Latin America's Missing Oil Wars

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Abstract: In Africa, Asia, and the Middle East, oil-producing countries have civil wars at a significantly higher rate than countries without oil. Is there also a link between oil and armed rebellion in Latin America?

I argue the answer is "yes," but with an important qualification. In the rest of the world, oil heightens the danger of both "governmental" conflicts (over control of the existing state) and secessionist conflicts (to form new states); but in Latin America, oil is only linked to governmental conflicts. This is not because Latin American petroleum has unusual properties, but because the region is uniquely "secession-proof": there have been no separatist conflicts in Latin America for over a century. I explore two possible explanations for this anomaly: the region's long history of sovereign statehood, which may have caused national borders to become more widely-accepted; and obstacles to the mobilization of indigenous groups along ethnic lines.

Latin America has a long history of violent conflict over mineral resources. The 1879-83 War of the Pacific, fought between Peru, Bolivia, and Chile, was triggered by a dispute for control of the nitrate-rich desert of Atacama. The 1932-35 Chaco War between Paraguay and Bolivia was fought over a region that was mistakenly believed to have significant oil reserves. Today, according to one NGO, there are over 100 mining-related conflicts around the region over land rights, labor practices, and environmental protection – although the conflicts are overwhelmingly nonviolent [Table 1].

At first glance, Latin America seems to fit a global pattern that links oil and civil war.[1] In recent decades, petroleum-rich Peru, Bolivia, and Mexico have all suffered from violent conflicts; in the Ecuadorian Amazon, oil exploitation has led to repeated clashes between lowland Indians and the government and the occasional bombing of pipelines. Since the 1980s, Colombia's long-running civil war has been closely linked to oil: one recent study found a strong correlation between oil production and both rebel and paramilitary violence at the municipal level [Dube and Vargas 200x].

Still, since 1960 Latin America's oil producers have had significantly fewer insurgencies than oil producers in the rest of the world. According to Dunning [2008], Latin America's oil producers are immune to one component of the 'oil curse': while petroleum wealth has hindered democracy in the rest of the world, it may have hastened democratic transitions in Latin America. Are Latin America's oil producers also immune to the curse of more frequent civil wars?

I show the answer depends on the type of civil war. In the rest of the world, oil heightens the danger of both "governmental" conflicts (over control of the central government) and secessionist conflicts; but in Latin America, oil is only linked to

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[1] I use the term 'oil' in this paper to refer to both oil and gas.

governmental conflicts. This is not because Latin American petroleum has unusual

properties, but because the region is "secession-proof": there have been no separatist

conflicts in Latin America for over a century. Latin America's great anomaly is not the

absence of oil-based secessionist conflicts, but the absence of all secessionist conflicts.

The absence of separatist rebellions in Latin America for the last century is a

puzzle whose scope extends well beyond the contours of this paper. Still, I show that

cross-national studies of secessionist conflict do a poor job of accounting for the Latin

American states, and explore several factors that might make Latin America different.

The next section of the paper develops a simple model to illustrate why oil-

producing countries are more likely to harbor rebel movements than non-oil producers.

Section two shows that oil production is statistically associated with a heightened risk of

civil war, especially in low-income countries, and that this effect is substantial. Section

three explores the links between oil and civil war in Latin America, showing that it can

be (weakly) linked to more frequent governmental civil wars, but not to wars of

secession; it also argues this is due to the unique absence of secessionist conflicts in the

region for the last century. Section four shows that leading theories of secessionism

seem do a poor job accounting for the Latin American anomaly, and explores several

possible explanations.

1. A Model of Oil and Conflict

A "civil war" can be broadly defined as a violent conflict between a government and a

rebel army that causes more than a certain number of battle-related deaths.[2] The

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[2] On the definitions of civil wars, see Sambanis [2004]. Different datasets typically set different thresholds
of battle deaths – such as 25, 100, or 1000 in a calendar year – to identify civil wars.

connection between a country's natural resource wealth, and the likelihood it will face a civil war, has been the topic of many studies since the seminal work of Collier and Hoeffler [1998]. While their original study had important flaws, a refined version of their argument – suggesting that petroleum wealth, but not most other kinds of resource wealth, tends to trigger conflict – has been confirmed in many subsequent studies.[3]

The work of Collier and Hoeffler (among others) also sparked a broader interest in the study of civil wars, which has identified a number of others factors associated with a higher risk of civil war. The most robust correlates of civil war onsets appear to be income and population: countries that are poorer and larger have more frequent conflicts.

Many other conditions have also been linked to civil war, but less robustly; these include slow or negative economic growth, political instability, the initial years of sovereign independence, ethnolinguistic fractionalization, religious fractionalization, noncontiguous territory, mountainous terrain, small military establishments, and war-prone and undemocratic neighbors. Tests by Sambanis [2004], Fearon [2005], and Hegre and Sambanis [2006] show that many of these factors are not robust to changes in model specification, the period covered by the sample, the duration of each observation (i.e., whether country observations are grouped in single-year or five-year periods), and the definition of civil war.

Many of the factors that are statistically associated with civil war onsets can be incorporated into a theory of rebellion that focuses on the viability of insurgent

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[3] See, for example, Collier and Hoeffler [2004]; Fearon and Laitin [2003]; Fearon [2004]; de Soysa [2002]; de Soysa and Neumeyer [2005]; Humphreys [2005]; Lujala, Rød, and Thieme [2005]; Ross [2006].

     Only one other type of natural resource – alluvial diamonds – has been robustly linked to the onset of conflict [Le Billon 2001, Ross 2004, 2006; Humphreys 2005; Lujala, Gleditsch, and Gilmore 2005]. Since the implementation of the Kimberley Accord in 2003, however, the number of diamond-related civil wars has dropped to zero.

movements, which should be more likely to emerge when the costs of joining a rebel organization are sufficiently low, and the benefits are sufficiently high.[4] In countries with lower incomes, the opportunity costs of joining a rebellion – represented by the prevailing wage for unskilled male laborers – will be lower. Rebel groups are also more likely to elude capture in countries with larger populations, mountainous terrain, non-contiguous territories, and neighboring countries that allow them to take shelter.

The benefits are represented by the wages of rebel soldiers, which can come from three possible sources: funding from foreign powers; donations (including food and shelter) from locals who support the rebels' aims; and money earned by insurgents themselves through criminal activities like extortion, kidnapping, and the sale of contraband.

Some scholars argue that rebels might also be motivated by the spoils they hope to earn if they defeat the government and seize its assets – the "honeypot" effect [de Soysa 2002; Fearon 2005]. But the prospect of future spoils – after many years of fighting - will not help rebels in the present buy the food, clothing, equipment and weapons they need to survive.

Still, insurgents might get financial support from civilians who themselves believe they will profit from future victory: communities may be willing to hire, in effect, militias whose success would make them richer. Unlike soldiers, civilians have jobs and hence incomes they can draw from to invest in their future welfare. Even when civilians realize the chances of victory are slight, if the potential benefits are large enough, they may be

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[4] The canonical model of insurgent viability was developed by Collier and Hoeffler [2004]; they, in turn, draw on earlier models of conflict from Herschleifer [1991] and Skaperdas [1992]. For reviews of the now-voluminous literature on theories of civil war, see Miguel and Blattman [2008]; Kalyvas [2007].

willing to make small contributions – much as people buy lottery tickets, in hopes that a small bet against the odds will someday pay off.

This simple cost-benefit model of insurgent viability suggests three ways that oil might affect the likelihood of a rebellion.

Oil might influence the costs of rebellion by affecting citizens' incomes. If we make the simple assumption that more oil leads to higher incomes – if not through jobs, then through larger government benefits – it should also make it harder for insurgents to recruit soldiers, thus reducing the danger of civil war.[5]

But oil can also raise the benefits of joining a rebel army, in two ways. First, it may increase donations from local citizens in oil-producing regions, who believe they would be better off if they could form an independent state that would give each local resident a larger share of the oil wealth.[6] This does not necessarily mean that local insurgents initiate the conflict: governments may pre-emptively launch campaigns of repression and terror in anticipation of independence movements, campaigns that could themselves trigger conflict [Ross 2004].

Second, it could make it easier for rebels to profit through crime, by stealing oil, ransoming oil workers, and extorting money from oil companies trying to avoid theft, kidnapping, and sabotage. Of course, insurgents can also target other types of businesses,

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[5] If oil wealth instead leads to lower incomes, perhaps through calamitous mismanagement, it would boost the danger of armed conflict. But in most cases, oil wealth seems to make countries richer in the long run; see, for example, Conrad and Alexeev [2009].

[6] Of course, the central government should be able to anticipate this independence movement; why would it not simply give locals a larger share of their region's petroleum revenues, to forestall a rebellion? In fact, many governments follow this strategy – allocating to local governments a disproportionate share of their region's mineral revenues [Ahmad and Mottu 2003; Brosio 2003]. But these arrangements are not always sufficient: unless the central government is willing to cede all of a region's petroleum revenues to the local government, residents would still gain larger benefits if they were independent.

More subtly, secessionists may distrust the government's promises of revenue-sharing, fearing that if they disarm the government will renege on its commitments [Walter 2002; Fearon 2004].

and often they do. But oil companies are more likely to be lucrative targets for rebel predation: they are more willing than other large firms to work in remote and unstable regions; the contrast between their high fixed costs and their tiny variable costs gives them a strong incentive to stand their ground, to earn back their initial investments in fixed assets; and the availability of resource rents enables them to remain profitable while incurring high security costs, and losses from stolen oil, extortion, and ransoms to free kidnapped employees.

In short, oil wealth may either deter rebellions by raising incomes, or induce them by making independence profitable in oil-producing regions, or by giving rebels an easy way to raise money. But oil's conflict-inducing effects should outweigh its conflict-deterring effects, as long as the rise in incomes (which are diffused across the entire population) are less than the rise in benefits to locals in the oil-producing region from secession or predation.

This simple model has four implications for analyzing Latin America's conflicts. First, conflict should be linked to the value of a country's oil and gas production, on a per capita basis – regardless of the country's dependence on oil production or exports. Second, the impact of oil depends on a country's overall income level: since one hundred dollars per capita in oil income has a larger impact on wages in poor countries than rich ones, a given amount of oil wealth should be more likely to trigger insurrections in low-income countries than high-income ones.

Third, the value of oil production should be associated with both separatist civil wars, funded by citizens who seek independence in oil-producing regions, and governmental civil wars, funded by insurgents through petroleum-related predation.

Some of the underlying conditions that cause insurgencies, according to the model, have changed over time. This points to a fourth implication: that the incidence of petroleum-related civil wars should have grown, due to two factors. In the 1970s, governments began to capture a much larger share of the oil rents that formerly went to international oil companies, thanks to OPEC's growing influence, and a wave of expropriations; this has gradually raised the benefits, for residents in oil-producing regions, of establishing their own sovereign governments. Second, the growing demand for oil in the 1970s and 1980s sent petroleum firms into poorer regions of poorer countries – for example, in Indonesia, Colombia, Nigeria, Sudan, and Yemen – where oil extraction was more likely to trigger new conflicts. [7]

Figure 1 illustrates this second pattern. From 1970 to 2006, the number of states earning at least $100 per capita in oil and gas income (in constant 2000 dollars) rose from 15 to 56 [left scale]. This was mostly a result of the rise in oil prices, which rose from less than eight dollars a barrel, to more than 55 dollars a barrel, after accounting for inflation. But it was also a consequence of the geographic spread of petroleum production: over the same period, the number of countries that annually produced at least 1 metric ton of oil per person (about 7.3 barrels) increased from 19 to 30.

But most of these new producers were relatively poor: as the number of producers rose, the median income among the oil-producing states dropped – from over $6000 per capita in 1970 to just over $3000 per capita by 2004 [right scale]. The spread of

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[7] The end of the Cold War in the early 1990s also led to a short-term rise in the total number of conflicts, due to the instability associated with the end of Communism and the collapse of the Soviet empire; and a longer-term fall in the incidence of conflict (at least, in non-oil countries), due to a drop in superpower funding for Third World insurgencies.

petroleum production from middle-income to lower-income countries – where oil wealth

is more hazardous – helps explain the rising conflict rate in the oil-producing world.

2. A Statistical Analysis of Oil and Civil War

The link between oil and violent conflict can illustrated with logistic regressions, using

civil war onsets as the dependent variable. The measure of civil war onsets is constructed

from the 2007 (version 4) Armed Conflict Dataset, which is the most comprehensive and

transparent dataset on violent conflict.[8] The dataset defines conflict as "a contested

incompatibility that concerns government and/or territory, where the use of armed force

between two parties, at least one of which is a government, results in at least 25 battle-

related deaths" in a single calendar year. Since I focus on domestic conflicts, not

international ones, I restrict my analysis to what the Dataset's authors call "Type 3"

(intrastate conflict) and "Type 4" (internationalized intrastate conflict) events; using these

data, I produce a variable called *Domestic Conflict Onset*, which takes the value "1"

during the year that a conflict begins, and zero otherwise.

To avoid double counting conflicts that restart after a brief lull, I only include

insurrections that arise after two or more consecutive years of peace.[9] I also use the

Armed Conflict Dataset to create variables to measure two subcomponents of *Domestic

Conflict Onset:* the onset of conflicts for control of the national government

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[8] The Armed Conflict Dataset is maintained by the Uppsala Conflict Data Program at the Department of Peace and Conflict Research, Uppsala University, Sweden, and the Centre for the Study of Civil War at the International Peace Research Institute in Oslo, Norway, and is available on their website, new.prio.no/CSCW-Datasets/Data-on-Armed-Conflict/UppsalaPRIO-Armed-Conflicts-Dataset. The website also has greater detail on how they define conflict, and a full listing of the armed conflicts in the dataset.
[9] This coding rule, unfortunately, leads to the exclusion of the 1996 EPR revolt in Mexico. Since Mexico is an oil producing country, the inclusion of this conflict would strengthen the paper's main results showing a correlation between oil and governmental conflict in Latin America, especially since the Cold War.

(*Governmental Conflict Onset*), and the onset of separatist conflicts (*Separatist Conflict Onset*).

My key independent variable is *Oil Income per capita,* which is the annual value of a country's oil and natural gas production, divided by its population. I prefer this measure to other common indicators of resource wealth both because it is implied by the model, and because it is less likely to be influenced by other variables of interest – in particular, it should not be biased upwards in poorer countries, which happen to have a higher conflict risk. Measures that only consider a country's petroleum exports, instead of its production, will be biased upwards in countries that are too poor to consume their production domestically. For example, on a per-capita basis, the US produces more oil than Angola or Nigeria, but Angola and Nigeria export more than the US, because the US is wealthier than Angola or Nigeria and consumes all of its oil domestically.

Similarly, measures of a country's *dependence* on oil production or exports (i.e., using GDP or total exports as the denominator) will conflate information about the size of a country's petroleum sector with information about the size of the rest of the economy. Even if two countries export the same quantity of oil, the poorer country will have a smaller GDP, and hence, a higher oil-exports-to-GDP ratio – which makes it hard to know if a given outcome has been caused by the presence of oil or the absence of other kinds of economic activity.

It also opens the door to several endogeneity problems. For example, having a high oil exports-to-GDP ratio might cause civil war, but it could also be a result of civil war (or the domestic instability that often precedes civil war), which could reduce investment in sectors that can be easily relocated to other countries (like manufacturing)

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and leave sectors that are not easily relocated or can function in enclaves (like oil extraction) in a dominant position.

I begin by developing a 'core model' that includes only my *Oil Income* measure and the two explanatory variables that are most robustly linked to civil war: income and population. As a robustness check, I later add to the model the other explanatory variables in the highly-influential Fearon-Laitin model [2003].

To identify the variables that are linked to a dichotomous dependent variable, scholars typically use logistic regression. But King and Zeng [2001] have shown that logistic regression does a poor job of estimating the likelihood of rare events, and civil war onsets are quite rare: between 1960 and 2006, just 193 such conflicts began in about 6800 country-years. To correct this problem, I use the King-Zeng "rare events logit" estimator.

To address the problem of temporal dependence I follow Beck et al. [1998] by adding three cubic splines to each model, and controlling for the number of years since the end of the previous conflict in the same country.[10] I lag all of my explanatory variables by a single period, to help mitigate endogeneity, and cluster standard errors by country. I use the natural log (plus one) of each of the right-hand side variables (*GNI per capita, Population,* and *Oil Income per capita*) to mitigate their non-normal distributions.

Table 2 displays the results of these reduced-form estimations. The first column shows that the two control variables – *Income* and *Population* – are each significantly correlated with *Domestic Conflict Onset,* in the expected direction: states with lower incomes, and larger populations, are more prone to civil war.

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[10] In an earlier set of estimations, reported in Ross [2006], I showed that an alternative method of addressing temporal dependence, adopted by Fearon and Laitin [2003], produced virtually identical results.

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In column two, I add the *Oil Income* variable; it is positively correlated with *Domestic Conflict Onset,* and statistically significant at the p=.01 level. This is consistent with the model's first implication, that oil income is associated with a heightened likelihood of civil war.

In columns three and four, I split the sample by income: the model in column three includes only states with high incomes (above $5000 in constant 2000 dollars), and the model in column four only includes states with low or middle incomes (below $5000). *Oil Income* is significantly linked to *Domestic Conflict Onset* only among low and middle income states. The model in column five shows that an interaction term, *Oil Income* Income (log)*, is strongly linked to conflict onsets, consistent with the second implication, that oil will have a larger effect in lower income countries.[11]

In columns six and seven I show that *Oil Income* is associated with both *Separatist Conflict Onset*, and *Governmental Conflict Onset,* respectively; this is consistent with the third implication, that oil is linked to both separatist and governmental conflicts.

In columns eight and nine I divide the sample into two periods: the 1960-1990 "Cold War" era and the 1991-2006 "post-Cold War" era. The *Oil Income* variable is significantly linked to *Domestic Conflict Onset* in both periods, but its statistical and substantive significance is much greater in the latter period, consistent with the fourth implication, that the conflict-inducing qualities of oil have risen over time.

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[11] For ease of interpretation, the 'income' variable in the interaction term is a one-to-five cardinal variable indicating a country's income quintile, with "5" indicating the lowest quintile and "1" the highest. This means that a larger interaction term – indicating more oil, lower incomes, or both – should be associated with a higher civil war risk.

Finally, as a robustness test I add to the model all of the right-hand side variables in the Fearon-Laitin civil war model [2003], that had not already been accounted for. The *Oil Income* variable remains highly significant.

How large is oil's impact on the danger of civil war? One simple way to address this question is to compare the conflict rate – that is, the number of conflicts per 100 country-years – of oil and non-oil states under different conditions. As Figure 2 shows, for countries at all income levels since 1960, the conflict rate in the oil states was more than 35 percent higher than in non-oil states – even though the oil states were on average more twice as rich as the non-oil states, which should have made them more peaceful.[12] Since the end of the Cold War, the conflict rate in the oil states has been about 50 percent higher than in non-oil states. Among low and middle-income countries, the oil states had conflict rates about 75 percent higher, and among low and middle-income countries since the end of the Cold War, conflict rates were more than twice as high in the oil states as the non-oil states.

3. Patterns of Oil and Conflict in Latin America

Does the same pattern, with more frequent conflicts in oil-producing states, also appear in Latin America? From 1960 to 2006, there were 23 intrastate conflicts in Latin America, in 18 different countries, according to the Armed Conflict Dataset (ACD) [Table 3]. Nine of them are classified by the ACD as major conflicts, causing at least one thousand battle-related deaths in a single year. Six of the 23 conflicts – including two major ones –

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[12] I classify countries as "oil producers" if they generate at least $100 per capita from oil or natural gas in a calendar year (using constant 2000 dollars). From 1960 to 2006, the mean income of the non-oil states was $3962 per capita, versus $8738 per capita for the oil states, in constant 2000 dollars. The average populations of the two groups were almost identical.

began in countries that were generating at least 100 dollars per capita in oil and gas; a seventh conflict broke out in a state that subsequently became a major oil producer (Colombia). Other datasets, using different definitions of 'civil war,' identify either nine or ten major conflicts during this period, although they do not code minor ones.

Table 4 offers a first assessment of these figures, showing the conflict rates of both oil producers and non-oil producers in Latin America and the rest of the world. Differences between Latin America and the rest of the world that are statistically significant (using either a Chi-square test, or when expected frequencies fall below five, Fisher's exact test) are marked with asterisks. Three patterns stand out.

First, during the Cold War, Latin America had civil wars at the same rate as the rest of the world – a pattern that held for both oil producers and non-oil producers.

Second, since 1990 Latin America has become much more peaceful than the rest of the world – partly because the rate of new conflicts rose in the rest of the world, and partly because it fell in Latin America.

Third, since 1990 oil-producing countries in both Latin America and the rest of the world had higher conflict rates than non-oil producing countries. In Latin America, the difference between the oil and non-oil states falls short of statistical significance (p=.172) in Fisher's exact test, provided we treat the post-Cold War period as 1991-2006. If we treat the year 1990 as part of the post-Cold era, the difference between the oil and non-oil states becomes statistically significant at the .10 level (p=.058). Looking at conflict rates over time, the region's oil producers have had notably more ongoing conflicts since about 1980 [Figure 3]

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Figure 4 shows how conflict rates in Latin America have diverged from the rest of the world since 1960. In the 1960s and 1970s, Latin America had new civil wars at the same rate as everywhere else; but since the 1980s, the rate of new conflicts in Latin America has fallen sharply relative to the rest of the world. We see a similar pattern if we look at ongoing conflicts, instead of only new ones, although now Latin America diverges from the rest of the world a few years later, around 1990 [Figure 5].

Perhaps the most striking anomaly in Latin America is the kind of civil wars it has had [Table 5]. During the Cold War (1960-1990), Latin America suffered from civil war onsets at about the same rate as the rest of the world, but the composition of its civil wars was different: it had a significantly higher rate of governmental wars, but a significantly lower rate of separatist wars – in fact, no separatist wars at all. Since the Cold War's end (1991-2006), the rate of both governmental and separatist wars in the rest of the world has risen; most notably, the rate of separatist conflicts has doubled. But in Latin America, the rate of governmental conflicts has fallen sharply, while the number of separatist wars has remained at zero.

In short, Latin America differs from the rest of the world in two broad ways: it has had no separatist conflicts, either during the Cold War or since; and since the 1980s, its rate of governmental conflicts has gone from atypically large to atypically small. But it is similar to the rest of the world in one important way: since 1990, its oil producers have had a higher conflict rate than its non-oil producers.

The absence of separatist conflicts in Latin America is especially striking, and remains true even if we go back farther in time. According to the Armed Conflict Dataset, from 1948 to 2008 Latin America had 36 civil conflicts, in 15 different countries

on the continent and four in the Caribbean; yet not one of them involved a separatist movement.

Other civil war datasets, which use narrower definitions of civil war, show the same absence of separatist conflict [Table 6]. The Correlates of War dataset contains information on violent conflicts in all countries since 1816. It identifies three types of civil wars: "inter-communal conflicts," which most scholars do not treat as civil wars since the government is not a party to the conflict; conflicts over control of the central government; and "conflicts over local issues," a category that is somewhat broader than, and includes, all secessionist conflicts. Between 1900 and 2001, it records 27 conflicts in Latin America over control of the central government, but just one "local" conflict – Brazil's Paulista War (also known as the Constitutional Revolution of 1932).

The Correlates of War dataset has been criticized on a number of grounds, including the consistency of its definitions of conflict [see, for example, Sambanis 2004]. Recently, Wimmer and Min have compiled a more comprehensive list of conflicts between 1816 and 2001 that includes 64 wars left out of the COW data and develops a new typology of conflicts by their purpose [Wimmer and Min, 2009]. They identify the most recent secessionist war in the Americas as the 1918 Caco Revolt in Haiti, against US rule; before that, the Spanish-Cuban War of 1895. On the Latin American continent, they identify the most recent separatist conflict as the 1859 Battle of Cepeda between the Argentine government and the provincial government of Buenos Aires. Wimmer and Min classify the Paulista War as non-secessionist.

To highlight how unusual this is, Table 7 compares Latin America to other regions – counting both the total number of separatist conflicts in each region since 1948,

and the rate of separatist conflicts (i.e., the number of separatist conflicts divided by the number of sovereign country-years). South Asia had the highest rate of separatist conflicts, followed by the former Soviet Union, East and Southeast Asia, the Middle East and North Africa, Sub-Saharan Africa, Central and Eastern Europe, and Western Europe. Only Latin America and the Caribbean had no wars of secession.

The estimations in Table 8 tell the same story as the cross-tabs in Tables 4 and 5. The data for each model are now restricted to the post-Cold War period, when differences have emerged between Latin America and the rest of the world. Column one shows once again the core model displayed in Table 2 column 9. Column two includes a dummy variable for Latin America, which is negatively associated with civil war onsets.[13]

Column three includes both the *Latin America* dummy, and a variable interacting *Oil Income* and *Latin America,* to see if oil has a distinctive effect on conflict in the Latin American region; it is far from statistical significance and its inclusion has little impact on the *Oil Income* variable. This implies that oil does not have a distinctive impact on conflict in Latin America – in other words, oil is linked to higher conflict rates in Latin America, just as it is everywhere else.

Stata cannot estimate a model of separatist conflicts that includes the *Latin America* dummy, since the region has had no separatist conflicts. But in a model of governmental conflicts, shown in column four, the *Latin America* dummy loses statistical significance at conventional levels; this may suggest that the negative effect of *Latin America* on all domestic conflicts, displayed in column two, is largely caused by the absence of separatist conflicts.

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[13] I use a dummy variable marking the countries of both Latin America and the Caribbean; a dummy variable covering only Latin America produces similar results.

The absence of secessionist wars explains why oil states in Latin America had fewer conflicts than oil states in the rest of the world. Table 9 displays the rate of both separatist and governmental conflicts in the oil states since 1990. While Latin America's oil states have had slightly fewer governmental conflicts than oil states elsewhere, the difference is not statistically significant; but Latin America's oil producers have had significantly fewer separatist conflicts, and consequently fewer total conflicts. Outside of Latin America, oil states had separatist and governmental conflicts at identical rates; in Latin America, oil states only suffered from governmental conflicts.

Separatist conflicts make up a large fraction of the oil-related conflicts outside of Latin America. From 1960 to 2006, eight separatist conflicts broke out in states that were generating at least $100 per capita in oil income, and where petroleum extraction was either under way in the secessionist region (Angola, Iran-Kurdistan, Iran-Arabistan, Iraq, Nigeria-Niger Delta, and Russia) or about to begin (Indonesia, Yemen).[14] Eight additional conflicts began in petroleum-rich regions of countries that did not cross the $100 per capita threshold – either because oil had been discovered but not yet extracted (in Pakistan-Bangladesh, Bangladesh-Chittagong Hills, Nigeria-Biafra, and Sudan), or because oil was relatively scarce at the national level, even though it was abundant in the secessionist region (in China, India, Pakistan-Baluchistan, and Turkey). Table 10 lists these 16 conflicts.

Outside of Latin America, they are widely-distributed geographically: five were in the Middle East, four in Africa, four in South Asia, two in East or Southeast Asia, and one in Russia. Clearly petroleum wealth was not wholly responsible for any of these

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[14] Three of these eight conflicts (in Indonesia, Iran, and Iraq) waxed and waned over time, and hence are counted by the ACD as multiple independent conflicts.

conflicts; all of them took place in regions whose populations had strong historical or political grievances with the majority population that long predated petroleum extraction. But in many of them, case studies suggest that oil played a role in the motivations of separatist groups.[15]

In Latin America, petroleum has sometimes been extracted from regions populated by marginalized ethnic communities, like those listed in Table 10, but without triggering separatist insurgencies. The exploitation of oil in the Ecuadorian Amazon since the 1970s has led to widespread soil and water contamination, conflicts over land rights, and organized protests and marches in support of indigenous rights [Sawyer 1997]. Mexico's Chiapas State has considerable oil wealth, and since 1994 has been home to an armed rebellion led by the *Ejército Zapatista de Liberación Nacional* (EZLN). The group's first "Declaration from the Lacandon Jungle" demanded that the government "suspend the robbery of our natural resources"; later declarations blamed the government's intransigence on its desire to retain control of Chiapas's oil wealth. Yet in both cases, groups from these regions pushed for changes in government policies, not independence.

4. Why No Separatist Wars in Latin America?

The absence of separatism might explain the paucity of oil-related conflicts in Latin America. But what explains the absence of Latin American separatist conflicts?

For historians of Latin America, the absence of separatist conflicts in the last century, and ethnically-based separatist movements for even longer, may be self-evident

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[15] See, for example, Ross [2005] on Aceh, Said [2007] on Chechnya, International Crisis Group [2006a, 2006b] on the Niger Delta, and Anderson [1999] on Sudan.

and unremarkable.[16] While several studies explore the scarcity of interstate wars in the region [Centeno 2002; Kacowicz 1998; Dominguez 2003], none try to explain the absence of separatist wars. Yet theories of civil war seem to have trouble accounting for the dearth of Latin American secessionist movements.

Many recent studies have explored the causes of secessionist conflicts; there is also a larger and older body of research on sources of ethnic or ethnonationalist violence, which includes both separatist and non-separatist movements.[17] Important recent studies include Collier and Hoeffler [2002], which suggests that groups favor secession when they believe it would be economically advantageous; Toft [2003], which emphasizes the importance of an ethnic group's geographic concentration in a territory that can be considered a homeland; Walter [2006], which argues that countries with larger numbers of concentrated ethnic groups are less likely to experience separatist violence; Fearon [2004] treats separatist violence as an instance of bargaining failure; and Salehyan [2007] shows how transnational ethnic networks can promote ethnic mobilization. There are also many studies on the role of government repression in the initiation of ethnic or secessionist conflict, although they report conflicting findings.[18]

An important shortcoming in this field has been the difficulty of measuring ethnicity and ethnic relationships, even though they play an important role in many civil wars, especially wars of secession. The most widely-used measures are either simple

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[16] See, for example, Centeno [2002]; Wade [1997]; Van Cott [2005].

[17] For a review of these studies, see Brubaker and Laitin [1998]. Almost all secessionist movements in recent decades have some type of ethnic basis. The secessionist war Yemen in 1994 was a rare exception.

[18] For a review, see Cederman, Wimmer, and Min [2010].

   One of the few studies to mention Latin America's anomalous record of conflict is Clearly [2000], which argues that ethnic violence in Latin America grew more rare between 1980 and 1995 because the region became more democratic. Yet Cleary also notes that there were no recorded indigenous rebellions in Latin America between 1945-1980 – a period outside the study, when most Latin American governments were autocratic.

indices of ethnic fractionalization, or data on minority groups that are both mobilized at 'at risk.'[19]

Cederman, Wimmer and Min [2010] tries to rectify this by developing a new, more comprehensive dataset on 'ethnic power relations,' which identifies all politically-relevant ethnic groups in the world, and their access to state power. Using these new data, they argue that ethnic rebellions (both separatist and non-separatist) are more likely when three conditions are met: representatives of the ethnic group have been excluded from power at the national level; when the group constitutes a larger fraction of the country's population, making it easier for the group to mobilize; and it has experienced previous episodes of violence.

A companion paper [Wimmer, Cederman, and Min 2009] suggests that the likelihood of secessionist conflicts, in particular, is higher when the host state is less 'cohesive,' due to two additional conditions: a large country population, which attenuates the state's control of marginalized groups; and a long history of indirect colonial rule, and consequently, a short history of independence. A third paper, which employs the same data, emphasizes the role of one further factor: the presence in a neighboring state of ethnic kin groups, which can encourage transboundary nationalism and provide cross-border support for ethnic militias [Cederman, Girardin, and Gleditsch 2009].

These new studies may constitute a breakthrough in our understanding of ethnic conflicts in general, and separatist conflicts in particular. Yet if anything, they deepen the mystery of Latin America's missing wars of secession.

Three of the six factors these articles emphasize suggest Latin America should have unusually *high* rates of ethnic separatism. The first variable, political exclusion, has

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[19] For a critique of these measures, see Posner [2004]; Cederman, Wimmer, and Min [2010].

long characterized the region's indigenous groups, which have been systematically

denied a meaningful role in government.[20] According to Gurr [2000], in the mid-1990s

Latin America's minority groups faced more political discrimination, and more economic

discrimination, than minority groups in any other world region.

The second factor, mobilization capacity as determined by group size, also

implies a high likelihood of ethnic rebellion, especially in Ecuador, Peru, Bolivia,

Mexico, and Guatemala, which have large, geographically-concentrated indigenous

communities. A third factor, the presence of ethnic kin groups in neighboring countries,

should also heighten the likelihood of ethnic rebellions in all five of these states.

Notably, four of these five countries are major petroleum producers; the fifth

(Guatemala) is a minor producer.

Two other Cederman-Wimmer-Min variables seem to yield no special insights

into the region. The scarcity of past ethnic rebellions in Latin America (at least for the

last century) may have diminished the chances of more recent ethnic rebellions, but this

does not tell why rebellions were so infrequent in the past. State size also has no

particular implications for the region: Latin American countries are a bit smaller, on

average, than countries in the rest of the world (26 million in Latin America versus 40

million elsewhere), but the models in Table 8 already take population into account, yet

still find a negative effect from the *Latin America* dummy.

Their final variable – the duration of colonial rule since 1816 – seems more

promising. Drawing on Hechter [2003], they argue that when countries have spent more

time under indirect colonial rule, and as less as independent states, "large segments of the

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[20] There is some evidence that this has begun to change – most dramatically, with the 2005 victory of Evo Morales and the Movimiento al Socialismo in Bolivia. See Madrid [2008]; Yashar [2005]; Thomson and Hylton [2007]; Van Cott [2005].

population are not accustomed to being governed directly by the political center. These groups can be more easily mobilized for a secessionist project [Wimmer, Cederman, and Min 2009: 323]."

Most Latin American states became independent in the early 19th century, well before almost all countries in Asia, Africa, and the Middle East. Conceivably, this could explain the absence of separatism, either due to causation (as national boundaries became more widely-accepted over time) or selection (as less cohesive states fell apart, while more cohesive states endured). This argument seems consistent with the history of Latin American conflict: one database identifies 13 secessionist wars in Latin America between 1816 and 1900 [Wimmer and Min 2008].[21]

Still, the duration of sovereign statehood is only weakly correlated with the incidence of separatist conflicts. Figure 6 is a scatterplot showing the relationship between a country's founding year, and its rate of separatist war onsets between 1960 and 2006, counting only the country's post-independence years.[22]

As the slope of the fitted line implies, there appears to be a slight positive relationship between these factors. Still, many countries with long histories of sovereign independence (Spain, Ethiopia, Iran, Russia) remain highly prone to separatist conflicts, while Latin America does not.

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[21] The Correlates of War dataset records eight secessionist wars in Latin America between 1816 and 1900; but Lemke [2008] notes that the COW data fail to record a significant number of 19th century Latin American secessionist wars.

[22] Identifying a country's date of independence raises many coding problems. For example, over the course of the 20th century, many Central and Eastern European countries either lost their independence temporarily (like Poland, Latvia, Estonia, and Lithuania), merged with other states (e.g., East and West Germany), or fractured (Austro-Hungary, Czechoslovakia, the Soviet Union, and Yugoslavia). In cases like these, the appropriate date of sovereign statehood is ambiguous. To avoid these coding issues, I use the independence dates in the Correlates of War dataset, and mark 1816 (the first year of the dataset) as the earliest possible founding year.

When a *State Age (log)* variable age is added to the core model for separatist

conflict (Table 11, column 1), it is not statistically significant for the full 1960-2006

period; it does reach statistical significance for the 1991-2006 period (column 2). The

inclusion of *State Age (log)* in the latter model causes the *Oil Income (log)* variable to

lose statistical significance, although it regains significance when the sample is restricted

to low-income countries (column 3).

What other factors might account for the paucity of Latin American secessionist

movements? One clue may come from scholars who have observed that in the 20th

century, Latin America's indigenous populations tended to mobilize for conflict along

class lines, rather than ethnic ones; instead of seeking their own sovereign states, they

fought to overthrow incumbent governments and the economic and military elites they

typically represented. Cleary [2000, 1133] notes that indigenous people have often taken

part in Latin America's insurgencies, but they did so "as peasants or workers and not as

indigenous people."

Writing in the 1970s, Crawford Young [1975, 428] observed that

Indians qua Indians are not collective actors in the national political arena. They
are actors on occasion as peasants…more often they are acted upon by parties of
populist ideology led by elites of middle class origin.

Perhaps Latin America's indigenous groups mobilized along class lines because they

lacked the requisite financial and human resources to organize along ethnic ones.

Cederman, Wimmer, and Min acknowledge that an ethnic group's capacity to mobilize is

important, but are only able to capture one dimension of this capacity – the group's

size.[23] According to resource mobilization theory, disaffected groups need access to a

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[23] Cederman, Girardin, and Gleditsch [2009] make a similar point.

variety of resources in order to develop into a social movement [McCarthy and Zald 1977; Tilly 1978]. The social and economic marginalization of Latin America's indigenous populations may have deprived them of the resources they would need to mobilize independently – sending them into alliances of convenience with better-endowed but more ideologically-oriented rebel groups, like Sendero Luminoso in Peru, the *Ejército Zapatista de Liberación Nacional* in Mexico, and a series of leftist movements in Guatemala.[24]

Conclusion

At a global level, oil producers are more likely to have civil wars than non-oil producers – especially since the end of the Cold War, and especially among low and middle income countries. This paper suggests Latin America's oil producers *partially* fit the worldwide pattern: compared to other countries in the region, they have had governmental wars at a higher rate, but separatist wars at the same rate. Yet the real anomaly is not oil's inability to induce secessionist rebellions, but the complete absence of secessionist rebellions in Latin America for the last century.

This implies that the conflict-inducing qualities of the oil industry are no different in Latin America than anywhere else. Petroleum extraction seems to touch off the same kind of frustrations and protests, trigger the same demands for distributive justice, and contribute to the same kinds of sabotage and extortion in Latin America as it does everywhere else – most visibly in Colombia, Bolivia, Ecuador, and Mexico. Yet neither

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[24] Most of these alliances were with leftist groups, but not all: Nicaragua's Miskito Indians, for example, received covert military assistance from the US in their conflict with the Nicaraguan government in the early 1980s.

mineral wealth, nor any other set of circumstances, has caused marginalized ethnic communities in these or any other Latin American country to fight for independence.

Perhaps the dearth of violent ethnic separatism offers a clue to an even larger puzzle, articulated recently by Miguel Centeno [2008, 160] in a review of recent scholarship on Latin American history:

> It is remarkable how a relatively small minority was able to retain power, even after the (temporary) arming of subalterns. The independence wars (of the 19th century) and the subsequent caudillo states did open up opportunities for those without Spanish blood. Why did control over power and arms not translate into a racial revolution? The relative continuity of racial hierarchy after independence seems to be one of the paradoxes of the nineteenth century.

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Table 1: Mining-related disputes in Latin America, 2009

Country	Conflicts
Argentina	24
Bolivia	5
Brazil	21
Chile	17
Colombia	13
Costa Rica	3
Ecuador	3
El Salvador	1
Guatemala	2
Honduras	2
Mexico	9
Nicaragua	2
Panama	5
Peru	16
Dominican Republic	1
Total	**118**

Source: www.conflictosmineros.net. Accessed December 19, 2009.

Table 2: Civil War Onsets

	(1) All Countries	(2) All Countries	(3) High Income	(4) Low Income	(5) All Countries	(6) Separatist Conflicts	(7) Govt Conflicts	(8) 1960-1990	(9) 1991-2006	(10) All Countries
Income (log)	-0.311	-0.437	-0.490	-0.280	-0.410	-0.457	-0.411	-0.329	-0.587	-0.320
	(5.06)***	(6.27)***	(2.66)***	(2.81)***	(6.25)***	(2.56)***	(5.48)***	(4.46)***	(4.81)***	(3.59)***
Population (log)	0.314	0.258	0.452	0.255	0.247	0.532	0.051	0.275	0.231	0.220
	(4.35)***	(3.35)***	(4.11)***	(2.92)***	(3.19)***	(4.90)***	(0.93)	(3.11)***	(2.89)***	(3.39)***
Oil Income (log)		0.131	0.115	0.124		0.139	0.132	0.074	0.194	0.104
		(3.44)***	(1.33)	(2.92)***		(2.05)**	(3.09)***	(1.65)*	(3.34)***	(2.80)***
Oil Income* Income (log)					0.109					
					(3.45)***					
Polity										0.438
										(2.94)***
Polity^2										-0.040
										(3.01)***
Ethnic Fractionalization										1.260
										(3.32)***
Religious Fractionalization										-0.766
										(2.12)**
Mountains (log)										0.093
										(1.68)*
Non-contiguous										0.589

										(2.47)**
New State										1.209
										(2.58)***
Instability										-0.274
										(1.29)
Countries	169	169	169	140	169	169	169	156	169	154
Observations	6382	6382	1831	4551	6382	6382	6382	3747	2635	5507

Robust z statistics in parentheses.

* significant at 10%; ** significant at 5%; *** significant at 1%

"High-income" is defined as above $5000 (constant 2000 dollars), and "low income" as below $5000. Each estimation includes a constant, a variable measuring years since the previous conflict, and three cubic splines to correct for temporal dependence. Standard errors are clustered by country, and the explanatory variables are lagged for one year. Estimations are carried out with Stata 10.1, using rare-event logistic regression.

Table 3: Intrastate Conflicts in Latin America, 1960-2006

Country	Year	ACD (all)	ACD (major)	Fearon-Laitin	Sambanis	Wimmer-Min
Cuba	1961	*				
Venezuela	1962	*				
Argentina	1963	*				
Dom. Rep.	1965	*		*	*	*
Guatemala	1965	*	*	*	**	***
Peru	1965	*				
Colombia	1966	*	**	*	*	*
Bolivia	1967	*				
El Salvador	1972	*				
Uruguay	1972	*				
Argentina	1973	*	*	*	*	
Chile	1973	*				*
Nicaragua	1978	*	**	**	**	**
El Salvador	1979	*	*	*	*	*
Peru	1981	*	**	*	*	*
Suriname	1986	*				
Haiti	1989	*		*	*	
Panama	1989	*				
Paraguay	1989	*				
Trinidad	1990	*				
Venezuela	1992	*				
Mexico	1994	*				
Haiti	2004	*				
Total		**23**	**9**	**9**	**10**	**10**

Countries that I classify as "oil producers" (generating at least $100 per capita in oil revenues, in the year the conflict began) are in italics. Colombia became an oil producer in 1974, after its conflict had begun. The years listed are from the Armed Conflict Dataset for the onset of all conflict; the other datasets sometimes identify different years for the onset of conflict. Several long-running conflicts are treated by datasets as two or three consecutive conflicts; I indicate the number of conflicts with asterisks. The Armed Conflict Dataset runs through 2006; the Wimmer-Min data through 2001; and the Fearon-Laitin and Sambanis datasets through 1999.

Table 4: Conflict Onset Rates by Oil Production

	Rest of World	Latin America
1960-1990:		
Oil Producers	2.70	2.44
Non-oil Producers	2.32	2.38
1991-2006		
Oil Producers	5.76*	1.75*
Non-oil Producers	4.06***	0.31***
Overall:		
All States and Periods	3.27**	1.81**

***p<.01, ** p<.05 level, * p<.10 in Pearson's Chi2 test (rows two, four, and five) or a one-sided Fisher's' Exact Test (rows one and three). Tests are for values in rows (i.e., Rest of World vs. Latin America).

Table 5: Conflict Onset Rates by Type

	Rest of World	Latin America
1960-1990		
Governmental Wars	1.49*	2.39*
Separatist Wars	1.15***	0.00***
All Wars	2.64	2.39
1991-2006		
Governmental Wars	1.97**	0.69**
Separatist Wars	2.53***	0.00***
All Wars	4.5***	0.69***

***p<.01, ** p<.05 level, * p<.10 in Pearson's Chi2 test (rows one and three) or a one-sided Fisher's' Exact Test (rows two, four, five and six).   Tests are for values in rows (i.e., Rest of World vs. Latin America).

Table 6: Conflicts in Latin America, by type

Dataset	Governmental Wars	Separatist Wars	Last Separatist War
UCPD/PRIO (1946-2008)	36	0	-
Correlates of War (1900-2001)	27	1	1932 Brazil vs. Paulistas
Wimmer-Min (1900-2001)	30	1	1918 Haiti vs. US

The Correlates of War dataset does not identify separatist conflicts, but rather "local" conflicts, a category that includes both separatist and regional conflicts.

Table 7: Separatist Conflicts by Region, 1948-2006

Region	Separatist Conflicts	Sovereign Country-years	Separatist Conflict Rate
South Asia	20	346	5.78
Former Soviet Union	11	257	4.28
East & Southeast Asia	27	674	4.01
Middle East	11	775	1.42
Sub-Saharan Africa	26	1903	1.37
Central/East Europe	7	538	1.30
Western Europe	5	893	0.56
Latin America	0	1197	0.00

Data on separatist conflicts are from the Armed Conflict Dataset.

Table 8: Civil War Onsets, 1991-2006

	(1) All Conflicts	(2) All Conflicts	(3) All Conflicts	(4) Governmental Only
Income (log)	-0.587	-0.520	-0.517	-0.598
	(4.81)***	(4.46)***	(4.42)***	(3.60)***
Population (log)	0.231	0.224	0.222	0.015
	(2.89)***	(2.86)***	(2.85)***	(0.14)
Oil Income (log)	0.194	0.185	0.182	0.214
	(3.34)***	(3.35)***	(3.21)***	(2.75)***
Latin America		-1.009	-1.012	-0.508
		(1.96)**	(0.75)	(0.89)
Latin America* Oil Income			0.043	
			(0.16)	
Countries	169	169	169	169
Observations	2635	2635	2635	2635

Robust z statistics in parentheses.

* significant at 10%; ** significant at 5%; *** significant at 1%

Each estimation includes a constant, a variable measuring years since the previous conflict, and three cubic splines to correct for temporal dependence. Standard errors are clustered by country, and the explanatory variables are lagged for one year. Estimations are carried out with Stata 10.1, using rare-event logistic regression.

Table 9: Conflict Onset Rates by among Oil Producers, 1991-2006

	Rest of World	Latin America
Governmental Wars	2.88	1.75
Separatist Wars	2.88*	0.00*
All Wars	5.76*	1.75*

* p<.10 in a one-sided Fisher's' Exact Test. Tests are for values in rows (i.e., Rest of World vs. Latin America).

Table 10: Separatist Conflicts in Petroleum-Producing Regions

Country	*Conflict Years*	*Country Income*	*Region*
Angola	1975-2007	$861*	Cabinda
Bangladesh	1974-92	$243	Chittagong Hill Tracts
China	1991-	$422	Xinjiang
India	1990-	$317	Assam
Indonesia	1975-2005	$303	Aceh
Iran	1966-	$1053	Kurdistan
Iran	1979-80	$1747	Arabistan
Iraq	1961-	$1100**	Kurdistan
Nigeria	1967-1970	$267	Biafra
Nigeria	2004-	$438	Niger Delta
Pakistan	1971	$275	Bangladesh
Pakistan	1974-77	$280	Baluchistan
Russia	1999-2001	$1613	Chechnya
Sudan	1983-2005	$293	South
Turkey	1984-	$2091	Kurdistan
Yemen	1994	$443	South

Country Income is for the year the conflict began, or the closest year for which data are available. Figures are in real 2000 dollars per capita.
* 1980
** Estimation based on Gleditsch (2002)

**Table 11: Separatist War Onsets and State Age**

	(1) 1960-2006	(2) 1991-2006	(3) 1991-2006, Low Income
Income (log)	-0.397	-0.358	-0.505
	(1.97)**	(1.36)	(1.41)
Population (log)	0.576	0.550	0.540
	(5.67)***	(6.17)***	(5.55)***
Oil Income (log)	0.141	0.127	0.191
	(2.08)**	(1.51)	(1.97)**
State Age (log)	-0.173	-0.476	-0.480
	(1.19)	(2.46)**	(2.50)**
Countries	169	169	128
Observations	6382	2635	1798

Robust z statistics in parentheses.
* significant at 10%; ** significant at 5%; *** significant at 1%
"Low-income" is defined as below $5000 in constant 2000 dollars. Each estimation includes a constant, a variable measuring years since the previous conflict, and three cubic splines to correct for temporal dependence. Standard errors are clustered by country, and the explanatory variables are lagged for one year. Estimations are carried out with Stata 10.1, using rare-event logistic regression.

Figure 1: Number and Median Income of Oil Producing States, 1970-2006
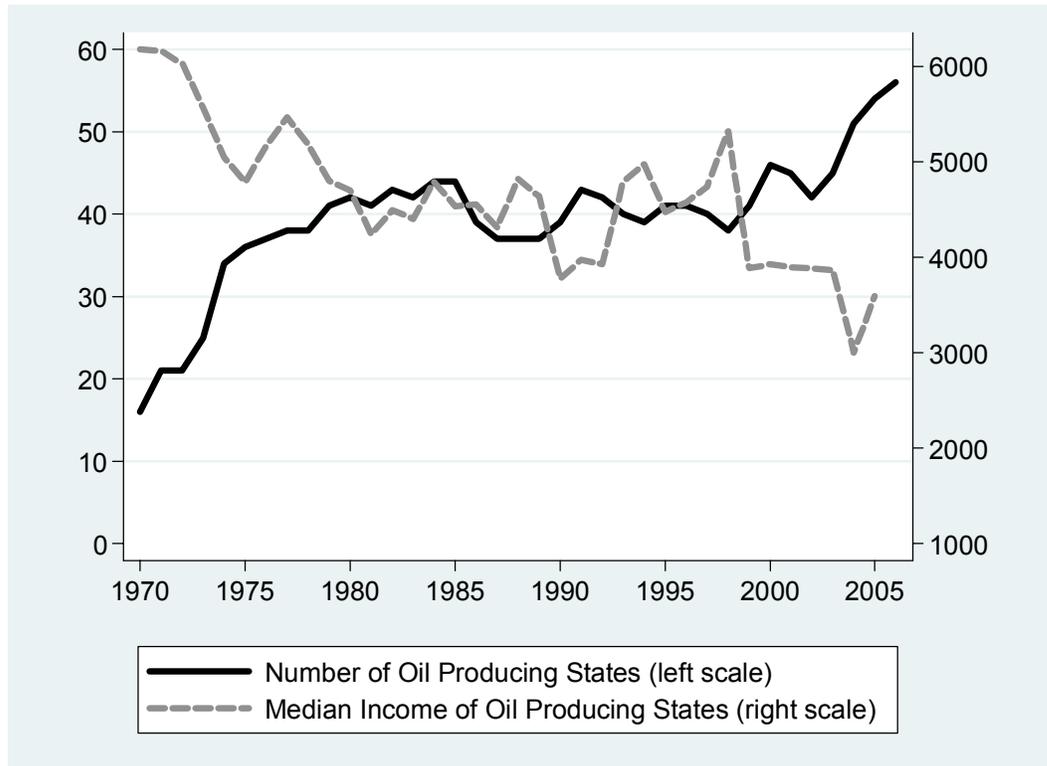
States are classified as "oil producers" if they generated at least $100 per capita in income from oil and natural gas, in constant 2000 dollars. Source: Ross oil & gas dataset 2010.

Figure 2: Annual Conflict Rate, Oil Producers and Non-oil Producers, 1960-2006
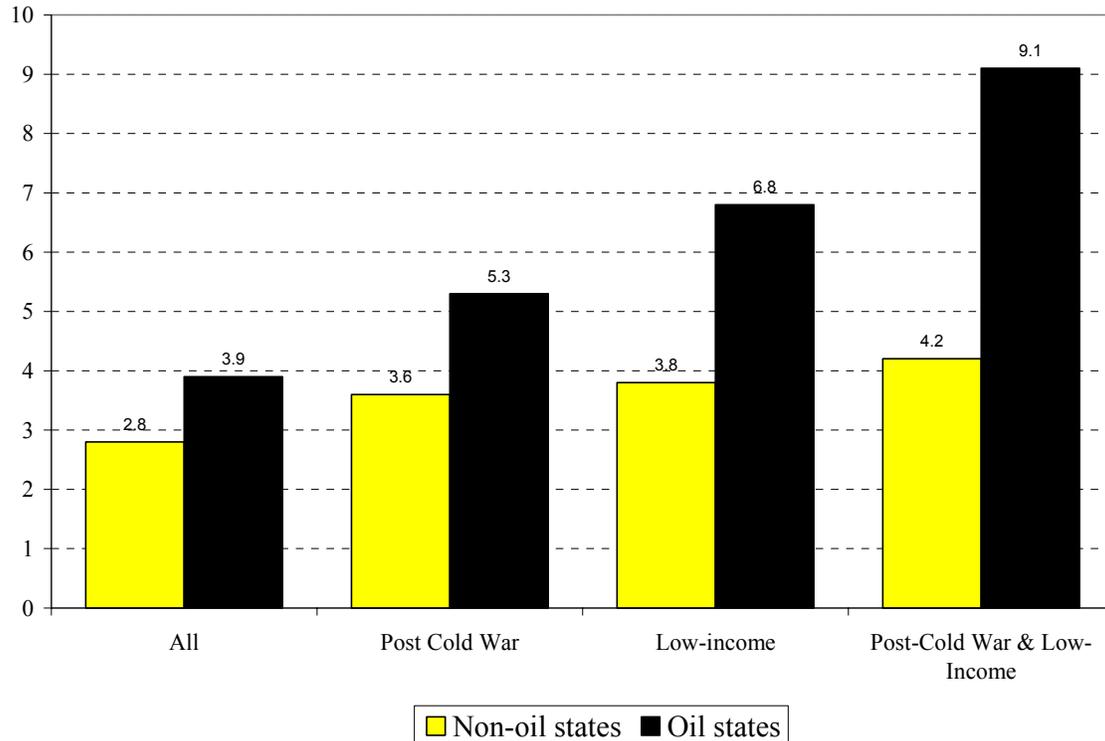
The figures represent the annual conflict rate for states that produce at least $100 per capita in oil and gas income (black bars), and those that do not (yellow bars). The data are for 1960-2006, except the 'Post-Cold War' period, which is 1991-2006. Low income countries are defined as having less than $5000 per capita. All of the differences between oil and non-oil states are statistically significant in Chi-square tests, except in Latin America.

**Figure 3: Ongoing Conflicts in Latin America, 1960-2006**
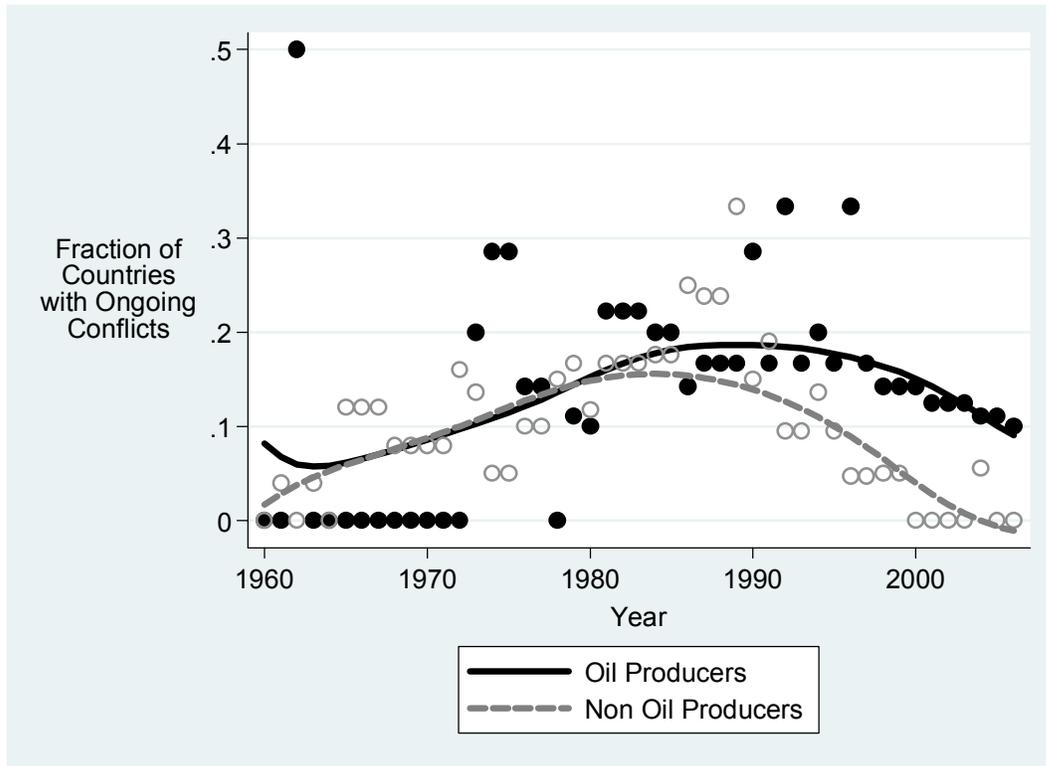
Figure 4: Conflict onsets in Latin America and Everywhere Else, 1960-2006
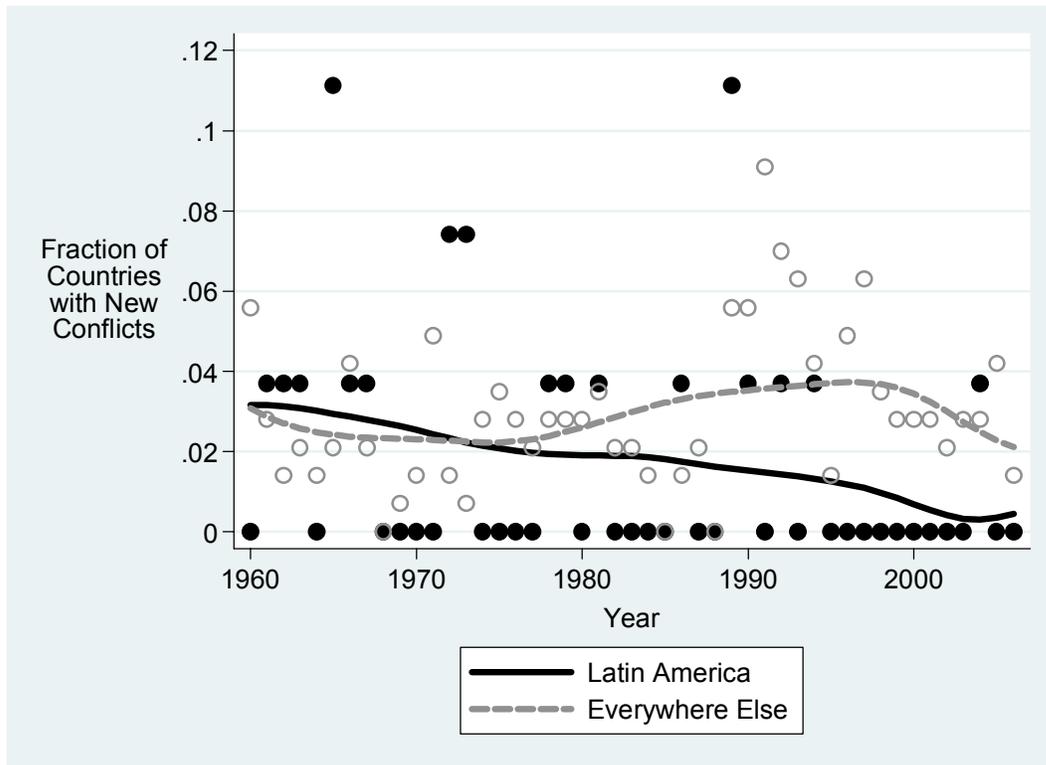
Figure 5: Ongoing Conflicts in Latin America and Everywhere Else, 1960-2006
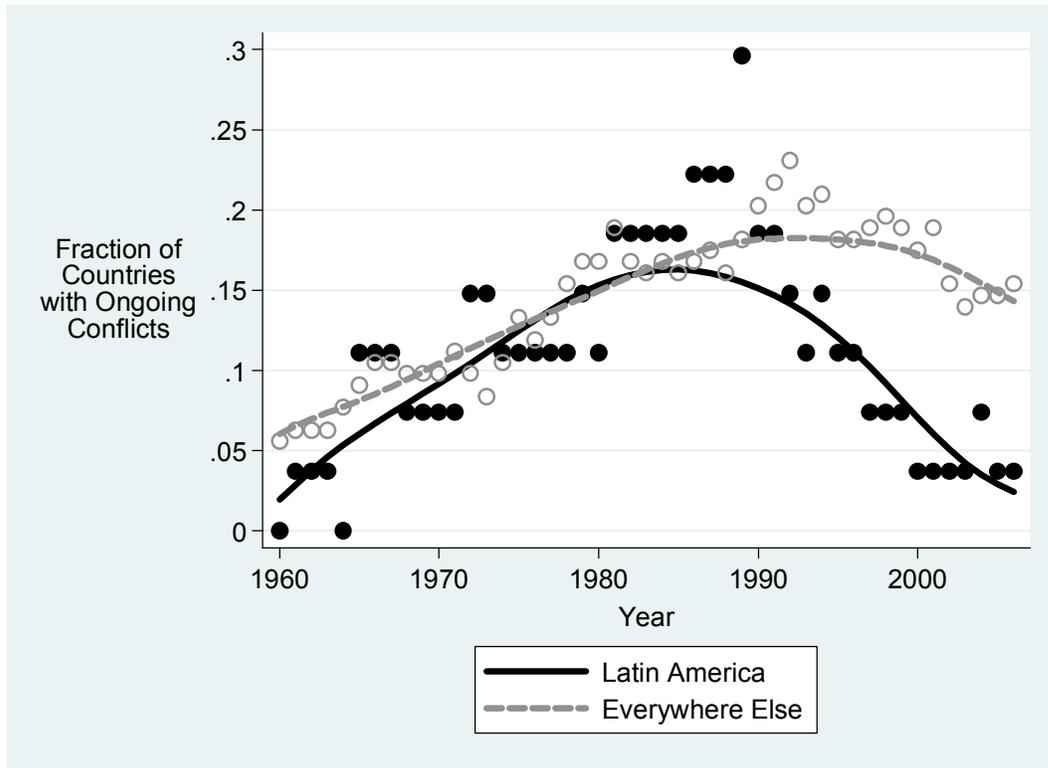
Figure 6: Rate of Separatist Conflicts by Founding Year