



Moving Frontiers:

Patterns of Violence in the Americas

Jean Daudelin

Working Paper 08

December 2010

centre for security and defence studies
norman paterson school of international affairs
carleton university | ottawa, canada
www.carleton.ca/csds

CSDS WORKING PAPERS

Centre for Security and Defence Studies (CSDS)
Norman Paterson School of International Affairs (NPSIA) | Carleton University
1401 Dunton Tower | 1125 Colonel By Dr
Ottawa, Ontario K1V8H8 | Canada
(t) 613.520.6655 | (f) 613.520.2889
www.carleton.ca/csds/working_papers.htm

ABOUT CSDS WORKING PAPERS

The *CSDS Working Papers* series provides an outlet for the relatively quick dissemination of research in progress by Centre Faculty and Research Associates, Pre- and Post-Doctoral Fellows, and students on topics related to Canadian and international security and defence issues. Working Papers are published electronically on an occasional basis and are available for download at www.carleton.ca/csds/working_papers.htm. Working Papers are reviewed internally. The views expressed are those of individual authors and not necessarily those of CSDS or the Department of National Defence. The *CSDS Working Papers* series continues the *NPSIA Occasional Papers* series.

ABOUT THE CENTRE FOR SECURITY AND DEFENCE STUDIES

The Centre for Security and Defence Studies (CSDS) is one of twelve independent national academic Centres of Expertise supported through the Security and Defence Forum (SDF) of the Department of National Defence (DND). Housed at the Norman Paterson School of International Affairs, Carleton University, CSDS brings together scholars and students from across Carleton and the Ottawa area who are engaged in research and teaching on Canadian and international security, defence and foreign policy issues. More information on the Centre and its research, teaching, and outreach activities can be found at www.carleton.ca/csds.

EDITORIAL BOARD

David Mendeloff, Director, CSDS; Working Papers Editor
Chris Penny, Deputy Director, CSDS
David Carment, Norman Paterson School of International Affairs
Jean Daudelin, Norman Paterson School of International Affairs
Trevor Findlay, Canadian Centre for Treaty Compliance, NPSIA
Mira Sucharov, Department of Political Science, Carleton University

Moving Frontiers:

Patterns of Violence in the Americas

Jean Daudelin

Abstract

This paper looks at the dynamics of drug violence through a property rights lens, building on the work of Alson, Libecap and Mueller on land conflict in the Amazon. In the Americas, high levels of violence are concentrated in dysfunctional drug frontiers, i.e. in areas that have the following characteristics: the drug rent is large relative to the size of the local economy; the state's repressive capabilities are relatively limited; and local competition over the drug rent is poorly self-regulated. These dysfunctional drug frontiers move around, as the value of drug rents in particular areas changes; as state repression's incentives, capabilities and/or effectiveness change over time, increasing the cost of rent capture in particular areas, and decreasing it in others; and as the quality of the self-regulation of local competition over the drug rent gets better over time in some places, and worse in others.

About the Author

Jean Daudelin is Assistant Professor of International Affairs at the Norman Paterson School of International Affairs and Faculty Associate of the Centre for Security and Defence Studies. His current areas of research are property rights and conflict and Canadian and Brazilian foreign policy. He can be reached at jean.daudelin@gmail.com or jean_daudelin@carleton.ca

INTRODUCTION

Since the end of the Cold War, civil conflicts and violence in the Americas can be traced almost exclusively to criminal activities that are devoid of a political agenda. A perverse but nonetheless thorough “conflict transformation” appears to have taken place. The study of violence is belatedly following its object along this new path, with theories of insurgencies now being displaced by theories of crime on the conflict research agenda (Bergman, 2006).¹ This shift was late in coming, though, which is difficult to reconcile with the fact that, in most countries of the region, the number of victims of criminal violence has long been much larger than that of political insurgencies or their repression. Brazil is an extreme case, but with 40% of the population of South America, it is nonetheless significant: while 383 men and women were killed or disappeared by the government during the 25-year-long dictatorship (1964-1985),² 564,000 were murdered as a result of confrontations among criminals or between criminals and the police over the last 25 years (Waisenfilz-2008a). The problem is not confined to Brazil: at current rates, in a few years, more people will have died from gang-related violence in Central America than were killed in the political slaughters of the 1980s civil wars. Venezuela, one of the very few countries of the region that did not suffer from a prolonged military dictatorship in the 1970s and 1980s, now has South America's highest murder rate, and one of the highest in the world, as do the British Caribbean states, which were essentially spared political violence and authoritarianism.

The picture is complex however: in recent years, the distribution of homicides, both within and between countries and regions, has changed significantly. Overall homicides rates are declining in a few major countries (United States, Brazil, Colombia, and Mexico), but at the same time increasing, sometimes very significantly, in some parts of Brazil and Mexico, as well as in Venezuela, Central America, and the Caribbean.

Policy and academic debates about the determinants of that violence and its evolution are rife and feed on a wide variety of disciplinary and theoretical perspectives. This paper proposes an approach inspired by the work of property rights theorists on conflict. More specifically, the model used in this paper is an extension of Lee Alston, Gary Libecap and Bernardo Mueller's theory of land conflict on the frontier (Libecap-1989; Alston, Libecap and Mueller-1999a, 1999b). According to that theory, land frontiers are violent when the value of land is high enough for actors to engage in intense competition over it, while 1) the state is unable or unwilling to manage that competition and 2) competitors themselves are unable to reach agreements among themselves about a given allocation of the land. I have built their basic model into a

¹ This transformation reaches well beyond the study of violence in the Americas. Several luminaries of the economics of conflict, the most influential approach the study of civil war argues bluntly that there is no difference between insurgents and criminal gangs (Grossman, 1999; Collier and Hoeffler, 2004).

² Centro de Documentação Eremias Delizoicov [Eremias Delizoicov Documentation Centre] Comissão de Familiares dos Mortos e Desaparecidos Políticos [Commission of family members of the people killed and disappeared] http://www.desaparecidospoliticos.org.br/quem_somos.php?m=2 (consulted Oct. 5, 2009).

general theory of “frontier violence” which I use here to make sense of the current distribution of homicides and of the recent evolution of that distribution.

This paper tells a two-part story: first, high levels of violence are concentrated in dysfunctional drug frontiers, i.e. in areas that have the following characteristics: 1) the drug rent is large relative to the size of the local economy, either because of significant local consumption or, in most cases, because these areas are important transit points to wealthy drug markets, primarily the United States; 2) state repressive capabilities are relatively limited in these areas, because governments are uninterested or unable to intervene, as the relevant country, state or city is poor or just small, i.e. government local capacity is no match for the traffickers'; and 3) the local competition is poorly self-regulated, because the set of players is unstable—new ones join in, old ones break down, because authorities disrupt the traffic, constantly changing the equilibria that underlie mutual agreements, because the market is highly fragmented, which makes the reaching of agreements among all of them extremely difficult, or because stable relations among competitors or between them and state authorities have not yet been established. Second, these dysfunctional drug frontiers move around, as 1) the value of drug rents in particular areas changes; 2) state repression's incentives, capabilities and/or effectiveness change over time, increasing the cost of rent capture in particular areas, and decreasing it in others; and 3) the quality of the self-regulation of local competition over the drug rent gets better over time in some places, and worse in others.

The argument and the evidence presented here strongly support the contention that conjuncture factors such as US policy, specific decisions of political authorities (for instance to confront the traffickers or to make deals with them), local governments' policing strategies, and gangs' cooperation abilities, have a stronger effect on homicide rates and their evolution than structural factors like poverty, inequality, social exclusion, urbanisation, population density, conflict or post-conflict “cultures,” youth “bulges,” peculiar modalities of gender construction—e.g. violent masculinities—or authoritarian family structures.

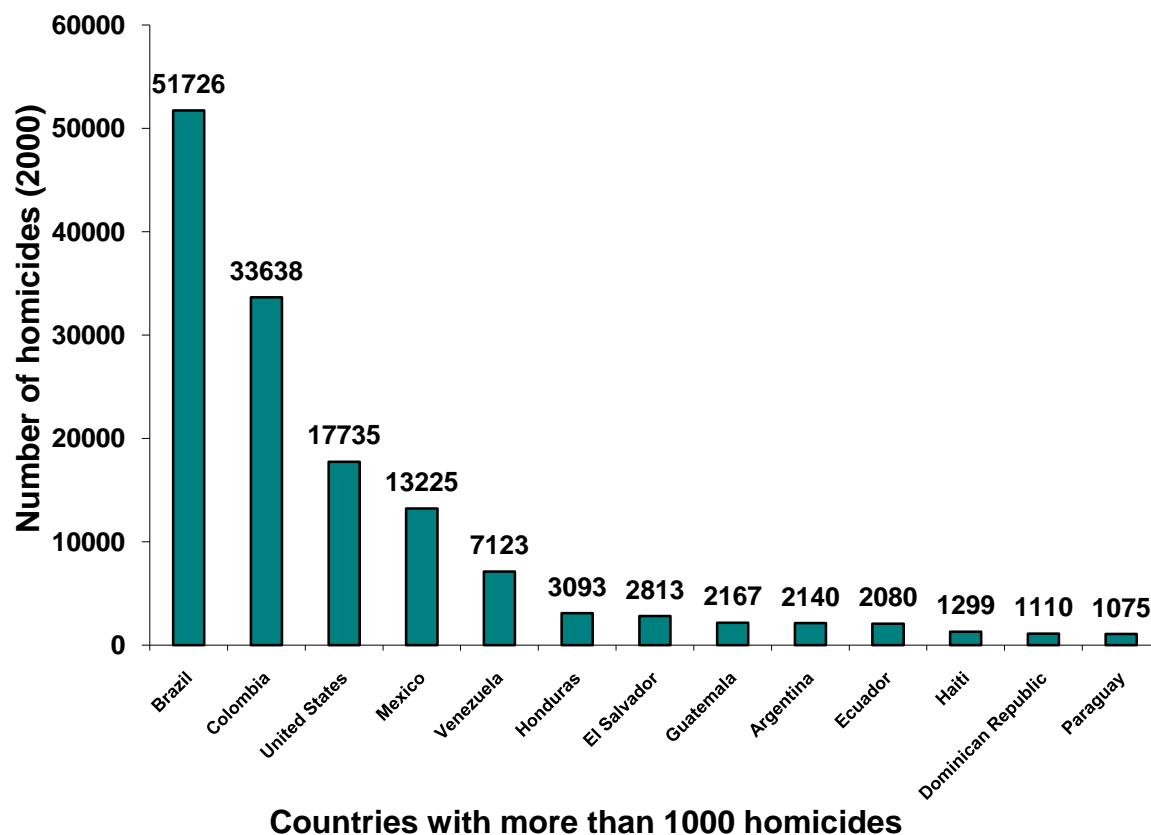
The paper is divided in three sections. The first presents data on the scale and evolution of homicides and homicide rates in the Americas since the end of the 20th Century. The second outlines the “frontier violence” model. The third uses that model to build a cogent story of the changes that have been taking place in the distribution of homicides in the Americas over the last decade.

1. A DIVERSE AND CHANGING LANDSCAPE

The Americas are exceedingly violent. Figure 1 (p. 32) presents the list of countries in the region that had at least a thousand homicides in the year 2000. While the first places in this ranking should come as no surprise, except perhaps regarding the scale of the problem (Brazil had 142 homicides per day in the year 2000), the presence in this relatively short list of a large contingent of rather small countries is more disturbing. A look at the region's homicide rates for the ten years for which broad series

are available (table 1, p.4) shows indeed that while Colombia, Brazil, and Venezuela are in a good place, small countries from Central America and the Caribbean dominate the list. Interestingly, this ranking also points to the complexity of the problem, as dirt poor Haiti is in the middle of a high homicide column that includes a number of relatively rich and equal British Caribbean countries, as well as middle-income but unequal Brazil, Colombia and Mexico. Similarly, poor and segregated Peru lies below much richer and equitable Uruguay and Costa Rica.

Figure 1: The Americas' Top Graveyards³



³ For all countries except Mexico and Honduras: Pan American Health Organization, Health Analysis and Statistics Unit. Regional Core Health Data Initiative; Technical Health Information System, Washington DC, 2007, <http://www.paho.org/English/SHA/coredata/tabulator/newTabulator.htm> (2009 01 08); For Mexico: Instituto Ciudadano de Estudios Sobre la Inseguridad (ICESI), http://www.icesi.org.mx/documentos/estadisticas/estadisticas/denuncias_homicidio_doloso_1997_2006.pdf (2009 01 08). For Honduras: Observatorio Centroamericano sobre Violencia (OCAVI) http://www.ocavi.com/docs_files/file_384.pdf (Nov. 2, 2009).

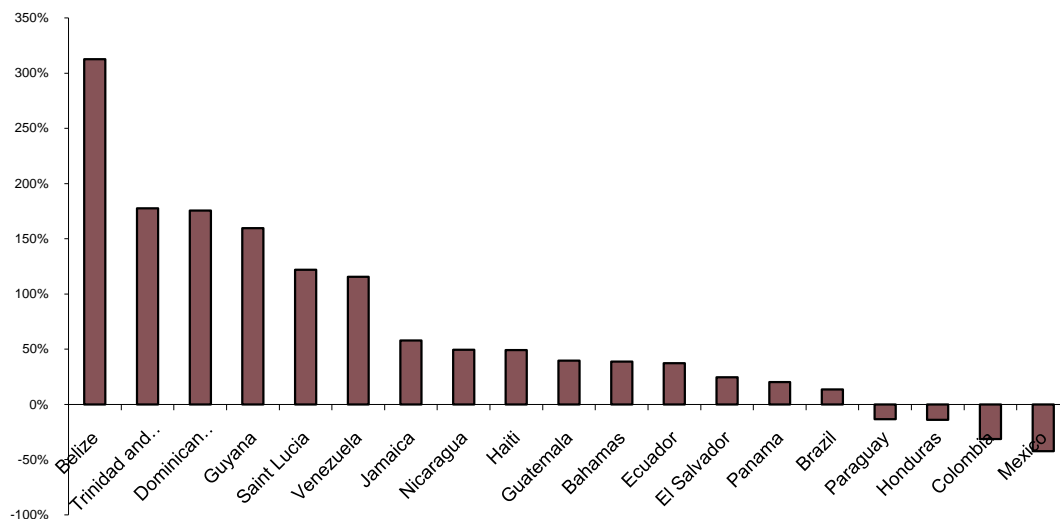
Table 1: Homicide rates in the Americas, average 95-06 (PAHO-2007)

Colombia	76,07	Guyana	10,99
El Salvador	50,48	Trinidad and Tobago	10,86
Jamaica	41,08	Barbados	8,53
Brazil	29,83	Cayman Islands	6,58
Venezuela	25,59	USA	6,54
Guatemala	23,21	Cuba	6,53
Paraguay	19,02	Costa Rica	6,32
Haiti	18,62	Dominica	5,74
Belize	18,18	Argentina	5,62
Bahamas	16,85	Uruguay	4,93
Ecuador	15,81	Aruba	4,75
Anguilla	15,50	Suriname	4,56
Saint Kitts and Nevis	15,07	Chile	4,24
Nicaragua	13,92	Peru	3,72
Honduras	13,80	Bermuda	3,25
Saint Lucia	13,41	Martinique	2,73
Mexico	13,37	Grenada	2,50
Dominican Republic	12,75	Canada	1,54
Panama	12,06	Bolivia	0,45

Looking at these ten-year averages, however, can be extremely misleading, for two reasons: sub-national dynamics also appear to be extremely diverse, at least in the largest countries, and quite astonishing changes have been happening over the decade covered by those numbers. One of those changes has been the decline in Colombia's homicide rates, which reached a peak of 82 per 100k in 2002, before falling to 52 in 2006. Much of the fall can be traced to the collapse of homicides in Medellin and Bogotá, which, over the last ten years, fell from peaks of 90 (Medellin) and 45 (Bogota) per 100k, to less than 20 per 100k today (CERAC, 2005: 22; PAHO 2007).

Very significant variation over the decade, however, was not circumscribed to Colombia. Figure 2 (p. 5) shows that Mexico, which by regional standards had an average murder rate at the beginning of the period, nonetheless saw it go down precipitously (-36%). The gravity of the situation in the Caribbean and Central America, however, is underlined here: many countries of those regions are going from bad to worse. Among countries with a murder rate over 10 per 100k, only one country from these two regions—Honduras—has registered a decline in the period, though at 42 per 100k in 2006, it still ranks fourth on the continent and fifth overall in the world. El Salvador and Jamaica, respectively first and third on global rankings, went from extremely bad to dreadful while a number of small and fragile countries, from Belize, Guyana and St-Lucia to Haiti and Nicaragua, surged. With Brazil's rates increasing only slightly, and in fact declining significantly in the later part of the period covered, a rough pattern appears to be emerging, as the situation of larger and richer countries remains stable or better, while small and poor countries see their deteriorate.

Figure 2: Evolution of homicide rates (95-06, for countries with rates >10/100k)⁴



That picture still needs to be considered with caution, as national data, at least for large countries, may be just as misleading as ten-year averages. Figure 3 looks at the recent evolution of homicide rates in Mexico between 1997 and 2006, for states whose average rate during the period was higher than 10 per 100k. As can be seen, the national drop of 38.64% does not very well convey the situation of a country where Chiapas' murder rate has declined by 78.49%, while Tlaxcala's has more than doubled (+107.14%).

Arguably, much has changed in the last few years in Mexico, with reports of a murderous war among traffickers and between them and the government. Once again, and although the war—which appears to be abating—does not take the country's homicide rates back to the levels of ten years ago, the picture varies a lot within the country. For 2008, more than three-quarters of the drug-related murders (4359/5639) have been concentrated in five states—Chihuahua, Sinaloa, Baja California, Durango and Guerrero—that represent less than 13% of the country's total population (El Universal, 2009). Greater Mexico City (i.e. the DF and the state of Mexico), with its 23 million people, had a total of 232 drug-related murders in 2008, i.e. less than a typical weekly count in the similarly sized greater São Paulo of the year 2000.

⁴ Rates larger than 10 per 100,000 inhabitants. PAHO 2007, except for Mexico, 97-06: http://www.icesi.org.mx/documentos/estadisticas/estadisticas/denuncias_homicidio_doloso_1997_2006.pdf.

Figure 3: Changes in state murder rates in Mexico, 1997-2006⁵

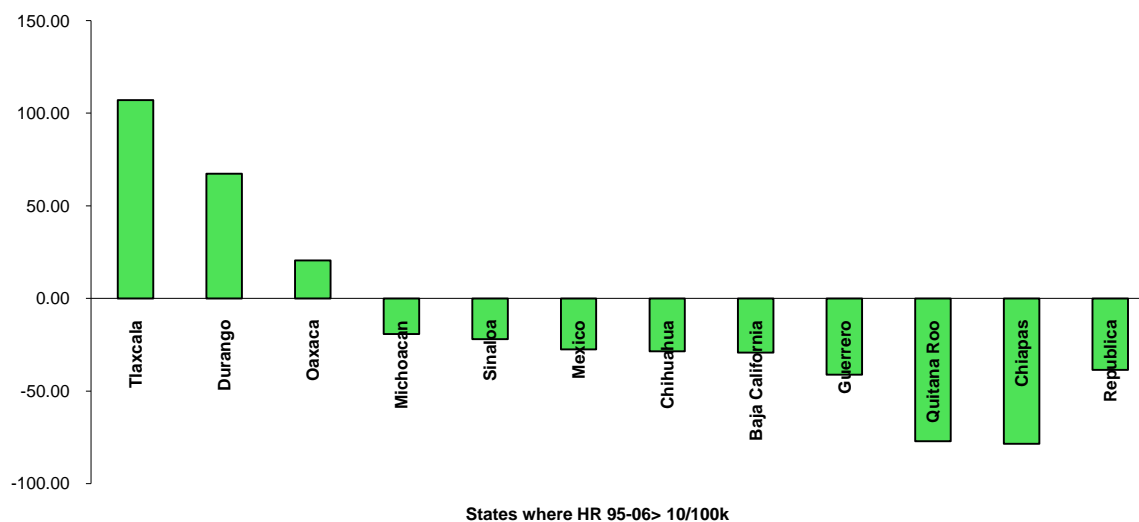
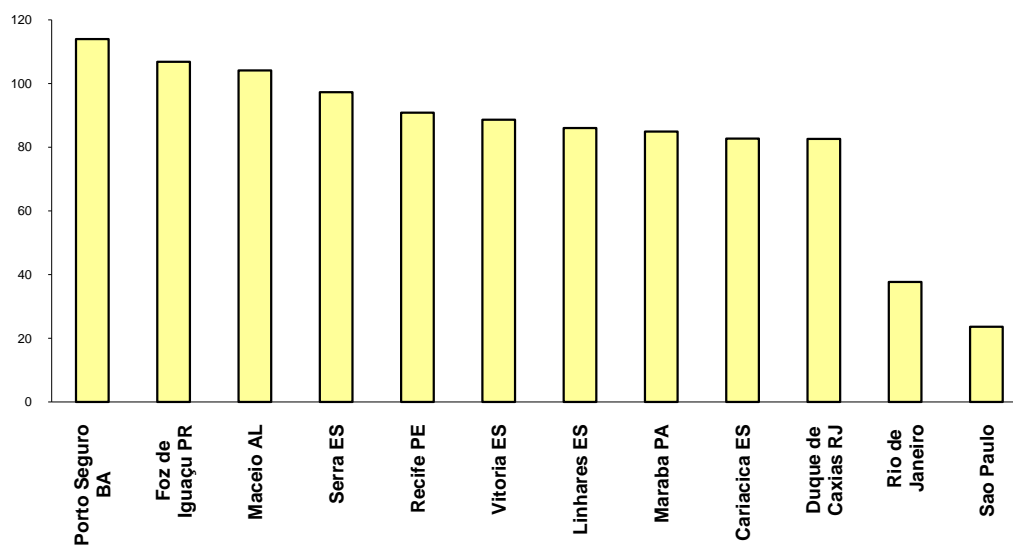


Figure 4: Highest homicide rates (per 100k in 2006) in Brazil (cities >100k)⁶



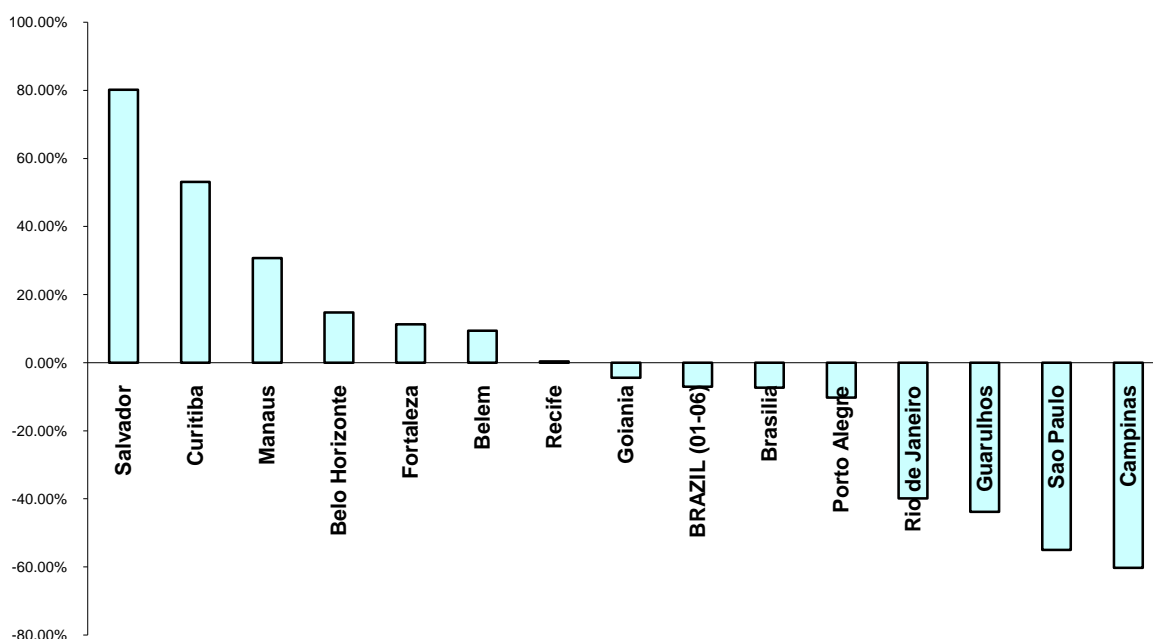
⁵ Instituto Ciudadano de Estudios sobre la Inseguridad (ICESI). Registro ante agencias del Ministerio Público de las entidades federativas. Fuente: Sistema Nacional de Seguridad Pública y CONAPO. http://www.icesi.org.mx/documentos/estadisticas/estadisticas/denuncias_homicidio_doloso_1997_2006.pdf (Feb. 24, 2009).

⁶ Waisenzilz, 2008a.

Brazil also shows how misleading national averages can be. While the country's overall homicide rate was slightly under 30 per 100k in 2006, Figure 4 shows that many of its large cities (>100,000) were significantly more violent.

What Brazilian numbers underline, however, is how quickly situations can change (Figure 5). Among Brazilian municipalities with more than 1 million inhabitants, São Paulo and two others of São Paulo state's largest cities (Campinas and Guarulhos) saw homicide rates decline, in five years, by 40% or more. Rio did almost as well, while Brazil as a whole also saw average murder rates decline. This was little comfort to the citizens of Salvador (+80%), Curitiba (+53%) and Manaus (+31%), whose rates were exploding, or for Recife's, which stayed close to the top of the country's homicide ranking, at 91 homicides per 100k.

Figure 5: Changes in homicide rates between 2001 and 2006 (cities>1 million)⁷



This brief overview has definite methodological implications. National averages or single year rates can be exceedingly misleading, especially for large countries. The situation in one region, say Northern Mexico or Northeastern Brazil, may be quickly deteriorating, while the rest of the country may remain stable or even see a radical decline of insecurity. Similarly, levels of violence in cities and smaller countries can also change abruptly. Unless one dismisses as irrelevant short term variations such as the spectacular ones that were recently observed in the greater São Paulo and Rio areas, and in Medellin and Bogotá, this probably implies that nothing can be inferred directly from national-level data at least in large countries, or from structural variables that cannot change significantly over a five year period.

⁷ Waisenzilz, 2008a.

The most frequently quoted study of the determinants of homicides in the region (Fajnzylber et al. 1998) do factor in variations over time—although their dataset misses both the recent Brazilian and Colombian evolutions—but use national level data for the variety of factors they consider as independent variables. A recent UNICEF-sponsored "mapping" of violence in the region (Waisenzilz, 2008b: 36-43), while somewhat primitive in its statistical analysis, can be faulted mostly for considering, in its assessment of the determinants of homicides, only one yearly value for homicides (the "latest") and only national-level data as potential risk factors (HDI, Gini coefficient, poverty rates, etc.). The fact that these three studies identify inequality as the most significant correlate of homicide rates, in other words, should be taken with a grain of salt.

The flip side of this problem is that a successful model needs to consider variables or combinations thereof that will enable us to make sense of short-term changes in relatively small areas. It is the determinants of these local and conjunctural dynamics that need to be elucidated. This does not imply that the mechanics are different in each time-space conjuncture. In fact this paper holds precisely that a general model of those conjunctures is possible. The next section is devoted to the presentation of a model that satisfies those requirements.

2. FRONTIER VIOLENCE

A small group of institutional economists have developed a model of frontier violence that they have used to make sense of conflict in the Brazilian Amazon (Schneider, 1995; Alston, Libecap and Schneider, 1996; Alston, Libecap and Mueller, 1999a; Alston, Libecap and Mueller, 1999b; Alston, Mueller and Cosgel, 2003). They argue that there are spaces where competition for land becomes so intense that it overwhelms the ability of competitors to allocate land through mutual agreements. When that happens, violence results if state authorities are not there to authoritatively define and enforce rights over land. The model combines more or less explicitly a theory of the economic frontier, a theory of distributive conflict and cooperation in the absence of property rights, and a theory of property rights provision.

The theoretical argument of this paper is that this local model can be turned into a general theory of distributive conflict and used as such to understand the distribution over space and time of homicidal violence in the Americas. The three component theories will now be outlined, and the ways in which the general model will be applied here will be specified.

The economic frontier is the point at which the net present value of the capture of a given asset reaches zero. It is easiest to understand in terms of distance to the market, although any factor that impacts asset value has implications for the location of the frontier. The intuition is simply that at some point, it makes no economic sense to capture a good because the costs involved in doing so are larger than the benefits.

As one gets close to the frontier, competition for the asset diminishes because its net worth may be less than what the efforts of most people, if invested elsewhere, would yield; in other words, only people with extremely low opportunity cost will find it appealing to capture assets that are worth so little. As one moves away from the frontier and towards the market, however, i.e. as the net value of the asset increases, a much larger group of people will be interested in capturing it. Competition, as a result, will become more intense.

Close to the frontiers, the few poor individuals interested will likely find it easy to accommodate each others. Land is plentiful and competition light. People will simply distribute themselves around and put up rough indications to demarcate their respective plots. Given the low net returns, they could not afford to fence them anyway. Similarly, they also do not have a strong incentive to rob their equally poor neighbours or, for that matter, the time and resources needed to do so and then protect whatever they will have captured. Farther away from the frontier, however, the situation changes. There are more people, and they are wealthier because returns are higher. It starts to make sense to fence, raid and defend property, and people have the means to do so. Obviously, it is still sensible to make informal agreements instead of devoting resources to defending plots or raiding one another's. But those agreements are also more difficult to reach, among other reasons because the higher value of the land has made delimitation more critical, and because higher demand for the land means that a market develops whereby the local population increases and becomes more diverse. Altogether, this implies that, as one moves away from the frontier, the costs of reaching informal agreements – transaction, information and monitoring costs-- also increase. At some point and in some places, those costs may be so high that no agreement can be reached and when that happens, violence becomes likely. Clearly violence is also costly, and this is part of the equation, i.e. there is always an incentive to reach some kind of agreement with one's neighbours, but that incentive may not be strong enough. When that happens, violent conflict occurs.

Obviously, there is another path. When mutual arrangements cannot be reached, some third party, say a government or a customary authority, can move in, adjudicate the dispute, and effectively enforce a given allocation of the asset, thereby "specifying" property rights. That third-party, however, is not a charity and its specifying the rights involves costs. The provision of property rights, in other words, depends on the incentive structure of the third party, more specifically on the net value to that party of PR provision. A number of factors can affect that value, but most can be subsumed under three basic categories: the costs of definition and enforcement; the direct benefits involved, i.e. the fee or "tax" collected in exchange; and the indirect benefits, i.e. the net benefits to the third party of avoiding conflict at the frontier (externalities). Together, these factors combine to determine when and where property rights will be provided and, to the extent that they may not be provided everywhere, these factors also determine the existence and "location" of an enforcement frontier.

The key insight of the frontier violence model is that there is no reason for third party incentives to favour intervention precisely where and when competitors are unable

to reach agreements. In other words, the demand for property rights that is implied in the growing tensions on the frontier is often not met by sufficient supply. Violence occurs in that gap.

The model can be summarized in the following system of propositions:

1. In the absence of well-defined and enforced property rights, violence occurs when competitors over a given asset are unable to reach a mutual agreement regarding its allocation and when there is a net benefit in the use of violence.

1.1. The ability of competitors to reach mutual agreements is a function of the a) costs involved (information, monitoring, control) and b) the techniques they deploy to reduce those costs (modalities of cooperation and conflict resolution).

1.2. The benefits linked to the use of violence depend on the technologies utilized and on the potential impact of violence on the value of the asset over which competition is taking place.

2. Controlling for the ability of competitors to reach mutual agreements, the probability of conflict will vary directly with the size of the gap that exists between the economic frontier for that particular asset, and the enforcement frontier for property rights over that asset.

2.1. The location of the economic frontier is a function of the a) net present value of the good and b) the impact of various cost factors on that value.

2.2. The location of the enforcement frontier is a function of net present value of enforcement for the third party, more specifically of a) the costs involved in definition and enforcement of property rights, b) the revenue that rights specification generates, and c) the consequences for the enforcer of not intervening in the competition over the asset.

On the basis of this model, one can quite easily construct ideal-types of violent situations. In general terms, dysfunctional competition and a large gap between the economic and enforcement frontier will be associated with violent conflict.

A large gap between the economic and enforcement frontiers is most likely to develop where the market value of a good is extremely high (making for a distant economic frontier) but where the institutional capabilities of potential rights enforcers—typically the government—are limited or where the net benefits to the enforcer—either direct through taxes or indirect through diminished negative externalities—are low (making for a proximate enforcement frontier). The issues that come to the fore are thus high value goods, which affect the location of the economic frontier, and state capacity, which determine the location of the enforcement frontier, as it reflects the ability of the state to intervene in the competition for the asset and to cover its costs through taxation.

Dysfunctional competition in the absence of well-enforced property rights is most likely to occur in unstable environments where informal rules and conventions are difficult to establish and enforce, where interaction is often disrupted, where competitors change all the time, or where it is very difficult to get to know or trust your potential partners. The ability of competitors to build reliable channels of information and exchange as well as effective mechanisms of monitoring and enforcement are critical. Family, clan and clientelistic structures in land frontiers, and gangs and cartels in the case of illegal goods, can thus critically affect the "quality" and functionality of un-regulated competition.

The model does not imply that structural factors such as violent masculinities, inequality or poverty may not play a role. But that role is a priori indeterminate, i.e. these factors will only have an influence through their impact on the gap between the economic and enforcement frontiers and the functionality of the un-regulated competition. Moreover, the nature of the effect may also be ambiguous. Poverty, for instance, by lowering the opportunity costs of a large part of the population, will push out the economic frontier for most assets. At the same time, the rent at stake in a poor country may be so low that only very close to the market will competitors be willing and able to use violence to settle disputes. In such cases, even an extremely deficient state might still be able and willing to enforce rights where it matters, namely where violent conflict can happen. In such circumstances, the gap between the implied demand for enforcement, and government capacity to provide it may be much smaller than it appears even in the context of a poor population.

Inequality is another case in point. As mentioned above, it has been repeatedly identified as an important predictor of homicide rates. For methodological reasons that we have discussed, the basis of that contention is dubious. In addition, it is difficult to reconcile it with low homicide rates in high inequality countries such as Peru, and especially with the rapid decline in homicide rates in consistently unequal countries like Colombia and Brazil. Through a frontier violence lens, however, inequality may matter where it proxies a poor territorial distribution of policing capacity, which it often does: competition over land or any number of assets in many poor urban or rural peripheries are typically left in the hands of the locals where policing in nice neighbourhoods—often assisted by private security services—is quite effective. When the assets at stake, say the control of the drug traffic in a Rio favela, are valuable, a huge gap results between the enforcement and economic frontiers. Where no such high value good is present and where as a result competition is less intense, or where the net cost of violence is simply too high, inequality does not lead to violence. One needs to check, in other words, which is precisely what I intend to do in a tentative manner in the next section.

3. MOVING DRUG FRONTIERS IN THE AMERICAS

Using the framework just outlined to generate hypotheses and organize the data available, I will try to make sense of the distribution of homicide rates in the continent, who is low and who is high, and changes in that distribution. More specifically, I will provide elements of answer to the following three questions:

- 1) Why are most Latin American countries so violent?
- 2) Why has most violence been concentrated in Central American countries, in the Caribbean, in Colombia and Venezuela, and in Brazil?
- 3) What explains the increasing concentration of violence in Central America and the Caribbean, in a few states in North-Central Mexico, in Venezuela, and outside of the Rio-São Paulo pocket in Brazil?

The frontier violence model would predict that homicide rates will be highest in countries, regions or cities where a) there is intense competition for a high value asset, b) state capacity or incentives to regulate that competition are low, and where c) in the absence of state intervention in the allocation of the asset, competitors have difficulty reaching agreements among themselves. Homicide rates will be lower when one or more of these conditions goes missing or when they are less acute, and low where they are all absent. Changing distribution of homicide rates will follow changing value and combinations of those variables over time and space.

Using this little model as a point of reference, I will now try to document and present briefly a series of coherent stories that answer the foregoing questions.

3.1 WHY ARE MOST LATIN AMERICAN COUNTRIES SO VIOLENT?

Latin America is violent first of all because of drugs. Cocaine, marijuana and heroin remain highly valuable, although their price has declined recently, in the case of cocaine dramatically.⁸ These drugs are produced in Mexico, Bolivia, Peru and Colombia, and trafficked through Brazil, Venezuela, Central America and the Caribbean. The most important markets for drugs produced in or trafficked through Latin America are the United States, the region's largest and wealthiest cities (Mexico, Caracas, São Paulo and Rio), as well as Western Europe (through West Africa (UNODC-2008b). There are debates about the value of the traffic, but the UN Office on Drugs and Crime (UNODC) estimates that, in 2003, the retail value of cocaine, all of which originates in South America, was \$70 billion dollars, out of a world total of \$320 billion for all illicit drugs. Retailers in North America and Europe capture most of that rent, however. The UNODC estimates that the value of production and traffic in Latin

⁸ From \$284 in 1990 to \$94 in 2006, and rising to \$119 in 2007. World Drug Report 2008 (United Nations Office for Drugs and Crime), June: p. 255 (retail prices, opiates) and 260 (retail prices cocaine). Prices inflation adjusted in 2006 US\$/gram. http://www.unodc.org/documents/wdr/WDR_2008/WDR2008_Statistical_Annex_Prices.pdf.

America is closer to \$6.1 bn, broken down as follows: producers get 527m, wholesales into both regional and foreign market is worth 2.6bn, and retail sales in local markets 3bn (UNODC, 2005, v. 1: 128-130). It must be noted that while substantial, this amount is far from overwhelming, especially when compared with the GDP or government budget of the region's largest countries, states or even cities. To take an extreme case, the budget of the state of São Paulo for 2009 is \$R116bn or approximately US\$55bn.⁹

In other words, there is possibly an economic frontier for drugs in the region, especially in the largest and wealthiest countries, i.e. areas where it may be more costly to engage in drug production or trafficking than in other economic activities, even for relatively poor people. Still, in much of these countries' territories, and certainly in smaller and poorer ones, the returns are sufficiently high for a significant number of individuals to get involved. Competition in those areas is thus intense as the rent at stake is high enough to make resorting to violence, even on a large scale and in spite of cost and consequences, both feasible and often appealing.

The ability of states to regulate drug production and trafficking varies but it is often relatively limited. A central issue here is illegality. Prohibition implies that the only allocation of property rights that is sought involves the capture by the state itself, for destruction purposes, of all the assets. The exclusion inherent to any property rights specification ("it is yours, not theirs") is taken here to the extreme ("it is nobody's"). The bar, in other words—and as a result the costs involved in enforcing that distribution—is much higher than for legal goods. The problem is especially bad for small states, as the rent at stake, which is typically linked to export to the US, is extremely large, while their own tax base, which largely defines the limits of their capacity, is small.

This is only part of the problem, however, as illegality also severely weakens state incentives to regulate competition over drugs: no tax can be imposed to finance state intervention, which reduces the whole incentive structure to costs (which are high), and negative externalities, i.e. to the consequences for the state of not intervening. Sometimes, as in the case of Colombia once the FARC started to draw on drug rent to finance its insurrection, these externalities can be very substantial, pushing the state to intervene forcefully. This is exceptional however. In Brazil, for years, gang wars in urban peripheries had but a marginal impact on the lives of most middle-class dwellers, and none at all on the prospects of political elites. Given the cost implications of seriously tackling the problem, it comes as no surprise that serious action was undertaken in the largest and richest states only when the impact on middle-class citizens reached extremes, and when violence became the driver of massive political mobilizations.

Even extremely high externalities, however, cannot create state capacity or enlarge a country's tax base. Intervening on that basis alone is the preserve of the wealthiest: even as large a country as Colombia could only seriously confront the drug

⁹ From the website of the Legislative assembly of the State of São Paulo. <http://www.al.sp.gov.br/porta/site/Internet/menuitem.b2f99ba872cfb7ab19b47628160041ca/?vgnextoid=27a5a6ad6388d110VgnVCM100000600014acRCRD> (Apr. 4, 2009).

problem with the support of the United States. And the same is happening now with Mexico. But US intervention responds to a similar set of incentives, and for the US government too, the only driver are the negative externalities of drug violence for the US itself, as they get no tax revenue from regulating the drug trade. This is why they intervened so forcefully in strategically significant Colombia and why they are willing to invest massively in critically important Northern Mexico, but also why they are largely indifferent to today's drug wars or in Central America and Venezuela, or to those that were taking place in Brazil in the 1990s and that they are still investing lightly in the Caribbean.

Still, as was pointed out in section two, even a large gap between the economic and the enforcement frontiers can be "filled" in some way through informal agreements among competitors. In the context of poor state regulation of drug competition, violence in much of the region can be traced to the inability of the traffickers to reach informal agreements with one another. The presence of large number of street gangs, in Central America and the Caribbean, implies for instance that informal agreements are expensive to reach. Most of the dysfunctionality of the competition, however, can be traced to government interventions that prevent traffickers from establishing stable arrangements.

The largest culprit here is probably the US-led "War on Drugs" (Jensen et al. 2004; Caulkins et al., 2005) The US has been using a carrot and stick strategy, providing assistance on the one hand, and threatening countries with a "decertification" that could have consequences not only for aid flows, but also for trade. Given the limited amount of resources made available to the region's governments, and given the scale of the problem, most anti-drug programs have not proven effective at all at "eradicating" production, trafficking or consumption. However, their typically haphazard and tentative efforts have created uncertain environments for the traffickers, and made their own informal and largely "balance-of-power" mutual arrangements extremely unstable, as the underlying distribution of capabilities is constantly disrupted.

Even in countries where the US war on drugs has had little effect on governments, drug policy has been equally damaging from the standpoint of violence containment. The policy adopted in most Brazilian states, for instance, has proven to be for the most part counter-productive. The policing of the areas controlled by traffickers has only recently become more predictable. The language traditionally used by Brazilian officials and the press to describe police operations in favelas testifies to the circumstantial quality of the policy: the entry of the police in a favela was called an "invasion," and their staying in for any period of time an "occupation." By contrast, Ipanema in Rio or the Jardins area in São Paulo, although large drug markets, are never said to be "invaded" or "occupied" by the police, even though the police presence there, in addition to huge levels of private security, is very significant.

What matters here is not enforcement effectiveness per se, but consistency, because it creates a predictable environment that facilitates informal deals. Enrique Desmond Arias (2006) has shown that, in a number of Rio shantytowns, consistent policing, meaning either effective enforcement of drug prohibition or informal

agreements between the local police and traffickers, bring levels of violence down. In the cases he examines, up and until those agreements hold, stability prevails.

To sum up, heavy competition over drugs, inadequate state effort to manage it, and an unstable environment for informal arrangements have given Latin America the highest murder rates in the world.

3.2. WHY HAS MOST VIOLENCE BEEN CONCENTRATED IN CENTRAL AMERICAN COUNTRIES, IN THE CARIBBEAN, IN COLOMBIA AND VENEZUELA, AND IN BRAZIL?

The dire situation of Central America and the Caribbean is easiest to explain (UNODC, 2007; UNODC/WB, 2007; UNODC, 2008a; UNODC, 2008c; INCB 2009:56-63, 90). The rent over which competition takes place in these countries is significant because it relates to the control of the large drug flows destined to the United States market. The problem of relative state capacity is particularly acute here: large Colombian and Mexican drug cartels control more resources than most of the governments of the region can devote to law enforcement and security. Central American and Caribbean states are also least able to sustain predictable policing strategies because they are most vulnerable to US pressures to "do something" about drugs, while their capacity deficit is not filled by limited US assistance. Prevented from establishing a *modus vivendi* with the traffickers, they are just as unable to effectively eliminate the traffic. Their policies at best contribute once again to a climate of uncertainty in the competition over drug turf, in which informal arrangements are difficult to establish or sustain. To make things worse, and for complex reasons, these small countries have seen street gangs multiply since the 1980s, making informal arrangements extremely difficult to establish, monitor and enforce. This explains why local drug markets in the Caribbean proved large enough to sustain gang violence even after effective US drug interdiction in the Caribbean—which pushed the routes inland—drastically reduced the rent at stake in the competition. To make matters worse, the "success" of US policy, by pushing away the large cartels, took of the equation those much less numerous actors who could have imposed a modicum of order onto the gangs, so as to limit disruptions in the drug transit.

Colombia found itself in a predicament similar to Central America, except on a much larger scale. It has long been a major producer of cocaine and a significant one of marijuana and heroin, and its cartels have until recently controlled much of the traffic of cocaine from the Andean region towards both North America and Europe. The rent at stake, in other words, has been and remains very large. In absolute and especially in relative terms, drug enforcement capabilities or even the sheer ability of the government to effectively control the national territory, have by contrast long been limited (McDougall, 2009), although this has started to change in recent years. Finally, US and domestic pressures, but also the linkages between traffickers and the FARC guerrilla have led to a strong effort on the part of the government to "do something" about the problem political stability itself started to figure among the externalities generated by drug violence. Until very recently, however, those actions, far from succeeding in eliminating production and traffic, only contributed to disrupting whatever

arrangements traffickers could reach among themselves, or with local or even national political elites.

Venezuela has long been a conduit for Colombian drugs, but also, thanks to the relatively high living standards of its urban middle-class, a sizable market in itself. Beginning in 2002, it has become "one of the main departure areas for illicit drug consignments leaving (...) South America" (INCB, 2009: 72). In spite of a large public sector, government has traditionally been ineffective. The territorial "coverage" of state enforcement, moreover, has never been very extensive, with largely open areas at the Colombian, Brazilian and Guyanese frontiers, as well as in the shantytowns of Caracas. Relatively large drug rents, an open economic frontier and a pretty confined enforcement capacity have created a huge space in which competition for those rents to take place. Violence appears to have two main sources. One can be understood as proxy wars or the local ripples of the fights among Colombian drug cartels. The second one is related to the local market for drugs. While bulk markets, by definition, involve relatively few players, facilitating negotiations and agreements, retail drug markets are noticeably less predictable. They involve a much larger group of people, and are sensitive to very small disruptions, with whole local equilibria changing as a result of a single police operation, or following the death of the head of one little gang. Significant amounts of drug rent, limited state capability, and an environment that complicates informal arrangements have conspired to sustain high homicide rates in Venezuela.

Brazil's situation is similar to Venezuela's, albeit for a long time in a paroxysmic way. The rent at stake is huge and primarily—though not exclusively—derived from domestic drug sales. The local market is fragmented not only nationally, which would be understandable given the size of the country, but also within states and especially, until recently at least, within the country's largest and wealthiest cities, Rio and São Paulo. The peculiar segregation of these cities and of their policing (Caldeira, 2000; Ventura, 2000) has created a very specific environment that is highly conducive to violence. In both cities, shantytowns and middle-class or even upper-class neighbourhoods stand side by side, while, as mentioned earlier, consistent policing—as distinct from "invasions" or death-squads operations (Barcelos, 1993) —has never reached significantly into poorer areas. As a result of this conjunction, the control of those "strategic" shantytowns and through them of access to extremely profitable markets became major stakes in trafficker's wars. In addition, relatively easy access to downtown areas from, once again, poorly policed city peripheries, also made the latter valuable, and consequently coveted, sanctuaries for traffickers. The proximity to wealthy areas has contributed to sporadic police interventions, in response to local people's complaints when stray bullets reached beyond the shantytown's limits. The sheer size of the un-policed areas, however, and the resources on which traffickers can draw to get guns and protection, make the long term consistent policing of favelas extremely expensive. A typical pattern has thus emerged, with the police intervening and staying after a particularly violent or shocking episode has rippled through society, the traffickers moving elsewhere, sometimes in the immediate neighbourhood, and then moving back a few years later when the police are taken out, as the political pressure

regarding that particular case diminishes or as it grows around another area (Arias 2006a; 2006b, chap. 3,4,5).

A second focal point of violence in Brazil is linked to international trafficking, into Brazil from neighbouring areas (Colombia, Bolivia, Peru), or out of it to Paraguay, Europe, Africa, and the United States (Desmond Arias, 2006b: 269 sq). This has led to significant violence in places like Foz de Iguaçu, a huge contraband hub at the border with Paraguay and very close to Argentina, as well as Vitoria (Espírito Santo), Porto Seguro, Salvador, Recife and Santos/Cubatão, all major sea ports and as such critically placed to control the traffic in and out. Together with the domestic market, these activities imply that a very large amount of money is at stake and consequently that there is intense competition to control the traffic.

On the other side, enforcement capabilities are limited. Nobody would suggest that Brazil lacks state capacity. However, the size of the country, as well as the length and extremely permeable character of all its borders have made the effective policing of the whole territory an extremely challenging endeavour. The situation is made worse by the structure of police organization in the country. International trafficking is the responsibility of the federal police, but the latter does not have the means, or the responsibility, to enforce order on the ground. That responsibility lies with the military police, which is a state-level institution, which implies that the resources available vary enormously according to the relative size and wealth of the states. The state of São Paulo has about 180,000 military policemen, which make its police force larger than the military force of every state in the Americas except the United States and Mexico. Other Brazilian states do not have comparable capacities, although Minas Gerais, Rio de Janeiro and Rio Grande do Sul have sizable police forces. The consequence of this type of organization is that the quality of policing varies a lot between states but also that gangs interested in the large market of Rio, for instance, may set up operation in tiny Espírito Santo, right by, and exploit the relative weakness of that state's police. The problem of Brazil's small sub-national states, in other words, is similar to that of Central America and the Caribbean: the drug rent at stake, whose size is determined by a much larger market, dwarfs the resources available locally to enforce prohibition. As long as the large wealthy states were just as ineffective as the smaller ones, this did not matter much: traffickers could find space very close to their main market. Once that changed, however, violent competition moved out (cf. the next sub-section).

The Brazilian cocktail is thus similar to the others we have examined: large drug rent, intense competition, ineffective and inconsistent policy, and a highly volatile environment that was not favorable to informal agreements among gangs.

3.3 WHAT EXPLAINS THE INCREASING CONCENTRATION OF VIOLENCE IN CENTRAL AMERICA AND THE CARIBBEAN, IN A FEW STATES IN NORTH-CENTRAL MEXICO, IN VENEZUELA, AND OUTSIDE OF THE RIO-SÃO PAULO POCKET IN BRAZIL?

Even more than for the previous sub-section, the answers that will be proposed here remain tentative. Still, there are sufficient indicators to suggest that the evolutions

we are seeing derive from a small number of changes in some the key variables of the frontier model.

The first of those changes has to do with effective enforcement of prohibition. Clearly, a much stronger military and/or police effort in the war against traffickers appears to have had an effect on violence in Colombia and part of Brazil. The determinants of that stronger effort are distinct, though. In Colombia, as noted, a key motivation laid in the real political danger that drug trafficking came to represent for the state, a factor that was never significant in Brazil. Other negative externalities were at play in Colombia however, and in São Paulo and Rio, too: it is the threat of mobilized citizens that pushed governments to increase their policing effort. In fact, one could argue that the extension of the enforcement frontiers in Colombia and South-Eastern Brazil can be traced to democratic consolidation, because the latter implied that the fate of poor people in shantytowns or peripheries became relevant to the political survival of elected officials. Probably for the first time ever, stray bullets have started to matter in those countries even when they "only" kill poor people.

These political dynamics have been at play elsewhere in the region and within Brazil, but strong incentives for effective and consistent policing do not in themselves generate the resources needed to implement it. Only large and wealthy Rio and São Paulo could really afford it, and only Colombia got enough money from outside to do it. The effect, consequently, appears to have been a redeployment of traffic violence, away from Colombia and from the São Paulo/Rio area.

North-Central Mexico is a peculiar case. Right by the largest drug market in the world and with huge migration and transportation channels into it, the region is highly coveted and the use of violence to secure effective control of the region or part thereof would make sense. The fact that it is reaching a height at this very moment, however, cannot be explained by the size of a rent that has long been huge. Current violence is easiest to understand as the expression of a competition that is very heavily disrupted by an aggressive government effort (Schulmann, 2009): under pressure from a federal government heavily supported by the US, gangs are forced to fight very hard to keep whatever share they have of the traffic. To a significant extent, this is a matter of life and death for each of them as the loss of a key trafficking area—or a "plaza" as they are called—implies a change in relative power among the gangs that can lead to the extermination of the weaker ones.¹⁰ Given the size of the rent at stake, which stable demand for drugs in the US is unlikely to affect, it is simply impossible to imagine that the cartels will move out of the area.

The redeployment of the traffic from São Paulo and Rio, and from Colombia and Mexico to their peripheries is the best explanation of the rising homicide rates in Central America, the Caribbean—until the mid-80s—Venezuela, Espírito Santo, and Brazil's Northeastern capitals. Most of these areas have limited effective policing capabilities, either because of corruption and organizational ineffectiveness (Venezuela), or because of sheer lack of resources (Central America, and Brazil's

¹⁰ International relations specialist will recognize a Waltzian or neo-realist situation here.

Espirito Santo and Northeast). Moreover, neither the United States nor Brazil's richest states have much of an incentive to support enforcement efforts on their peripheries.

While the drug rent as a whole may not be growing, in other words, the displacement of the main locus of competition to areas where states have limited capabilities could explain much of the change in homicide rates. As we saw before, however, one still needs to show why informal arrangements among competitors could not be reached in those areas, or how such arrangements may explain at least in part why violence diminished in other areas. The dynamics of unregulated competition, in sum, also needs to be considered.

Here, the evidence is patchier but an interesting picture can nonetheless be outlined. In Colombia and South-Eastern Brazil, it appears that the traffic and its management has seen very substantial modifications in recent years, all of which are consistent with a decline in violence. In São Paulo and Rio, specific gangs have essentially monopolized the traffic, in both cases, through clever use of the prison system (de Souza, 2006; Amorim, 2004).¹¹ The *Primeiro Comando da Capital* or PCC (in São Paulo) and the *Comando Vermelho* or CV (in Rio) have literally taken over state prisons. Originally, like all prison gangs, the PCC and CV were set up as mutual defense arrangements within jails. Their progressive and often extremely violent take-over of their respective state's prison system, however, has also enabled them to efficiently control criminal activities outside prisons, thanks to the high turnover that characterizes Brazil's criminal justice system. Once they controlled the jails, the gangs could literally "tax" most free criminals, by threatening retribution once, almost inevitably, those would be arrested and spend time in prison. This enabled the prison gangs to effectively control crime over a huge area. The system appears to have been most functional in São Paulo, as the CV still appears to be struggling to fully control Rio's prisons. Still, this could well have been a very important factor in the dramatic decline of violence in both cities, although it is clearly difficult to get a precise idea of the scale of its impact.

One factor, however, could well lead to a resurgence of violence: Rio's winning the right to organize the 2016 Olympic Games should lead to a substantial effort on the part of the government to "clean" the city. Whatever stability has been gained through the consolidation of gang competition will thus likely be severely disrupted while, given the huge value of the drug rent in the city, trafficking will not be eradicated. A scenario very similar to what is currently happening at the US-Mexico border could thus develop, up and stable arrangements are re-established among the traffickers that are compatible with the level of police repression. In the meantime, government efforts will disrupt the foundation of whatever equilibria may be emerging, constantly reigniting competition among traffickers.

¹¹ Burton and West (2008) propose a general model of prison gangs, based on Mexican gangs. While a detailed comparison remains to be done, their model I would argue, works much better in Brazil than in Mexico.

Innovations in informal arrangements also appear to have been at play in Colombia. Here, they involve governments and traffickers at the local level, through the recycling of paramilitaries into peace enforcers in the urban peripheries of Bogotá (Semana, 2009), and Medellín (Hylton, 2008). However, the recent explosion of homicides in the latter city, following the extradition of a powerful drug boss (Bronstein, 2009), illustrates the fragility of such arrangements: changes in policing, by upsetting informal equilibria, quickly lead to explosions of violence when and where the rents at stake are high, which is the case in Colombia, whose drug exports are now back to the historical summits of the 1980s (Guillermoprieto, Lowrey, 2009).

Through the frontier model lens, increased violence in Central America and the Caribbean could be traced to the displacement of part of the trafficking from Colombia and increasingly Mexico, and of transiting activities from the Caribbean, under pressure from the US's own efforts at sea, and of US-supported government efforts. The much-increased rent at stake in the central american isthmus implies intensification of competition which weak government policing capabilities—in spite of US support—is unable to contain or effectively organize. A reliable mapping of the violent competition over the drug rent remains to be done. For instance, assertions to the effect that most of the violence can be traced to gangs (Arana, 2001; Manwaring, 2005, 2008) have been challenged (Hume, 2007; Jütersonke et al. 2009, Huhn et al., 2009). However, nobody denies that local gangs have tens of thousands of members,¹² and that the most powerful of them are poorly structured. Factoring in high levels of corruption and periodic purges in the police, such a context makes the establishment of stable informal arrangements about the allocation of the drug rent fiendishly difficult: there is every indication, in other words, that no informal coordination fills the huge gap that has developed between the regions' drug enforcement and economic frontiers.

In Mexico, the current push is clearly preventing cartels from renegotiating turf allocation. Given that, as mentioned supra, the drug rent remains enormous, violence will only decline when the conditions for informal agreements among gangs improve, or when some kind of predictable *modus vivendi* between gangs and the government is established. In both cases, in other words, it appears that lower levels of police and military pressure will cause gang violence to decline, although that outcome will likely to be sold by the Mexican government as the result of the opposite process.

The Caribbean, as discussed in the previous section, are a special case. Much diminished drug transit flows, induced by effective interdiction in the Caribbean sea, has not led to lower levels of violence, to the contrary. The model implies that this results from the continued existence of a gap between the economic and the enforcement frontiers, though the rent at stake is much diminished. Consequently, the inability of competitors to reach agreements among themselves is the most likely culprit here. Two factors are most likely at play: the large number of street gangs, inconsistent policing, and the absence of large cartels to discipline the local competition.

¹² UNODC's low estimates of gang membership for the region stand at 69,000 (UNDOC, 2007: 17).

In sum, the high costs of informal arrangements, induced by the nature of the competition—as in the Caribbean and Central America—by inconsistent policing—as in the Caribbean and especially Mexico's northern border—and by a massive and *for that very reason* clearly unsustainable militarization of the drug war—in Mexico—prevents the smooth allocation of the drug rent among gangs, and/or between them and governments that is the only sure path to a smoother allocation of that rent.

CONCLUSION

This paper has a number of limitations. To start, the whole demonstration assumes that drug trafficking is tied to both the scale and distribution of homicides in the hemisphere. Much suggests that this assumption is not farfetched, but it is not possible to rigorously trace those thousands of homicides to drugs and drug trafficking. My intent in this paper is to propose a plausible, coherent interpretation of the recent evolution of homicide rates in the region, not to provide a test of the validity of the mechanisms implied to be at work. The paper should thus be read as an honest and informed essay, not as a full-fledged demonstration.

The stories it tells are a bit patchy and they are based on limited information, especially about the value of the drug traffic and the dynamics of competition among traffickers and their relations with governments. Moreover, by looking at the whole region, one is doomed to consider only superficially the specific cases on which the broad argument is built. The problem is made worse by a key methodological assumption of its approach: averages and national-level data for large countries give a misleading picture of the dynamics of violence and of its determinants. Even broad comparative analysis must thus get close to the ground and as a result, the risks of selective indicator selection are greatly increased.

I make no apology for these problems. I simply cannot see how one could leave aside the issue of the value of the drug rent, or dismiss as irrelevant gangs' relations with one another and with governments, only because data about them are patchy. The same holds about the reliability and comparability of homicide statistics. By giving more analytical weight to larger cities in larger countries, and by considering existing numbers as rough indication of scale for smaller constituencies, I see little reason why their use should be so misleading. Finally, once it is clear that national-level level data give a twisted picture of the situation in large countries, and unless we drop the very idea of looking at the whole regional picture, there is no way to avoid selecting indicators in some cases that will not find their way into the analysis of others.

The limitations introduced by those choices are significant, but the "tests" presented here are certainly no more tentative than those based on the statistical analysis of national-level statistics, however stretched the samples can be by using panel data. These tests are in fact strengthened considerably by the use of a relatively parsimonious theoretical framework: the indicators used to locate frontiers or the relative functionality of competition for assets may not be the same in each case, but their choice can all be justified (or challenged, for that matter) in a systematic way, by looking at the extent to

which they do or do not provide good parameters for our general variables. Ultimately, moreover, there are only three explanatory variables in the model which, given the set of cases considered –countries, sub-national states, and large cities–leaves a large number of "degrees of freedom" to work with.

WORKS CITED

- Alston, Lee J., Gary D. Libecap, Bernardo Mueller (1999a), *Titles, Conflict, and Land. The Development of Property Rights and Land Reform on the Brazilian Amazon Frontier* (Ann Arbor: The University of Michigan Press), 227p.
- Alston, Lee J., Gary D. Libecap and Bernardo Mueller, (1999b), "A model of rural conflict: violence and land reform policy in Brazil," *Environment and Development Economics* 4: 135-160.
- Alston, Lee J., Gary D. Libecap and Robert Schneider (1996), "The Determinants and Impact of Property Rights: Land Titles on the Brazilian Frontier" *Journal of Law Economics and Organization* 12:25-61.
- Alston, Lee, Bernardo Mueller and Metin M. Cosgel (2003), "Property Rights in land" *The Oxford Encyclopaedia of Economic History*. Ed. Joel Mokyr. Oxford University Press, 2009. <http://www.oxfordreference.com/views/ENTRY.html?subview=Main&entry=t168.e0609.s001> (accessed Feb. 27, 2009)
- Amorim, Carlos (2004), *CV-PCC: A Irmandade do Crime* (Rio de Janeiro: Record), 340p.
- Arana, Ana (2001), "The New Battle for Central America," *Foreign Affairs*, November-December: 88-101.
- Arias, Enrique Desmond, 2006a, "The Dynamics of Criminal Governance: Networks and Social Order in Rio de Janeiro," *Journal of Latin American Studies* 38(2): 293-325.
- Arias, Enrique Desmond 2006b. *Drugs and Democracy in Rio de Janeiro. Trafficking, Social Networks, and Public Security* (Chapel Hill: University of North Carolina Press)
- Barcelos, Caco (1993), *ROTA 66* (São Paulo: Record).
- Bergman, Marcelo (2006), "Crime and Citizen Security in Latin America: The Challenges for New Scholarship," *Latin American Research Review*, 41(2): 213-227.

- Bronstein, Hugh (2009), "Colombia's Medellin hit by new wave of drug violence" Reuters, October 20, 2009. <http://www.reuters.com/article/americasCrisis/idUSN20434908> (accessed Nov. 23, 2009).
- Burton, Fred, and Ben West (2008), "The Barrio Azteca Trial and the Prison Gang-Cartel Interface," *Stratfor Global Security and Intelligence Report*, November 19, 2008. http://www.stratfor.com/weekly/20081119_barrio_azteca_trial_and_prison_gang_cartel_interface (accessed May 4, 2009).
- Caldeira, Teresa P.R. (2000), *City of walls: crime, segregation, and citizenship in São Paulo* (Berkeley, London: University of California Press).
- Caulkins, Jonathan P., Peter H. Reuter, Martin Y. Iguchi, James Chiesa (2005), *How Goes the "War on Drugs"? An Assessment of U.S. Drug Problems and Policy* (Santa Monica: Rand Corporation).
- CERAC (2005) *Aproximación a la Situación de Violencia e Inseguridad en Bogotá, D.C.* (Bogota: Centro de Recursos para el Analisis de Conflictos).
- Collier, Paul, Anke Hoeffler (2004), "Greed and grievance in civil war," *Oxford Economic Papers* (4):563-59.
- de Souza, Percival (2006), *Sindicato do Crime, O PCC e Outros Grupos* (Rio de Janeiro: Ediouro).
- El Universal (2009), "Ejecutados durante el gobierno Calderón." <http://www.eluniversal.com.mx/graficos/pdf09/mapa-muertos.pdf> (accessed Nov. 23, 2009).
- Fajnzylber, Pablo, Daniel Lederman and Norman Loayza, 1998. *Determinants of Crime Rates in Latin America and the World: An Empirical Assessment*. World Bank Latin America and Caribbean Studies: Viewpoints. Washington, DC: The World Bank.
- Garfinkel, Michelle R. and Stergios Skaperdas, eds. (1996), *The Political Economy of Conflict and Appropriation* (Cambridge University Press), 182p.
- Garfinkel, Michelle R., Stergios Skaperdas (2006), "Economics of Conflict: An Overview," to be published as Chapter 3 in T. Sandler and K. Hartley (eds.), *Handbook of Defense Economics*, Vol. 2, 65p.
- GFP (2009), Global Firepower. <http://www.globalfirepower.com/active-military-manpower.asp> (accessed May 2, 2009)
- Glenny, Misha (2008), *McMafia: A Journey Through the Global Criminal Underworld* (New York: Knopf). 400p.

- Grossman, Herschel I., 1999, "Kleptocracy and Revolutions," *Oxford Economic Papers* 51(2): 267-83.
- Guillermoprieto, Alma, Annie Lowrey (2009), "Popping the Balloon Theory," *Foreign Policy*, April. http://www.foreignpolicy.com/story/cms.php?story_id=4863 (accessed Nov. 23, 2009).
- Herbst, Jeffrey and Greg Mills (2009), "There Is No Congo," *Foreign Policy*, March http://www.foreignpolicy.com/story/cms.php?story_id=4763&page=0 (accessed Apr. 1, 2009).
- Huhn, Sebastian, Anika Oettler, Peter Peetz (2009), "Contemporary Discourses On Violence in Central American Newspapers," *International Communication Gazette*, 71(4): 243-261.
- Hume, Mo (2007), "Manu Dura: El Salvador responds to gangs," *Development in Practice* 17(6), November: 739-751.
- Hylton, Forrest (2008), "Medellín: The Peace of the Pacifiers," *NACLA News*, 23 January <http://news.nacla.org/2008/01/23/medellin-the-peace-of-the-pacifiers/> (accessed Nov. 23, 2009).
- INCB (2009) *Report of the International Narcotics Control Board for 2008* (Vienna: INCB). 132p. http://www.incb.org/pdf/annual-report/2008/en/AR_08_English.pdf (accessed Nov. 27, 2009).
- Jensen, Eric L., Jurg Gerber, Clayton Mosher, 2004 "Social consequences of the war on drugs: the legacy of failed policy," *Criminal Justice Policy Review*, 15(1): 100-121.
- Jütersonke, Oliver, Robert Muggah and Dennis Rodgers (2009), "Gangs, Urban Violence, and Security Interventions in Central America," *Security Dialogue* 40(4-5): 373-397.
- Libecap, Gary D. (1989), *Contracting for Property Rights* (Cambridge University Press), 132p.
- Manwaring, Max (2005), *Street Gangs: The New Urban Insurgency* (Washington DC: Strategic Studies Institute United States Army War College), 54p. <http://www.strategicstudiesinstitute.army.mil/pubs/download.cfm?q=597> (accessed Nov. 29, 2009).
- Manwaring, Max (2008), *A Contemporary Challenge to State Sovereignty: Gangs and Other Illicit Transnational Criminal Organizations (TCOs) in Central America, El Salvador, Mexico, Jamaica, and Brazil* (Washington DC: Strategic Studies Institute United States Army War College), 66p.

<http://www.strategicstudiesinstitute.army.mil/pubsdownload.cfm?q=837>
(accessed Nov. 29, 2009).

McDougall, Alex (2009), "State Power and Its Implications for Civil War Colombia," *Studies in Conflict and Terrorism*: 322 – 345.

Messerschmidt, James (2005), "Men, Men, masculinities, and crime," in Michael Kimmel Jeff R Hearn, and Robert W. Connell (eds.), *Handbook of Studies on Men and Masculinities* (Thousand Oaks, Calif.: Sage Publications, 2005): 196-213.

PAHO (2007), Pan American Health Organization, Health Analysis and Statistics Unit. Regional Core Health Data Initiative; Technical Health Information System. Washington DC, 2007.

Reisman, Lainie, 2008, "Criminal Gangs in Central America: What Threats do they Pose and what is the Appropriate Response?," *Air & Space Power Journal*. <http://www.airpower.maxwell.af.mil/apjinternational/apjs/2008/2tri08/reismane.htm> (accessed Nov. 27, 2009).

Schneider, Robert R. (1995), "Government and the economy on the Amazon frontier," World Bank Environment Paper No. 12. (Washington D.C.: The World Bank).

Schtulmann, Alejandro (2009), "Drug Violence: Reaching a New Pinnacle," *Latin America EconoMonitor*, Nov. 19. http://www.rgemonitor.com/latammonitor/257994/drug_violence_reaching_a_new_pinnacle (accessed Nov. 26, 2009).

Semana (2009), "Águilas Negras envían amenazas documentadas," May 14. <http://www.semana.com/noticias-conflicto-armado/aguilas-negras-envian-amenazas-documentadas/123963.aspx> (accessed Nov. 23, 2009).

Tsvetkova, Bilyana, 2009, "Gangs in the Caribbean. A Problem with International Consequences," *Harvard International Review*, June. <http://hir.harvard.edu/index.php?page=article&id=1863> (accessed Nov. 26, 2009).

UNODC (2005), *World Drug Report 2005* (World Drug Report 2008 (Vienna: United Nations Office on Drugs and Crime United Nations Office on Drugs and Crime). <http://www.unodc.org/unodc/en/data-and-analysis/WDR-2005.html> (accessed Nov. 27, 2009).

UNODC (2007), *Crime and Development in Central America* (New York: United Nations Office on Drugs and Crime (Vienna: United Nations Office on Drugs and Crime). http://www.unodc.org/pdf/research/Central_America_Study_2007.pdf (accessed Nov. 26, 2009).

UNODOC (2008a), *World Drug Report 2008* (Vienna: United Nations Office on Drugs and Crime United Nations Office on Drugs and Crime).

UNODOC (2008b), *Drug Trafficking as a Security Threat in West Africa* (Vienna: United Nations Office on Drugs and Crime United Nations Office on Drugs and Crime). http://www.unodc.org/documents/data-and-analysis/Studies/Drug-Trafficking_WestAfrica-English.pdf (accessed Nov. 26, 2009).

UNODOC (2008c), *The Threat of narco-Trafficking in the Americas* (Vienna: U New York: United Nations Office on Drugs and Crime United Nations Office on Drugs and Crime).

UNODC/WB (2007), *Crime, Violence, and Development: Trends, Costs, and Policy Options in the Caribbean*, Report No. 37820 March (Vienna, Washington DC: United Nations Office on Drugs and Crime, the Latin America and the Caribbean Region of the World Bank). http://www.unodc.org/pdf/research/Cr_and_Vio_Car_E.pdf

USAID (2006), *Central America and Mexico Gangs Assessment* (Washington: United States Agency for International Development). 159p. http://www.usaid.gov/locations/latin_america_caribbean/democracy/gangs.html (accessed Nov. 11, 2009).

Ventura, Zuenir (2000), *Cidade Partida* (São Paulo: Companhia das Letras).

Waisenfilz, Julio Jacobo (2008a) *Mapa da Violência no Brasil* (São Paulo: RITLA, Instituto Sangari, Ministério da Justiça: 2008).

Waiselfisz, Julio Jacobo (2008b), *Mapa da Violência: Os Jovens da América Latina* (São Paulo: RITLA, Instituto Sangari, Ministério da Justiça: 2008), 120p.