorist presence,” together with the threat of “Exported disease” creates powerful incentives for neighboring countries to seal off their borders. Measures taken in recent years by Brazil, Peru, Ecuador, and Panama to tighten their borders with Colombia illustrate the response to such pressures. Reciprocally, Colombia has asked its neighbors to “close the borders” to help it better combat the guerilla and militia threats.⁵⁹

Finally, and perhaps most importantly, the tightening of borders to human and material flows, in combination with declining local economic health and a rising ideology of “Economic isolationism” combine to depress trade between the country and its neighbors. The dynamic behind the decline in local economic health has been touched upon in previous sections. Rising “Political violence” depresses “International lending, investment, and presence” in the afflicted country. A reduction in this foreign presence, coupled with the declining local economic health, in turn, will augment economic isolationism, bringing about restrictions in trade that further impair economic health, ultimately creating even more economic isolationism and less trade.

The relationships postulated in this paper imply that, for an afflicted region, expanding political violence feeds multiple re-enforcing feedback loops in which the region is ultimately left with weakened democratic institutions, greater terrorist presence, less open borders, and significantly reduced trade. The ultimate danger of “emergent geopolitical viruses” thus is their tendency, over time, to strip regions of the democratic and free market institutions upon which the U.S. position in the current world order is based. Moreover, geopolitical viruses tend to fill these voids with criminality, terrorism, and a mass of marginalized humanity, surrounding the U.S. with an increasingly threatening security environment.

Although this paper has used Latin and South America to illustrate the dynamic of the new type of virus, the threat is global in scope.⁶⁰ Looking beyond the Americas, for example, Africa may be characterized a case in which an “earlier” version of the virus spawned during the cold war, has already burned through the continent itself out in war, disease and failed states. The former Soviet Union⁶¹ and the Indian subcontinent may be areas with low level contagions, vulnerable to a more serious outbreak.

As a dynamic with potentially global reach, thus, the emergent geopolitical virus described in this paper could potentially splinter the democratic and open international political economy. It is thus both a direct threat to the national security of the United States, and an indirect threat to its position in the world. Although the spread of the disease remains relatively benign, the system level imperatives are as real as the fundamental contradictions that ultimately brought about the fall of the Soviet Union. Indeed, the dynamic described in this paper could fundamentally challenge the current focus on the emergence of China as a peer competitor amidst a backdrop of increasing globalization" If borne out, the dynamics described in this paper could re-define globalization, potentially giving even greater significance to the emergence of Asia in the face of a struggling Western hemisphere.

RECOMMENDATIONS

The potential significance of the threat described in this paper, in itself, merits a closer examination. A detailed look at the sociopolitical dynamics described in this section would be useful in order to better assess the level of risk posed to the United States, to identify countervailing dynamics that could prevent the escalation of the threat, and to identify key factors or events associated with the expansion of the virus.

Although the problem is global in scope, the solution, from a pragmatic perspective, must begin with the U.S. defense and security establishment. The U.S. Department of Defense (DoD), Department of State (DoS), and select federal agencies have both the resources and the mission to address hemispheric security issues such as those presented by emergent geopolitical viruses. Before devoting resources to the problem, however, these organizations must understand the problem in systemic terms. Such understanding helps to ensure both that the resourcing strategy is effective, and that the problem receives the prioritization that it merits.

This paper thus recommends a two-phase approach. First, DoD and DoS should develop a more detailed and empirically-based systemic understanding of emergent geopolitical viruses, including the formulation of indicators and warnings and mitigation strategies. Second, these organizations should implement a coordinated multi-dimensional effort to implement these strategies, including the strengthening of key government, business and social institutions in Latin America, support for legitimate government security activities, and the alleviation of socioeconomic conditions in key areas of risk.

1. Development of a more detailed, systemic understanding of emergent geopolitical viruses, indicators and warnings, and mitigation strategies.

Traditional analysis of the conflicts, countries, and social conditions in Latin America may tend to underplay important dynamics. These may include (but are not limited to):

- The spillover effects from one country or group to the next
- The interdependence between narcotics and criminal activity and terrorism issues
- The potential escalation from "positive feedback effects"

- The evolution of conditions that would enable social chaos to overwhelm institutions in a country, and the associated erosion of constraints in that country's institutional and social structure, and
- The adequacy of the relationship between what is being measured and what is ultimately desired (or to be avoided).

As an initial step to more effectively understand and address the problem, thus, DoD and DoS organizations should develop new “systemic indicators and warnings including both macro- and micro-level interrelationships between countries. Such relationships might include state policies, trade and investment, refugee flows, the cross-border activities of armed groups, and the transfer of culture and ideas. The new indicators and warnings should highlight the interrelationships between economic, social, military, and political dynamics within a society. Their principal focus would be to help U.S. organizations with a hemispheric security mission to more effectively identify when “positive feedback” dynamics within a society threatened to overwhelm stabilizing and countervailing “negative feedback dynamics.”

A system dynamics-based specification of emergent geopolitical viruses and their sociopolitical context would provide a logical reference point for generating “system level” indicators and warnings. Such an approach would permit the identification of key system drivers, and thus, of metrics best associated with the potential of the system to produce non-linear outcomes. Intelligence specialists and subject-matter experts interacting with system dynamics models could also develop and test mitigation strategies. Limited resources prevent the U.S. from working with the countries of Latin America to strengthen all of the vast range of marginalized political, economic, and social institutions in the region.⁶² Through system dynamics, however, the U.S. could better explore and develop organizational consensus around the key points of intervention.

2. Leverage the systemic understanding to act in key areas to fight and block the spread of emergent geopolitical viruses. The U.S. should act on its new systemic understanding of emergent geopolitical viruses by devoting resources to combating them in infected countries, and preventing their transmission to vulnerable neighboring states.

Although the analysis of the systemic characteristics of emergent geopolitical viruses presented in this monograph is only preliminary, it suggests the outlines of a coherent strategy:

1. Inoculate against economic weakness
2. Inoculate against the migration of criminal enterprises and armed political groups, and
3. Fight the virus in infected cells

Inoculate Against Economic Weakness. As with any virus, one useful strategy to combating the present geopolitical malady is to seek to make vulnerable cells resistant to infection. The previous analysis argued that it is the economic Marginalization of Latin America that makes it subject to emergent geopolitical viruses. Although the U.S. cannot solve the economic problems of Latin America, it can intervene in key points,

including tariffs and trade policies that favor vulnerable countries, such as Colombia's Andean neighbors. It also includes greater political engagement with these countries to help them to avoid falling into the more economically destructive forms of populism, as well as working with local governments to curb corruption and help them to adopt budgeting practices which maximize the effectiveness of their resource expenditures.

Inoculate Against The Migration of Criminal Enterprises and Armed Political Groups. The United States can work closely with the police, military, border patrol, and other security apparatuses of the neighbors of "infected" states to help them to block the migration of criminal enterprises and armed political groups. The US can also help these vulnerable neighbors to root out foreign criminal organizations and armed political groups while their roots within the new society are relatively limited. U.S. assistance in may include expanded training and capabilities for military border security personnel, intelligence support to locate and engage new criminal activity in rural areas, resources and administrative support to better track refugee flows in rural areas, and financial crime assistance, to help Latin American countries combat key enabling activities such as money laundering.

Fight the Virus in Infected Cells. Infected states will continue to be a powerful source of instability and contagion for their neighbors, particularly as the infected state nears collapse. For this reason, it is important that the United States aggressively help infected states such as Colombia to establish security across their national territory, and in this manner, deprive the narcoterrorist entities growing within such states of the resources to expand and perpetrate violence.

CONCLUSION

The most recent two U.S. administrations have both demonstrated their willingness to apply significant resources to address the problems of the Andean region in a systemic fashion. The initiation of Plan Colombia by the Clinton administration, and the evolution of the Andean Ridge Initiative by the Bush administration each represent programs with integrated social, institutional, and security components.⁶³ In each case, however, a combination of domestic political constraints, local implementation problems, and an incomplete understanding of the character of the system produced suboptimal outcomes because resources were not applied in the most effective quantities, in the best place, at the right time.⁶⁴

The spread of emergent geopolitical viruses throughout the fragile southern hemisphere threatens the lives and prosperity of millions. The violent death of 3,500 or more people from the civil war each year in Colombia⁶⁵ and the kidnapping of 3000 others⁶⁶ foreshadows the size of the threat.⁶⁷ Such statistics suggests that the most immediate need of the people of the region is the cessation of the violence. The increasing number of violent incidents in the border regions of Ecuador, Panama, and Venezuela, suggests that merely trying to insulate oneself from the pain of one's neighbor is not a viable strategy, given the mobility of people, goods, and money in the current global environment. The deepening of suffering of the dispossessed in Venezuela, and the destruction of the middle class in Argentina argues that the social pain generated by the paralysis or collapse of the state is often most severe for those who are most vulnerable. The resources that the U.S. invests to better understand and block the

spread of emergent geopolitical viruses in Latin America will do a great service to the people of this hemisphere, even while it directly supports the U.S. national interest.

ENDNOTES

- ¹ In January 2003 alone, armed groups detonated three vehicle bombs driven by kidnap victims in Arauca (4 January, resulting in 5 deaths and 19 injuries), ambushed a Colombian National Police (CNP) "rapid reaction squadron" transiting a road in Cundinamarca (7 January, killing 8 and wounding 5), detonated a car bomb in La Palma, Cundinamarca (January 12), detonated another in the heart of Medellín directed at a Ministry of Justice (Fiscalia) facility (16 January, killing 5 and wounding 34), attacked against three villages near San Carlos, Antioquia (19 January, killing 17 peasants), kidnapped all of the civilian passengers from a 20-vehicle convoy traveling through La Guajira the same day, dynamited a power substation in the department of Huila (21 January), and conducted a car bomb suicide attack in Arauca attempting to kill the commanding general of a key army division (26 January).
- ² The most high-profile attack of the recent wave of urban violence was the 7 February bombing of the El Nogal nightclub, in which 36 people were killed and another 107 wounded. "Pruebas de participación de Farc en atentado a El Nogal son contundentes", dice vicepresidente Francisco Santos." *El Tiempo.com*. 10 March 2003. See also "John Freddy Arellán, implicado en atentado contra el club El Nogal, espía a hijo del Presidente." *El Tiempo.com*. 14 March 2003. The violence also included the 14 February explosion of a house bomb killing 15 and injuring 60 in the city of Nieva. "Quedaron libres presuntos cerebros de atentado terrorista en Neiva." *El Tiempo.com*. 17 March 2003. It also includes the 11 March wave of firebombings against public busses in Bogotá, based on new terrorist networks operating through urban universities. "La universitaria. ¿Cómo una joven destacada, deportista y con un futuro promisorio en medicina termina sindicada de concierto para delinquir y terrorismo?" *Semana*. 19 March 2003. See also "Atentado contra bus de TransMilenio en Bogotá no deja víctimas." *El Tiempo.com*. 11 March 2003. Prior to the recent wave of violence, Phillip McLean wrote that while the Colombian countryside is beset by violence, "Life in the cities for most people could be described as 'normal.'" Phillip McLean. "Colombia: Failed, Failing, or Just Weak?" *The Washington Quarterly*. Summer 2002. 25:3. p. 132.
- ³ "Colombian Military Frees 244 Motorists from Rebels." *Washingtonpost.com*. 3 November, 2002.
- ⁴ John A. Cope. "Colombia's War: Toward a New Strategy." *Strategic Forum*. Washington DC: National Defense University Institute for National Strategic Studies. No. 194. October 2002. p. 2.
- ⁵ "Por lo menos 55 policia colombianos han muerto por acción de grupos armadas este año." *El Tiempo.com*. 16 February 2003.
- ⁶ In total, since 1996, Colombian security forces have suffered almost 800 ambushes at the hands of guerilla and militia forces. See "Ataque de las Farc a patrulla dejo 8 policia muertos y 5 heridos en Quipile (Cundinamarca)." *El Tiempo.com*. 7 January 2002.
- ⁷ Joseph R. Nuñez, "Fighting the Hobbesian Trinity in Colombia: A New Strategy for Peace." Carlisle Barracks, PA: U.S. Army War College Strategic Studies Institute. April 2001. p. 5.
- ⁸ *El Tiempo*. 15 February 1999.
- ⁹ Richard Millett. "Colombia's Conflicts: The Spillover Effects of a Wider War." Carlisle Barracks, PA: U.S. Army War College Strategic Studies Institute. October 2002. p. 16. As Ecuador's president Lucio Gutiérrez put it, "the war in Colombia is pushing narcotraffickers and criminals into Ecuador." Translated by author from. "Presidente de Ecuador, Lucio Gutiérrez, advierte que su país no apoyará bélicamente a Colombia." *El Tiempo.com*. 16 February 2003.
- ¹⁰ In early March 2003, for example, the Caracas newspaper *El Universal* reported on the presence of 400 guerillas encamped less than 9 kilometers from a Venezuelan frontier army base. "Diario 'El Universal' de Caracas afirma que unos 400 guerrilleros de las Farc están hace dos semanas en Venezuela." *El Tiempo.com*. 17 March 2003. In January, a Venezuelan National Guard unit seized a shipment of semi-automatic rifles apparently destined for the FARC in Colombia. See Richard Millett, "Colombia's Conflicts: The Spillover Effects of a Wider War." Carlisle Barracks, PA: U.S. Army War College Strategic Studies Institute. October 2002. For other recent accounts of FARC and ELN activity in Venezuela, see "Capturados en Venezuela y Colombia ocho presuntos guerrilleros del Eln." *El Tiempo.com*. 18 March 2003. See also "Unos de los jefes de las Farc, 'Raúl Reyes', estuvo hospitalizado en Venezuela, según periodista." *El Tiempo.com*. 16 March 2003. See also "El presidente Alvaro Uribe exalto la cooperacion prestada por Venezuela para evitar atentados en Arauca." *El Tiempo.com*. 2 March 2003.

-
- ¹¹ Scott Wilson, "Influx Burdens Venezuela." *The Washington Post*. 1 October, 2000. See also William W. Mendel. "Colombia's Threats to Regional Security." *Military Review*. May-June 2001.
- ¹² Richard Millett. "Colombia's Conflicts: The Spillover Effects of a Wider War." Carlisle Barracks, PA: U.S. Army War College Strategic Studies Institute. October 2002. p. 20.
- ¹³ "La de Colombia es una Guerra que no entienden los kunas." *El Tiempo.com*. 1 February 2003.
- ¹⁴ Robert Gordon argues that the decision taken by the FARC leadership at the Seventh Guerrilla Conference in 1982 to embrace involvement with narcotrafficking as a revenue source was a significant impetus for the dramatic expansion in size of the group. *From Caudrilla to Farc, Inc. The Transformation of the Fuerzas Armadas Revolucionarias de Colombia 1982-1999*. Unpublished Thesis. Maxwell Air Force Base, AL: Air University. April 1999. Gordon documents how the FARC's finance base dramatically expanded and diversified, allowing it to support a significantly larger membership and range of operations. In 1982, he notes, FARC financing stemmed principally from bank robbery, extortion and taxation of agricultural interests. By 1998, the organization was involved in over fifty separate financial activities, including narcotrafficking, kidnapping, and embezzlement as significant revenue sources. See also John Otis, "Is the FARC a drug cartel?" *Houston Chronicle.com*. 3 August 2001. See also Ricardo Vargas Meza, "The Revolutionary Armed Forces of Colombia (FARC) and the Illicit Drug Trade. Internet Document. Transnational Institute (TNI). June 1999. See also "Investigan en Brasil tres supuestos refugios de las Farc." *El Tiempo.com*. 2 March 2003.
- ¹⁵ See also Scott Wilson, "U.S. Seeks to Avoid Deeper Role in Colombia." *Washington Post*. 9 March 2003. p. A16. See also Luz María Sierra, "El salto del campo a la ciudad: la 'sofisticación' de las Farc." *El Tiempo.com*. 15 February 2003. Three members of the Provisional Irish Republican Army (PIRA) are currently on trial in Colombia for training the FARC in terrorism. See "Fiscalía insiste en pedir 15 años para irlandeses que entrenaron en manejo de explosivos a las Fuerzas Armadas Revolucionarias de Colombia (Farc)." *El Tiempo.com*. 5 February 2003. Colombian military analyst Tom Marks notes that documents demonstrate that the Provisional Irish Republican Army has been sending personnel to collaborate with the FARC since 1998. "Bleeding Colombia." Part 2. *Soldier of Fortune*. January 2003. p. 25.
- ¹⁶ This includes, for example, the demonstrated ability of the FARC to obtain consultation and training from other global terrorist groups such as the PIRA and the ETA to support the organization's recent increase in urban terrorist operations. See, for example, Vanessa Arrington, "Colombian Rebels Embrace New Technology." *Washingtonpost.com*. 23 December 2002.
- ¹⁷ As Joseph Nuñez puts it, "The guerillas furnished security for the narcotraffickers, enabling cocaine barons to grow, harvest, process, and transport illicit products to their main market, the United States. In return, narcotraffickers provide the guerillas with the funds that enable them to provision their "soldiers" and purchase high quality automatic weapons." "Fighting the Hobbesian Trinity in Colombia: A New Strategy for Peace." Carlisle Barracks, PA: U.S. Army War College Strategic Studies Institute. April 2001. p. 6.
- ¹⁸ A few examples of this vast literature include: Ernesto (Che) Guevara, Ernesto. *Guerrilla Warfare (Latin American Silhouettes)*. Introduction by Brian Loveman and Thomas M. Davies Jr., 3rd ed. Wilmington, DE: Scholarly Resources, Inc., 1997. Carlos Marighella. *The Minimanual of the Urban Guerrilla*. June 1969, Sao Paulo, Brazil. Introduction by Lenny Flank Jr. Bruce M. Bagley, ed. *Drug Trafficking Research in the Americas: An Annotated Bibliography*. Miami, FL: North-South Center, University of Miami, 1996. Joseph D. Douglass, Jr. "Narcotics Trafficking, Organized Crime, and Terrorism (Aspects None of Us Want to Face)." *Conservative Review* (Summer/Fall 1996), 4-10. Garry M. Leech. *Killing Peace: Colombia's Conflict and the Failure of U.S. Intervention*. New York: Information Network of the Americas (INOTA), 2002. Merilee S. Grindle, *Challenging the State : Crisis and Innovation in Latin America and Africa*. New York: Cambridge University Press, 1996. Richard L. Millett. Michael Gold-Biss, ed. *Beyond Praetorianism: The Latin American Military in Transition*. Nef, Jorge and Ximena E. Nuñez. *América Latina frente al siglo XXI: la reestructuración del encuadre mundial y regional; las relaciones interamericanas frente al siglo XXI*. Bogota, Colombia: Facultad Latinoamericana de Ciencias Sociales, 1994. Russell Crandall. *Driven by Drugs: U.S. Policy Toward Colombia*. Boulder, CO: Lynne Rienner Publishers, 2002. Jeffrey J. Ryan, "The Impact of Democratization on Revolutionary Movements." *Comparative Politics* 27 (October 1994), 27-44. Gabriel Marcella, Donald E. Schulz. *Colombia's Three Wars: U.S. Strategy at the Crossroads*. US Army War College, PA: Strategic Studies Institute, 1999. Joyce, Elizabeth and Carlos Malamud, eds. *Latin America and the Multinational Drug Trade* (Institute of Latin American Studies Series). New York: St. Martins Press,

-
1997. Bert Ruiz. *The Colombian Civil War*. Jefferson, NC: McFarland & Company, Inc., 2001. Kevin Jack Riley, *Snow Job? The War Against International Cocaine Trafficking*. M. La Rotta. Jesús E. *Las Finanzas de la subversión Colombiana: Una forma de explotar la nación*. Bogota: Ediciones Los Ultimos Patriotas, 1996. David Scott Palmer, ed. *The Shining Path of Peru 2nd ed.*, New York : St. Martin's Press, 1994. Deborah Poole. Gerardo Renique. *Peru: Time of Fear*. London: Latin American Bureau, 1992. David Spencer, David E. *From Vietnam to El Salvador: The Saga of the FMLN Sappers and Other Guerrilla Special Forces in Latin America*. Westport, CT: Praeger Publishers Inc, 1996.
- ¹⁹ In using metaphors from virology to analyze the phenomenon, it is interesting to note that the Colombian term for the extortion money that Colombian companies pay to the guerillas, "vacunas," also translates as "vaccinations." See "¿Como intervienen las Farc en los presupuestos municipales en Arauca?" *El Tiempo.com*. 30 January 2003.
- ²⁰ Alexandra Farfan, "Guerrilla en jaque." *Tiempos del Mundo*. 23 January 2003. p. 21.
- ²¹ "Polemica por decreto que otorga indulto a paramilitares si se acogen a proceso de paz." *El Tiempo.com*. 28 January 2003. The AUC has been estimated at 12,000 members or more. "Instalada formalmente mesa de diálogo entre el Gobierno y las organizaciones paramilitares." *El Tiempo.com*. 22 January 2003.
- ²² John Cope estimates that there are over 150 narcotics organizations currently in Colombia. John A. Cope. "Colombia's War: Toward a New Strategy." *Strategic Forum*. Washington DC: National Defense University Institute for National Strategic Studies. No. 194. October 2002. p. 2.
- ²³ See Richard L. Millett, "Colombia's Conflicts: The Spillover Effects of a Wider War." US Army War College Strategic Studies Institute. October 2002.
- ²⁴ For a good English-language account of the recent history of the conflict, see Scott Wilson. "Venezuela's Oil Crisis Boils Down to Power." *Washington Post*. 17 January 2003. p. A18. See also Christopher Toothaker, "Chavez Marks 1992 Venezuelan Coup." *Miami Herald.com*. 4 February, 2003. See also "A Divided Country Self-Destructs." *The Economist*. 16 January 2003.
- ²⁵ For a good detailed account, see Michael Mussa, *Argentina and the Fund: From Triumph to Tragedy*. Washington: Institute for International Economics, 2002
- ²⁶ See Monte Hayes, "Former Coup Leader Elected in Ecuador." *Washington Post*. 25 November 2002. p. A11.
- ²⁷ See, for example, John Williamson. "Lula's Brazil." *Foreign Affairs*. January/February 2003.
- ²⁸ For examples of some of the better-known writings on the methodology itself, see J.W. Forrester. *Industrial Dynamics*. Cambridge, MA: MIT Press. 1961., G. Richardson, A.L. Pugh. *Introduction to System Dynamics Modeling with DYNAMO*. Cambridge, MA: MIT Press, 1981. John Sterman. *New York: Business Dynamics*. McGraw-Hill, 2000. R.G. Coyle, *Management System Dynamics*. Chichester: Wiley. 1977. R.G. Coyle. *System Dynamics Modeling: A Practical Approach*. London: Chapman and Hall. R.G. Coyle, "The Practice of system dynamics: milestones, lessons and ideas from 30 years of experience." *System Dynamics Review* 14: 343-365. 1998. E.F. Wolstenholme, R.G. Coyle. "The development of system dynamics as a rigorous procedure for system description." *Journal of the Operational Research Society*. 34:569-581. 1983.
- ²⁹ For a few examples of a vast literature, see J.W. Forrester. *Industrial Dynamics*. Cambridge, MA: MIT Press. 1961., John Sterman. *New York: Business Dynamics*. McGraw-Hill, 2000. R.G. Coyle, *Management System Dynamics*. Chichester: Wiley. 1977, James L. Ritchie-Dunham and Hal T. Rabbino. *Managing from Clarity*. New York: John Wiley & Sons, Ltd., 2001. James M. Lyneis. "System dynamics for market forecasting and structural analysis." *System Dynamics Review*. Vol. 16. No. 1. Spring 2000. pp. 3-26.
- ³⁰ Jack Homer, James Ritchie-Dunham, Hal Rabbino, Luz Maria Puente, James Jorgensen, and Kate Hendricks. "Toward a Dynamic Theory of Antibiotic Resistance." *System Dynamics Review*, Vol. 16, No. 4. Winter 2000. pp. 287-320. Eric Wolstenholme. "A patient flow perspective of U.K. Health Services: Exploring the case for new "intermediate care" initiatives." *System Dynamics Review*. Vol. 15, No. 3. Fall 1999.
- ³¹ D.H. Meadows, D.L. Meadows, J. Randers, W. Behren. 1972. *The Limits to Growth*. New York: Universe Press, 1972. DH Meadows, D.L. Meadows, J. Randers. 1992. *Beyond the Limits*. Post Mills, VT: Chelsey Green. 1992. J.W. Forrester. *World Dynamics*. Wright-Allen Press, 1971. Jorgen Randers, "From limits to growth to sustainable development or SD (sustainable development) in a SD (system dynamics) perspective." *System Dynamics Review*. Vol. 16: No. 3. (Fall 2000). Pp. 213-224.
- ³² Influence diagramming is the process of visually specifying the key variables associated with a phenomenon, and the postulated relationship between those variables. An influence diagram highlights the "systemic" characteristics of a phenomenon, including positive and negative "feedback loops" and

-
- helps to provide insight into how the behavior of the system is driven by relationships between variables, as a change in one variable induces a change in a related variable, thus allowing unanticipated consequences of an initial change to ripple throughout the system. For good discussions of influence diagramming, see J.W. Forrester. *Industrial Dynamics*. Cambridge, MA: MIT Press. 1961. See also John Sterman. New York: *Business Dynamics*. McGraw-Hill, 2000.
- ³³ See Michael I. Handel, *Weak States in the International System*, 2nd Ed. New York: Frank Cass & Co., August 1990.
- ³⁴ As Max Manwaring notes of the Colombian case, the “state’s presence and authority has physically diminished over large geographical portions of the country...there is an absence or only partial presence of state institutions in over 60% of the rural municipalities of that country.” “Nonstate Actors in Colombia: Threat and Response.” Carlisle Barracks, PA: U.S. Army War College Strategic Studies Institute. May 2002.
- ³⁵ For recent studies on the character of transnational crime within a society, see Understanding Organized Crime in Global Perspective. Patric J. Ryan and George Rush, eds. Sage Publications, 1997. See also Organized Crime: A Global Perspective. Robert Kelly, ed. Rowman and Littlefield. May 1986. See also Claire Sterling. *Thieves’ World: The Threat of the New Global Network of Organized Crime*. Simon & Schuster. June 1994.
- ³⁶ See Canadian Security Intelligence Service, *Transitional Criminal Activity: A Global Context*. Report No. 2000/07. Internet document. <http://canadaonline.about.com/gi/dynamic/offsite.htm?site=http://www.csis%2Dscrs.gc.ca/eng/miscdoc/s/200007%5Fe.html>. 17 August 2000. See also National Strategy Information Centre. *Trends in Organized Crime*. New Brunswick, NJ: Transaction Periodicals Consortium. 1998. See also *World Drug Report*, New York: United Nations Drug Control Programme, 1998
- ³⁷ Julia Sweig notes, for example, that approximately 80% of the cocaine consumed in the United States and Europe comes from Colombia. “Colombia’s Desperate Choice.” *Foreign Affairs*. September/October 2002. pp. 122-141. See also Angel Rabasa, Peter Chalk. *Colombian Labyrinth The Synergy of Drugs and Insurgency and Its Implications for Regional Stability*. Santa Monica, CA: Rand Corporation, 2001.
- ³⁸ See Luz María Sierra, “El salto del campo a la ciudad: la ‘sofisticación’ de las Farc.” *El Tiempo.com*. 15 February 2003. Three members of the Provisional Irish Republican Army (PIRA) are currently on trial in Colombia for training the FARC in terrorism. See “Fiscalía insiste en pedir 15 años para irlandeses que entrenaron en manejo de explosivos a las Fuerzas Armadas Revolucionarias de Colombia (Farc).” *El Tiempo.com*. 5 February 2003. Colombian military analyst Tom Marks notes that documents demonstrate that the Provisional Irish Republican Army has been sending personnel to collaborate with the FARC since 1998. “Bleeding Colombia.” Part 2. *Soldier of Fortune*. January 2003. p. 25.
- ³⁹ See Paul Kaihla, “The Technology Secrets of Cocaine Inc.” *Business2.com*. July 2002.
- ⁴⁰ As Max Manwaring describes the illegal drug industry in Colombia, “Products are made, sold, and shipped; bankers and financial planners handle the monetary issues; and lawyers deal with the legal problems.” “Nonstate Actors in Colombia: Threat and Response.” Carlisle Barracks, PA: U.S. Army War College Strategic Studies Institute. May 2002.
- ⁴¹ See Angel Rabasa, Peter Chalk. *Colombian Labyrinth: The Synergy of Drugs and Insurgency and Its Implications for Regional Stability*. Santa Monica, CA: Rand Corporation, 2001. pp. 33-34.
- ⁴² Although the FARC has been heavily involved in Colombia’s narcotics business since 1982, and the AUC has been involved for a similarly lengthy period, U.S. government sources have recently acknowledged that the ELN is also increasingly becoming involved in the business. See “Hipótesis señalan al Ejército de Liberación Nacional (Eln) como autor de bomba en Cúcuta.” *El Tiempo.com* 7 March 2003.
- ⁴³ Eduardo Pizano. “Plan Colombia: The View from the Presidential Palace.” Carlisle Barracks, PA: U.S. Army War College Strategic Studies Institute. May 2001.
- ⁴⁴ Julia Sweig notes that “the FARC tends to attack representatives of the state itself—mayors, senators, presidential candidates, cops, soldiers, police stations, municipal buildings, electrical grids, dams, oil pipelines, and more recently, commercial buildings and patrons of upscale restaurants in Bogotá. This strategy is part of the FARC’s total war approach, meant to cripple the state and force a settlement on the FARC’s terms.” “Colombia’s Desperate Choice.” *Foreign Affairs*. September/October 2002. p. 126. With respect to specific effects of this approach, John Cope notes that over 200 of Colombia’s mayors and municipal officials resigned their posts in the face of FARC threats. “Colombia’s War:

-
- Toward a New Strategy.” *Strategic Forum*. Washington DC: National Defense University Institute for National Strategic Studies. No. 194. October 2002. p. 3. See also Max G. Manwaring, “U.S. Security Policy in the Western Hemisphere: Why Colombia, Why Now, and What Is To Be Done?” Carlisle Barracks, PA: U.S. Army War College Strategic Studies Institute. June 2001.
- ⁴⁵ With respect to the impact of Colombia on investment in Ecuador, Ecuadoran president Lucio Gutiérrez recently observed that “the fight in Colombia...makes the foreign investors suspicious of the region” Translated by author from. “Presidente de Ecuador, Lucio Gutiérrez, advierte que su país no apoyará bélicamente a Colombia.” *El Tiempo.com*. 16 February 2003. With respect to immigration, the International Organization for Migration reports, for example, that more than 1.2 million Colombians have fled their country over the last five years by legal means. The figure rises to an estimated 2 million persons when migration outside legal channels is factored in. See Jeremy McDermott, “Colombia war leads 1.2 million to leave.” *BBC News*. 20 August 2002. See also “Colombia investment falls.” *Miami.com*. 19 November 2002. See also Gabriel Marcella, “Plan Colombia: The Strategic and Operational Imperatives.” Carlisle Barracks: U.S. Army War College Strategic Studies Institute. April 2001, p. 1.
- ⁴⁶ Julia Sweig reports that ELN attacks on a critical segment of oil pipeline in the Colombian department of Arauca is estimated to cost Colombia “as much as \$430 million per year in oil revenues.” “Colombia’s Desperate Choice.” *Foreign Affairs*. September/October 2002. p. 135.
- ⁴⁷ As Garry M. Leech writes, “To this day, the government in Bogotá has never effectively controlled all of the national territory.” *Killing Peace*. New York: Information Network of the Americas (INOTA), 2002. p. 7. See also Stephen E. Flynn, “U.S. Support of Plan Colombia: Rethinking the Ends and Means.” Carlisle Barracks: U.S. Army War College Strategic Studies Institute. May 2001. p. 2.
- ⁴⁸ For documentation on the source of funding of guerillas and criminal organizations in Colombia, see Angel Rabasa, Peter Chalk. *Colombian Labyrinth. The Synergy of Drugs and Insurgency and Its Implications for Regional Stability*. Santa Monica, CA: Rand Corporation, 2001.
- ⁴⁹ Max Manwaring observes, for example, that “Insurgent and paramilitary organizations have followers, organization, and discipline. Traffickers need these to help protect their assets and project their power within and among nationstates.” “Nonstate Actors in Colombia: Threat and Response.” May 2002. Carlisle Barracks, PA: U.S. Army War College Strategic Studies Institute. May 2002. With respect to specific operations, one key DEA official, testified that “The presence of the insurgents in Colombia’s eastern lowlands and southern rainforest, the country’s primary coca cultivation and cocaine processing regions—hinders the Colombian government’s ability to conduct counter-drug operations.” “Statement by Donnie R. Marshall, Administrator, Drug Enforcement Administration Before the House Committee on Government Reform: Subcommittee on Criminal Justice Policy and Human Resources.” March 2, 2001.
- ⁵⁰ An illustration is the February 1 bombing by the FARC of a power substation in Arauca, which left much of the department without power for four days, and forced the imposition of a curfew to protect citizens against further terrorism and common crime. See “Restablecido el servicio de energía en Arauca.” *El Tiempo.com*. 5 February 2003.
- ⁵¹ During February 2003, the government deployed the first 6,000 (“Peasant soldiers”) in Chocó, in the north of the country. Plans call for the deployment of 18,000 of these soldiers, serving as a “local defense force” to protect their own home towns against guerilla attack. See Scott Wilson, “‘Peasant’ Force Takes Shape in Colombia.” *Washington Post*. 13 March 2003. p. A11. See also “Primeros soldados campesinos empiezan a prestar servicio en el norte del país.” *El Tiempo.com*. 4 February 2003.
- ⁵² Tom Marks makes the connection from kidnapping and extortion back to the undercutting of state control, noting that “Widespread use of kidnapping and extortion, seemingly counterproductive, in reality serves further to “prepare the battlefield” by weakening state legitimacy and control.” *Bleeding Colombia, Part 2*” *Soldier of Fortune*. January 2003. p. 23.
- ⁵³ Of the Colombian case, Eduardo Pizano writes that the peasantry “was an economic class traditionally marginalized in Colombia and in behalf of which there was no agrarian policy in place to provide attractive farm or employment alternatives. This was a class for which the government had no credible policy to provide good nutrition, good education, and a decent quality of life. And the drug lords came upon the scene with their coca crop initiative in Colombia itself at precisely the right historical moment to implicate an entire economic class, rendered vulnerable to exploitation by centuries of government neglect.” Eduardo Pizano. “Plan Colombia: The View from the Presidential Palace.” Carlisle Barracks, PA: U.S. Army War College Strategic Studies Institute. May 2001. p. 3.

-
- ⁵⁴ Of narco-traffickers, the State Department noted that “they will first try to migrate to other areas inside Colombia, then try to return to traditional growing areas in Peru and Bolivia. But if those options are forestalled, they may well seek to move more cultivation, processing and/or trafficking routes into other countries such as Ecuador, Brazil, or Venezuela.” “Plan Colombia and the Andean Regional Initiative.” Testimony Before the House International Relations Committee Subcommittee on the Western Hemisphere. 28 June 2001.
- ⁵⁵ The U.S. Committee for Refugees estimated in 2002, for example, that between 50,000-75,000 Colombians were living in Venezuela as refugees, or in “refugee-like conditions.” *U.S. Committee for Refugees, Country Report: Venezuela, 2002.* www.refugees.org/world/countryrpt/amer-carib/venezuela. A separate report estimated that 30,000 Colombians were living as refugees in Ecuador. U.S. Committee for Refugees, *Country Report: Ecuador, 2002.* www.refugees.org/world/countryrpt/amer-carib/ecuador. The Committee also reports another 800 Colombian “asylum seekers” in Panama. <http://www.refugees.org/world/countryindex/panama.cfm>.
- ⁵⁶ S&P rebajó perspectivas de Venezuela por fuga de capitales. *El Universal.com*. 12 March 2002. See also Daniel Flynn. “Rising Capital Flight Worries Venezuela’s Chavez.” *Reuters*. 1 August 2001.
- ⁵⁷ In total, 929 terrorist attacks were been registered against the Caño Limón-Coveñas pipeline in the period between 1986 and 2002, including 170 attacks in 2001 alone. The Orensa pipeline, operated by BP Amoco and the Colombian government consortium Ecopetrol, was shut down twice in 2002 by guerilla attacks. See “Attackers Blow Up Colombian Pipeline.” *Washingtonpost.com*. 25 November 2002.
- ⁵⁸ Although the diagram contains other positive feedback loops, and some negative feedback loops, in the interest of clarity, only the positive feedback loops associated with the principle regional measures of interest are shown here.
- ⁵⁹ “Brazil no califica e terrorista a las Farc, en respuesta a carta del Presidente Álvaro Uribe.” *El Tiempo.com*. 19 February 2003.
- ⁶⁰ For a global perspective on organized crime and its relationship to civil wars and insurgencies, see Claire Sterling. *Thieves’ World: The Threat of the New Global Network of Organized Crime*. Simon & Schuster. June 1994.
- ⁶¹ For information on the dynamic between organized crime and insurgency in Chechnya, see Russian Organized Crime. William H. Webster and Frank J. Cilluffo, eds. Washington D.C., Center for Strategic & International Studies. September 1997.
- ⁶² Gabriel Marcella, for example, provides some perspective into the extent to which institutions in Colombia are currently broken. He notes, for example, that two-thirds to three-fourths of the members of the Colombian Congress are corrupt, and that the judicial system is completely dysfunctional. Gabriel Marcella. “Plan Colombia: The Strategic and Operational Imperatives.” Carlisle Barracks, PA: U.S. Army War College Strategic Studies Institute. April 2001. With respect to the judicial system, for example, Julia Sweig notes that almost 95% of crimes in Colombia are never prosecuted.” “Colombia’s Desperate Choice.” *Foreign Affairs*. September/October 2002. p.133.
- ⁶³ See, for example, Gabriel Marcella, “Plan Colombia: The Strategic and Operational Imperatives.” Carlisle Barracks, PA: U.S. Army War College Strategic Studies Institute. April 2001. See also Gabriel Marcella, Charles E. Wilhelm, Alvaro Valencia Tovar, Ricardo Arias Calderón, and Chris Marquis, “Plan Colombia: Some Differing Perspectives.” Carlisle Barracks, PA: U.S. Army War College Strategic Studies Institute. June 2001.
- ⁶⁴ For a detailed critique of Plan Colombia, see Luz E. Nagle, “Plan Colombia: Reality of the Colombian Crisis and Implications for Hemispheric Security.” Carlisle Barracks, PA: U.S. Army War College Strategic Studies Institute. December 2002.
- ⁶⁵ “Colombia Bomb Explosion Kills One Person.” *The Miami Herald.com*. 17 December, 2002.
- ⁶⁶ David Williams, “Kidnapping is Big Business in Colombia.” *CNN.com*. 7 May 2001. Williams notes that half of all kidnappings that occur in the world occur in Colombia.
- ⁶⁷ Indeed, the deaths and kidnappings directly related to the war understate the magnitude of bloodshed caused by the protracted crisis in Colombia. Phillip McLean notes, for example, that over the period from 1990-2000, Colombia also had a rate of violent deaths almost nine times higher than that of the United States. “Colombia: Failed, Failing, or Just Weak?” *The Washington Quarterly*. Summer 2002. 25:3. p. 129. See also Charles Bergquist, et al., *Violence in Colombia, 1990-2000: Waging War and Negotiating Peace*. Wilmington, NC: SR Books, 2001.