

# **States and Power in Latin America: Does Political Geography Explain Variation in State Infrastructural Power Across the Region?**

*Hillel David Soifer  
Ph.D. Candidate  
Department of Government  
Weatherhead Center for International Affairs  
Harvard University  
soifer@fas.harvard.edu*

*Paper prepared for presentation at the 2004 Meeting of the Latin American Studies Association, Las Vegas, Nevada October 7-9, 2004.*

Work in Progress: Please do not cite or distribute. Comments more than welcome.

In recent years, scholars of Latin American politics have focused on the causal role of institutional design in explaining a variety of substantive outcomes.<sup>1</sup> These studies are based on the premise (whether stated or implied) that these formal institutions are the main factor in determining policy outcomes.<sup>2</sup> Yet without a strong state to enforce policy decisions, property rights, or the rule of law, it is unlikely that formal institutions have much leverage over political outcomes: this may explain why the predictions of these explanations have more power in developed country contexts (or in theory) than in the Latin American context. In fact, it is likely that the strength of the state is a fundamental structural factor which is causally prior to these explanations. Thus, appreciating variation in the strength of the state across or within countries in Latin America will go a long way toward understanding variation in a range of political outcomes across the region.

One prominent example of this type of argument is Guillermo O'Donnell's 1993 development of the concept of 'brown areas'. Brown areas are regions where the power of the state does not penetrate. O'Donnell argues that politics in these areas cannot be democratic without the presence of the state, which constrains the power of local elites. This concept of 'brown areas' also calls attention to the importance of the state at the local level. Rather than focusing on the strength of bureaucracy in the capital, O'Donnell calls our attention to the presence of the state in a particular sub-national region. Thus,

---

<sup>1</sup> Earlier versions of this paper were presented at SECOLAS 2003, and the Economic History of Latin America seminar at Harvard in May of 2003. I am grateful for the comments of participants in both instances, and for the helpful remarks of John Coatsworth, Jorge Domínguez, Magda Hinojosa, Steve Levitsky, Shannon O'Neil Trowbridge, William Phelan, Paul Pierson, and Alison Post. Obviously they are responsible for what value there is in this paper; all flaws are my responsibility alone.

<sup>2</sup> See Helmke and Levitsky 2004 for the argument that informal institutions in fact are at least as significant as formal institutions in determining a wide range of outcomes.

he identifies variation at both the national and sub-national levels in state strength; a claim borne out by empirical evidence.

While O'Donnell provides a useful dimension on which to compare politics within or across countries, he does not provide an account of the emergence or sustainability of these brown areas, or a comparison of Latin American countries. To fill this void, I turn to an explanation from outside the Latin American context, drawing on Herbst (2000), who provides an account of variation in state strength in sub-Saharan Africa. The goal of this paper is to test his explanation in the Latin American context, and see if state development in the region can be explained with a model drawn from the African context. Herbst's model should be intuitively attractive to scholars of Latin American politics for several reasons. First, it explicitly provides an explanation of variation across countries which can be easily tested. Second, it draws a distinction, developed further below, between the European experience of state formation and the experience of state development in post-colonial Africa.

Herbst's model performs well in the Latin American context. I make predictions for state development in 11 Latin American countries using the framework he developed in the African context, and conduct a series of tests of these predictions. I find support for his hypotheses in the Latin American context, in a series of correlations. However, an examination of the historical record shows that these correlations are misleading. In the final section of the paper I discuss the cases of Chile and Peru in order to show that Herbst's model, while statistically suggestive, does not reflect the Latin American reality.

### **What is State Development?**

Scholars of the state in historical sociology and political science have traditionally turned to arguments about state formation to explain the development of the state. Drawing theories from Tilly and others, they attempted to apply arguments from the European experience of state *formation* to other world regions and historical experiences.

It is important to note that state development is separate conceptually from state formation, a concept discussed by Tilly and his co-authors (1975) and further developed by Ertman (1996) and Spruyt (1994) among others. State formation is the explanation of why the national, territorial state emerged as the dominant political unit rather than some of its contemporary alternatives. The traditional explanation for state *formation* relates to war, which served as a selection mechanism, eliminating all but the most efficient units [efficient in their ability to collect funds and mobilize a population to fight]<sup>3</sup>. This concept should be applied exclusively to the study of Europe and not to post-colonial societies because borders and political units emerged simultaneously only in the European context, meaning that the selection mechanism of territorial competition only existed in that context.

There are at least two major concerns about the portability of questions of state *formation* to the Latin American context: 1) with the exception of several attempts at

---

<sup>3</sup> For this argument, see Tilly (1975, 1992), Porter (1994), and Ertman (1997) among others. For an alternative view, which grants a privileged role to economic competition and the development of capitalism, see Spruyt (1994).

confederation<sup>4</sup> in the early years of independence, the only political unit in the region has been the territorial nation state; and 2) the number of political units in the region has not changed since independence in the same degree as in the European experience, where Tilly highlights the disappearance of 95% or more of the 500 political units which existed around the year 1500.<sup>5</sup> In fact, the major phenomenon in post-independence Latin America has not been state formation, but state development. Rather than focusing on the choice of the territorial state over other forms of organization, the study of state *development* undertaken here focuses on explaining the variation in the extent to which territorial states approach the Weberian definition of the state as monopoly of force over a given territorial area.

A definition of state *development* can be found in Herbst (2000:21-3), who describes it as the increase in the ability to extend authority over distance. In other words, it is *the process by which states move from being borders on a map to exercising their Weberian monopoly of force throughout the national territory*. This is close to Michael Mann's definition of the infrastructural power of the state, which is contrasted with despotic power. The latter can be defined as "the range of actions which the elite is empowered to undertake without routine, institutionalized negotiation with civil society groups" – or as Mann puts it, "the ability of the Red Queens to shout 'off with his head' and have their whim gratified without further ado – provided the person is at hand." Infrastructural power, then, is precisely the ability of the state to find and collect the person the Red Queens want to execute: "the capacity of the state actually to penetrate civil society, and to implement logistically political decisions throughout the realm." (Mann 1984, 113). Mann argues that there has been a great growth over time in the infrastructural power of states: "If there were a Red Queen, we should all quail at her words – from Alaska to Florida, from the Shetlands to Cornwall there is no hiding place from the infrastructural reach of the modern state." (114). This secular trend which Mann identifies is the result of the development of a series of technologies which help the state exercise its authority: literacy (which allows the keeping and consultation of historical records), coinage, and communication and measurement technology.<sup>6</sup>

There is little explanation here for variation across countries, then, beyond looking at variation in literacy rates. Why this process takes place in some states and not others is an important puzzle, and Herbst provides one candidate explanation. Understanding why O'Donnell's 'brown areas' exist to a greater extent in some states than in others would help scholars of Latin American politics understand a range of outcomes at both the national and the local level. Below I develop Herbst's explanation, defend its applicability to the Latin American context, and discuss the results of a replication of Herbst's study on countries in this region.

Having defined state development as the spread of the power of the state to fill the national territory, the next question is how to measure it. One measure of state development is the extent of the transportation network in the country. In the 19<sup>th</sup>

---

<sup>4</sup> While the paradigmatic example of this was Gran Colombia (today Venezuela, Ecuador, Colombia and Panama), the countries of Central America were also united for the first several decades after independence.

<sup>5</sup> Major exceptions include the emergence of Uruguay and Panama, as well as the collapse of the united Central America into Guatemala, Costa Rica, Honduras, El Salvador, and Nicaragua.

<sup>6</sup> Scott (1998) cites similar factors in explaining the role of the state in the transformative efforts of what he calls high modernist projects.

century, the most important form of transportation developed was the railroad. Studies of both Latin America (Coatsworth 1981) as well as other regions (Weber 1976) have shown that railroads have vast transformative effects on politics, economy, and society as they develop. Transportation infrastructure serves to unify both the population and the market of a country by reducing travel times and the transport costs of goods. It also facilitates the ability of the state to reach the more remote parts of the country, whether with census takers, tax collectors, or military units. Herbst's study of African states measures state strength entirely through measures of road construction, and Eugen Weber shows that roads played a large role in unifying France.<sup>7</sup> Some analysts have dismissed the importance of transportation infrastructure for state development, citing the fact that it is often constructed by private interests, who have little concern for the effects on the strength of the state. The fact that roads and railroads in a particular case are built by private interests is important if our concern is with the motivations behind their construction. In terms of state development, however, the focus should be the effects of their construction; the identity of the constructing agent is not significant.<sup>8</sup>

### **Herbst and State Development**

Herbst finds a great deal of variation in state development between countries in the African context, measured in terms of the growth of roads. Herbst explains state development in terms of the costs of exerting authority over distance and the benefits to be gained from control of a population. Given the low tax collections, the resulting low state revenues, and the general absence of interstate war, African states have had little incentive or opportunity to develop. Under these conditions, variation can be accounted for with a geographic explanation: those states with more 'difficult' political geographies will, all else equal, be less developed. In this paper, I will apply this framework to Latin America. I will use Herbst's model to make predictions about which Latin American states one would expect to have developed most since independence, and use simple measures of state development (transportation infrastructure growth) to test these predictions. The conclusions will shed light both on Herbst's model, and on the potential for the African model for exploring state development in Latin America.

Herbst's argument begins with a discussion of state leaders as rational actors, weighing the costs of state development and the benefits to be gained. He shows that given limited resources, state leaders would be forced to make careful cost-benefit calculations about the extent of state development they would undertake. The first effect of this, he argues, is the agreement among the European colonial powers at the Congress of Berlin in 1884-5 to draw boundaries of non-aggression between the holdings of the colonial powers. Since land was not valuable (with the exception of a few mining areas in southern Africa – South Africa is excluded from his study due to its unique nature as a settler society), the cost of fighting was higher than the gains to be had. The non-aggression pact meant that in order to administer their colonies, the European powers needed only to occupy the capital cities and main ports. The boundaries between colonial territories were carefully drawn and negotiated, but they were not protected with armies –

---

<sup>7</sup> In addition to the railroad, Weber's seminal 1976 book explains the role that roads, schools, and the military played in turning peasants into Frenchmen.

<sup>8</sup> Lewis 2002 suggests that the 19<sup>th</sup> century Argentine state was weak because roads and railroads were built by private interests, without considering the unifying effect these had on the Argentine polity.

it was in the interest of each colonial power to respect the non-aggression pact. These artificial boundaries (called artificial because they were reached as a result of negotiation rather than warfare, and did not match any natural terrain or settlement boundaries) were institutionalized after independence, and the norm of limited boundary change continues to dominate in Africa to this day.

Given this agreement to respect borders, Herbst argues, there is no need to defend them with large military presence at the frontiers or the development of the ability to manifest state power across the entire country. European state development, according to Tilly (1975) and a litany of other authors, was the result of the need to develop infrastructure to collect taxes for fighting war over territory. Since there was no fighting over territory, governments simply relied on collecting customs duties and other point of entry or exit taxes. This meant that the construction of infrastructure was limited. In this context, why develop states? Herbst argues that there was no particularly strong incentive to do so. He suggests that the variation in state development in Africa can be explained by political geography: in those cases where the development of state infrastructure was fairly cheap, it was more likely to be done.

So what determines the cost of infrastructure development? Herbst chooses road construction as a measure of state development, arguing that it captures the ability of the state to “broadcast power” (84). Road construction’s cost is affected by the distance which the road must cover: thus the smaller a country, the more roads will be built. Herbst also claims that since territory is relatively unimportant to state elites, their concern is in fact control over population. This means that the easier it is to connect the major population centers of a country, the cheaper state development will be, and the more likely it will be to happen. (for a concern about the use of roads as a measure of state development, see ‘Geography and Roads’ in the Appendix)

Herbst tests this claim by looking at road construction in all African countries since the colonial period, measuring it both before and after independence. The hypothesis being tested is that countries with what he calls ‘favorable’ political geographies’ will have experienced greater road building. To test this, he maps the population density of the country at a sub-national level, and categorizes the maps into four categories:

1. Favorable: small territory, population density correlated with closeness to the capital.
2. Difficult: large territory, non-contiguous population densities.
3. Hinterland: large territory with population concentrated in one corner of the country.
4. Neutral: countries which fit into none of the above categories.

He predicts that the countries with favorable geographies will build the most roads, followed by the neutral countries, and finally by those in the hinterland and difficult categories. These predictions are confirmed in his analysis of Africa, which raises the question of whether they can be applied to Latin America. An attempt to do this is the subject of this paper. Before moving to the test, however, it is worth justifying the application of a model derived from the African context to the Latin American cases.

### **Herbst and Latin America**

The underlying premise of the model, which Herbst explicitly confirms in the African cases, is that international conflict does not exist. The absence of international conflict removes the need for state leaders to engage in extensive and costly development

projects. In the African case, the absence of conflict (Herbst argues) is the result of an agreement among state leaders in both the colonial and independence eras: they have shaped the international context to suit their needs at the domestic level. What about the Latin American case? Any scholar of Latin American politics can point to a wide array of conflicts between countries: the War of the Pacific, the War of the Triple Alliance, the Chaco War, the Mexican-American War, and many others.

The empirical evidence, however, is that international wars has historically been both rare and small in the region. In his exhaustive study of war and state development in Latin America<sup>9</sup>, Centeno (2002) shows that battle deaths in Latin America trail those of other world regions: the total for the region in international wars since 1815 is approximately 400,000 (Fig. 2.9, p.43). Of this quantity, a vast majority died between 1865 and 1875 in the War of the Triple Alliance. Broken down by country, the lack of war and war death is similarly striking: of the 11 major Latin American countries, only one (Paraguay) has suffered more than 100,000 cumulative war deaths in its history (again, the War of the Triple Alliance).

War has been relatively absent and has reaped only a relatively small human toll in the region.<sup>10</sup> Another statistic Centeno marshals to support this claim is that only 5% of territorial conflicts have resulted in war, as opposed to 62% in Europe. Thus, despite the poorly defined and conflictual boundaries left to the region by independence, the instances of border conflict or border change have been limited. There is certainly no evidence that an agreement to respect borders was ever reached among Latin American leaders, but the history of the region shows nonetheless that international conflict has not been a dominant force in the regional history. Without significant international conflict, then, the incentive to build massive bureaucracy is lower, and for a long time it was insufficient to overcome the costs imposed by the region's complicated geography. It is not unreasonable, then, to expect that the African pattern would hold for Latin America: that the countries with the most favorable distributions of population would be the ones which saw the most state development.

### **State Development in 19<sup>th</sup> Century Latin America**

Data collected by Centeno (2002) shows that there was great variation between countries in Latin America in the development of railroads by 1900. If the density of the railroad network is calculated (see Figure 1), there divergences become clear. By 1900, Latin American states could be divided into 'haves' and 'have-nots'. There is a big gap between the 'developed' and the 'less developed' group: Chile, lowest of the 'developed' group, has more than three times the RR per square kilometer as the most 'developed' of the other group (Brazil). Country size does not appear to be significant here – while the smallest country (Uruguay) is the most developed, other small countries fall on the other

---

<sup>9</sup> Due to data constraints and to their different historical trajectory, Centeno does not include in his study either the Central American countries, or the non-Iberian countries on the South American continent.

<sup>10</sup> Fowler (2000) argues that domestic conflict, which makes up the bulk of violence in 19<sup>th</sup> century Latin America, should be seen as an extension of the political process rather than its disruption, and that, in the Mexican case, few revolts and *pronunciamientos* led to “civil wars which were long lasting, affected national politics, and involved the population at large” (67). The historical record in Peru and other countries supports this claim as well.

end of the spectrum.<sup>11</sup> None of the Andean countries are in the more developed group. A likely explanation is the presence of the mountains themselves, which make railroad building more expensive per kilometer. (see 'Topography' in the Appendix) However, other countries have large distances which are also very expensive to cross, and railroads had to travel through inhospitable terrain infested with malaria and other tropical diseases, making construction prohibitive.

This data includes both public and private railroads, since all of these provide a means for the state to reach remote areas of its national territory in order to exercise its authority as needed.<sup>12</sup>

---

<sup>11</sup> A regression using this data, and a dummy variable for the presence of the Andes (1 for Venezuela, Colombia, Peru, Ecuador, Bolivia, 0 for all other countries) shows that size of country is not significant, while the presence of the Andes is significant with 95% confidence ( $n=12$ ,  $r^2=.396$ ). The issue of the Andes is developed further below.

<sup>12</sup> The great boom of 19<sup>th</sup> century railroad building in Latin America saw construction sponsored both by public entities and by private corporations. While states built railroads mainly (though not exclusively) intended for passenger transport, private corporations built lines intended for cargo transport, with the end of reducing the transport costs of resource extraction (particularly mining). These cargo railroads, one might argue, played no role in increasing state power in the country due to two factors: traffic and placement.

Many privately built railroads in the region were used primarily for cargo transport, and played no role in the integration of the population by facilitating travel. This can be seen in examining the content of railroad traffic in the Peruvian case on the Cerro de Pasco line (Contreras 2004), and in the mining areas of northern Chile. On the other hand, the state railroad network in central and southern Chile, between Santiago and Concepción, saw a great deal of passenger traffic, and fares were lowered several times over the course of the 19<sup>th</sup> century to encourage increased passenger use. These lines were designed to facilitate both passenger and cargo transport throughout the country. Cargo railroads such as those built by mining companies in central Peru and northern Chile were sited based on economic decisions, since they connected mining sites to ports on the coast. In the Chilean case, they traveled through fairly empty territory, making only limited (if any) stops on the way to ports. In the Peruvian case, they traveled much longer distances from the *sierra* to the port of Callao, which is adjacent to Lima. These lines were not designed with the political ends of enabling the extension of state authority into the interior of the country: they rarely connected to any other lines (this is particularly clear in the Chilean case, and in a classic study of Mexican railroads which shows all railroads extending from the US border or from Veracruz and not reaching the rest of the country), and provided access to at most a small number of small mining camps in the interior. In the Peruvian case, Cerro de Pasco was in fact a fairly large city, and the region around it was fairly heavily populated, meaning that the placement of the line, done with economic considerations in mind, could also serve the state's political ends.

More important, though, than the construction of railroad lines is their use. The problem here is that data is hard to come by. What we would like to know is whether the state used railroad lines to push its authority into the interior, and whether the lines were used by local residents who were then able to begin to travel and, bringing back knowledge and goods from other parts of the country, begin to see their community as part of a larger whole. We would want to know how many passengers took the railroads, and where they went. We would want to know how many official tickets were used by the state, for teachers, education inspectors, tax collectors, and other state agents to reach destinations which were previously reached only through much more difficult journeys. And we would want to know how many military carriages traveled these lines to put down revolts, stop banditry, and establish the state monopoly of force in the interior. This kind of data is hard to collect in any systematic manner. It is clear, however, that all of these uses of the railroad did take place on the entire railroad network (both public and private) of both countries, and that thus the railroads did contribute to the extension of state power into the areas which they reached. Thus, for the purposes of simplification, I combine both public and private railroad lines in the discussion below, and consider the total extent of lines in the country to be the quantity of interest.

Table 1: State Development in 1900, measured by Railroad Density

<b>Table 1</b>	RR km. 1900	Area (1000 km <sup>2</sup> ) <sup>13</sup>	RR/area
Costa Rica (1909)	682.4	46.8	14.58
Uruguay	1,730	176.2	9.82
Mexico	13,585	1,972.6	6.89
Argentina	16,767	2,780.4	6.03
Chile	4,354	756.9	5.75
Brazil	15,316	8,512	1.80
Peru	1,800	1,285.2	1.40
Venezuela	858	912.1	0.94
Bolivia	972	1,098.6	0.88
Paraguay	240	406.8	0.59
Colombia	568	1,100.0	0.52
Ecuador	92	283.6	0.32

Understanding the underlying causes of the variation demonstrated in this table remains a puzzle. Literature on the development of the Latin American state has developed no explanations for this variation. Herbst does suggest one in the African context. The goal of this paper is to see if it applies to Latin America. Before proceeding to the test of Herbst's explanation, a word about models developed in the Latin American context is required.

Historical accounts of state development in the Latin American context have begun to develop in recent years, most notably the essays in Dunkerley (2002), and the book-length accounts of Vaughan (1997), and Mallon (1995) among many others. Unlike these descriptions of developments in individual regions, countries, or time periods, the goal of this study is to explore generalizable theoretical explanations for state development in the region. Two recent valuable contributions to this literature, which provide such claims, are Centeno 2002 and Lopez-Álves 2000.

Centeno's book on the relationship between war and the nation-state in Latin America argues that the absence of major conflict in the region has prevented the emergence of nationalism or strong states. By contrasting Latin America to the European experience, he highlights the important causal role of war in the process of state development. This correlation between the absence of war and the weakness of Latin American states is appealing, especially since it is supported by extensive evidence of causal relationship in the European context. However, the war explanation cannot account for variation in state strength among Latin American states. The absence of war in the region cannot explain why some states have much greater infrastructural power than their neighbors. Thus, Herbst's explanation in the African context, which is consistent (as discussed above) with the low rates of bellicosity Centeno finds in the Latin American region, has the potential to fill this void by explaining this variation.

Lopez-Álves provides an explanation for variation in state development across countries in Latin America: his argument depends on the nature of the caudillo wars

<sup>13</sup> Country area data is from the late 20<sup>th</sup> century, therefore there will be some slight variation between the data here and the historically accurate data for Peru, Colombia and Ecuador, and more substantial variation for Paraguay and Bolivia.

which predated and underlay party development in the region. This is an attractive explanation, which accounts for the experiences of Argentina, Uruguay, Paraguay, Colombia, and Venezuela in his book. However, his definition of state development is focused on the emergence of democracy or dictatorship. This explanation of patterns of political authority and representation is a very different type of state development than the Weberian one developed in this paper, and in Herbst's work. The distinction here is parallel to that made by Michael Mann between despotic and infrastructural power: while I am concerned with the ability of state leaders to exercise authority over the residents of the national territory, Lopez-Álves focuses on the nature of the political system which exercises that authority.

These two explanations leave room for an explanation of the variation across countries in the ability of the state to extend its authority across distance. Understanding this variation is fundamental to a wide range of research agendas in Latin American politics. Testing Herbst's explanation of precisely this phenomenon, therefore, seems to be the next logical step.

### **The Test:**

Replicating Herbst's study in the Latin American context, I collected the earliest census data I could find for each country in the region.<sup>14</sup> Using the regional population data, I calculated regional population densities. Maps of each country were made, with each region coded by its rank in population density (see attached figures).<sup>15</sup> Using these maps, countries were sorted into Herbst's categories of favorable, difficult, hinterland, and neutral political geographies. The predictions about transportation development were tested with Centeno's data on railroad development in 1900.<sup>16</sup> Road building data, gathered from the international road federation, will be used in the conclusion as a second test of this claim. In both cases, the test is simple in statistical terms: it is a difference of means test. The hypothesis to be tested is that the mean of road and railroad building per square kilometer in the difficult and hinterland cases is significantly lower than in the favorable and small cases.

Replicating Herbst's study involves using the maps generated from population density data to sort the countries of Latin America into categories based on their political geography. The countries are sorted into four categories. Those with difficult geographies are Brazil, Argentina, and Colombia. Those with hinterland geographies are Paraguay and Peru. Those with favorable geographies are Bolivia, Chile, Costa Rica, Mexico, Uruguay, and Venezuela. (see Table 2)<sup>17</sup> The discussion below sheds some

---

<sup>14</sup> The data used was from national censuses and official statistics. The data represents population as of the following years: Argentina 1869, Bolivia 1831, Brazil 1872, Chile 1854, Colombia 1918, Costa Rica 1864, Mexico 1895, Paraguay 1972, Peru 1876, Uruguay 1860, and Venezuela 1857.

<sup>15</sup> The data sources and methods used are collected in the Appendix. Due to a lack of population density data in the original sources, densities are often calculated from populations from one census and regional areas from a later census. Clearly this is a source of error, but the size of this error is unclear. Raw data, records of the calculations and potential sources of error will be on my website at [www.people.fas.harvard.edu/~soifer/LASAdata](http://www.people.fas.harvard.edu/~soifer/LASAdata).

<sup>16</sup> Since Centeno does not include Costa Rica as one of his cases, railroad development data for it was located in official government sources.

<sup>17</sup> Due to the absence of census data before 1950, Ecuador could not be classified, and is the only major South American country excluded from the sample.

light on how classification was made, and is intended to complement the maps created with the census data, which are included at the end of the paper (not available with the electronic version of the paper).<sup>18</sup>

**Table 2:** Classification of Countries by Geographic Category

<b>Difficult</b>	<b>Hinterland</b>	<b>Favorable</b>
Brazil	Paraguay	Bolivia
Argentina	Peru	Chile
Colombia		Costa Rica
		Mexico
		Uruguay
		Venezuela

**Difficult geographies:**

*Argentina:* Argentina was classified as a country with difficult geography. While nearly 30% of the country’s population was concentrated in Buenos Aires, and adjoining provinces in the 1869 census, approximately 15% of the population was located in the provinces of Tucumán and Santiago del Estero. The presence of two centers of population density which are geographically separated was further exacerbated by the fact that a series of northern interior provinces: Córdoba, Santa Fe, and Corrientes also had fairly high population densities. This reality is reflected in the regional compromises between the interior and Buenos Aires which underlay Argentine federalism.

*Brazil:* Brazil was classified as a country with difficult geography. 15 of its 24 provinces have population densities above the national average in the 1872 census, meaning that the population was fairly widely distributed. The most densely populated areas fall in two geographically distinct regions: the Rio de Janeiro area (Rio de Janeiro state and the Distrito Federal), and the Northeast (Ceara, Pernambuco, Sergipe, Alagoas and Paraíba states). The Amazon area in the west (Amazonas, Mato Grosso, Goiás, and Acre states) is the least populated, but the south (Rio Grande do Sul, São Paulo, Santa Catarina states) is relatively densely populated (above the national average in these states). Again, the difficult geography with which Brazil’s leaders have had to grapple underlies the origins of Brazilian federalism just as in the Argentine case. The complicated geography also underlies the move of the capital to Brasilia in the 1960s, which was part of an explicit effort by the Kubitschek government to spread the population further into the interior of the country, and to undercut the rivalry between the traditional political centers of the country.

*Colombia:* Colombia was classified as a country with difficult geography. Using the 1918 census (unfortunately the earliest one for which significant data was available), 15 of the 24 regions have population densities above the national average. The most densely populated areas are concentrated in several areas: the capital region (the intendencia of San Andrés y Providencia, and the departments of Cundinamarca and Caldas), the Cartagena area (the department of Atlántico), and the other traditional centers of authority in the country, the valleys of Santander and Antioquía. 9 departments and the capital region have population densities more than double the national average. The six

---

<sup>18</sup> Due to technical problems with the maps, they cannot be included in the document. I will provide them at the conference, and will post them at my website after September 15 (see footnote 15 for website address).

least densely populated regions (Caquetá, Meta, Arauca, Vichada, Vaupes, and Amazonas) make up more than half of the national territory. Thus, while competition between politicians from the regional centers of power has dominated party politics, parts of the country remained essentially empty. This regional fragmentation underlies much of the political history of Colombia. Arguably, it is characterized by the most difficult political geography of any country in the region.

### **Hinterland geographies:**

*Paraguay:* Paraguay was classified as a hinterland country. Like Herbst's hinterland cases, this means that a large portion of the national territory was essentially empty, with the population concentrated in a small corner of the country. In the Paraguayan case<sup>19</sup>, the densely populated regions of Capital, Central and Cordillera, which contain over 25% of the population, make up approximately 2% of the national territory. Other fairly densely populated regions (Guaira, Paraguari, Itapua), also in the south of the country, contain another 20% of the population in 6% of the national territory. This concentration of population in the southern area of the country is in stark contrast to the empty north. The 48% of the national territory which made up the states of Boquerón, Olimpo, and Presidente Hayes was populated by less than 3% of the national territory. This vast empty region was even more remote in the 1886 census, which showed that the largest town it contained had only 886 residents. This vast hinterland in the north of the country is much emptier than northern Mexico or the lakes region of Chile, which are better described as unpopulated regions within a favorable political geography.

*Peru:* Peru was classified as a hinterland country. Unlike Paraguay, the only other hinterland country in this sample, Peru has a much larger region with dense population: the north coast. However, like Paraguay, it contains a vast empty region; in this case the districts of Amazonas, San Martín, Ucayali, Loreto, and Madre de Dios. These nearly empty regions make up approximately half of Peru's national territory, while they contained (as of the 1876 census) only 100,000 people, or less than 4% of the population. The most densely populated region of the country (the capital and the adjacent north coast states of Lima, Ancash, La Libertad, and Lambayeque) contain in less than 10% of the national territory over 30% of the population. When the northern state of Cajamarca and the mountain states of Apurímac, Huancavelica, and Junin immediately west and south of Lima are added, this contiguous region contains 60% of the national population. The rest of the mountain region is fairly evenly populated at the regional level, though it contains the important urban centers of Arequipa, Cuzco, and Puno. The Peruvian case highlights the vulnerability of this classification method to levels of aggregation. (see 'Data' in the Appendix) Clearly the same data at a lower level of aggregation would suggest a different finding, as these urban centers became prominent. At the currently available level, however, Peru is classified as a hinterland country.

---

<sup>19</sup> Paraguay has the most data problems of any countries in this study: the results here are drawn from the census of 1972. Earlier censuses (1886) cannot be matched up with contemporary maps, but suggest that population distribution has not changed substantially across state lines. This does not discount the rush of urbanization in the country during the mid-20<sup>th</sup> century, which is reflected in the census of 1972. I believe, however, is that the results would not have been significantly different: the capital region did not grow at the expense of the Chaco or other remote regions, but at the expense of smaller towns in closer proximity to the capital.

**Favorable geographies:**

*Bolivia:* Bolivia was classified as a country with favorable geography. In the 1831 census, five of Bolivia's nine departments had population densities between 1.5 and 3.75 persons per square kilometer. In order of population density, these were Cochabamba, La Paz, Oruro, Chuquisaca, and Potosí. These five areas are all contiguous, consisting of the Andean portion of the country. The lowland portion of Bolivia (consisting of the departments of Santa Cruz, El Beni, and Pando) and the southern highland regions of Tarija and El Litoral<sup>20</sup> had much lower population densities, ranging from 0.06 to 0.2 persons per square kilometer. While this suggests that Bolivia might be better characterized as a hinterland country, the fact that the densely populated regions make up a third of the national territory supports its classification as a favorable country. Comparing the Bolivian and Paraguayan cases, for example, highlights this difference (see above). Again, Bolivia could potentially be re-classified if data at a lower level of aggregation was available.

*Chile:* Chile was classified as a country with favorable geography. The 1854 census shows that eight of the fourteen regions which existed at the time had population densities higher than the national average. The four most dense regions (Valparaiso, Maule, Colchagua, and Santiago) were contiguous, and the regions surrounding them (Aconcagua and Ñuble) were also fairly dense. The remote south (Arauco, Valdivia, and Llanquihue) and north (Atacama) were fairly empty, but these regions made up only about 10% of the national territory. Thus, Chile closely approximates the concentric circle pattern which characterizes favorable political geographies for Herbst: population density declines consistently proportional to distance from a single center. It is interesting to note, however, that data for the regions south of Arauco, controlled by the Araucana, are not even collected. Thus despite a favorable population distribution, Chile faced more obstacles to consolidation of state authority than most countries in the 19<sup>th</sup> century.

*Costa Rica:* Costa Rica was classified as having a favorable geography. This was due to its small size: it is one fourth the area of the next smallest country in the region (Uruguay), and even further below the average country size in the sample. Herbst's category of small countries was predicted to behave like those with favorable geography. In addition to being small, 3 of the Costa Rica's seven regions (San Jose, Cartago, and Heredia) have population densities above the national average, making up a contiguous region which covers over one fourth of the national territory.

*Mexico:* Mexico was classified as having a favorable geography. In the 1895 census, 17 of Mexico's 30 states had populations above the national average, which suggests a fairly normal distribution of population. This impression is reinforced by the spatial distribution of the population, which highlights the prominence of Mexico City. The five most densely populated states in the country (all well below the density of the Federal District) were all in the capital region: Tlaxcala, Guanajuato, Mexico, Puebla, and Queretaro. Further from the center, the population density decreases with distance from the capital. The second tier in population density are the states of Jalisco, Michoacán, Aguascalientes, Morelos, Veracruz, and Hidalgo, all of which are near the capital.

The least densely populated regions are along the border with the United States: Coahuila, Chihuahua, Sonora, and Baja California states. These states, which all had

---

<sup>20</sup> El Litoral was lost to Chile in the War of the Pacific in 1883.

population densities lower than one fourth of the national average, make up 37% of the national territory. This large empty region was probably even more striking before the loss of a large territory to the United States. This suggests that the location of earlier census data for Mexico would have led to its reclassification as a hinterland country. Compared to Chile for example, the large empty regions of Mexico appear unfavorable. However, they are much less significant than those in Paraguay or Peru, which are classified as hinterland geographies.

*Uruguay:* Uruguay was classified as having a favorable geography. Other than Costa Rica, it is the smallest country in the sample. Of the 12 regions in the 1860 census, 5 had population densities higher than the average, while seven had lower densities, suggesting a fairly normal distribution of population. Approximately 25% of the population lived in the capital district of Montevideo, and 50% in the capital and the departments of Maldonado, Canelones, and La Colonia, which cover 8% of the national territory. Apart from this particularly dense area, the population was fairly evenly (if sparsely) distributed over the rest of the country. While this description suggests that Uruguay can be characterized as a hinterland country, its small size mitigates this factor, and leads me to classify it as having a favorable population distribution.

*Venezuela:* Venezuela was classified as having a favorable geography. The 1857 census showed that the states of Apure and Bolívar, which together made up nearly 45% of the area of the country, contained only 6% of the population. These territories (now including the state of Amazonas, which was part of Bolívar state) have been the focus of continuous efforts by the state to draw population into the national interior. While these states suggest that Venezuela should be characterized as a hinterland country, the distribution of population in the rest of the country is more consistent with the concentric pattern of the favorable geographies. The most heavily populated areas: the states of Carabobo, Yaracuy, and Miranda near the capital and the islands which make up Nueva Esparta, contain over 25% of the population in 3% of the national territory. Surrounding these states, the significant population centers in the states of Cojedes, Aragua, Lara and Trujillo to the south and west of Caracas and the states of Sucre and Anzoátegui to the east and south are fairly densely populated. Further afield, the concentric pattern continues until the remote interior states are reached, which are relatively empty. While it has some characteristics of a hinterland country, Venezuela most closely resembles a hinterland state. In a larger sample, it might be considered a neutral country and left out of the study on those grounds. For this preliminary study, however, it was included.

## **Results and Discussion**

The prediction of Herbst's model is that those in the first two groups (difficult and hinterland) will have a significantly lower railroad density than those in the final group, which included those countries with favorable geographies. A difference of means test shows that the results are not significant, which is not surprising with samples of this small size. However, the mean density of railroads in the countries with difficult and hinterland geographies is one third that of those with more favorable geographies: the difference of means test finds that the mean railroad density of hinterland and difficult countries was 2.07km of track per /1000sq. km., while that of the favorable countries was 6.48.<sup>21</sup> This lends credence to the view that Herbst espouses: that the distribution of

---

<sup>21</sup> The standard deviations are too large for this to be significant, due to the small size of the sample.

population in the national territory affects the calculus of provision of transportation infrastructure, and thus the extent to which state power can penetrate the peripheral regions of the national territory. One might conclude from the results of this statistical test that states in countries such as Peru and Brazil (in the hinterland and difficult categories, respectively (see Table 2) had limited exercise of power over their national territories because the state leaders decided that it would not be worth the costs it would incur to extend this power. A glance at the historical record, however, shows that this was simply not the case.

Herbst's study relies on a rational actor framework, in which state actors choose not to undertake state development if the costs outweigh the benefits. Using road building to measure state development, he shows that the most building has taken place under the most favorable conditions of political geography, and that those countries with more difficult political geographies have undertaken little in these terms. The empirical record, however, shows many fits and starts and failed development efforts throughout Latin America, not the absence of development efforts in countries which faced unfavorable geographies. What we need is an explanation for *why some state development efforts succeed and fail, not why states do not try to develop*. Historians of any country can point to attempts by state leaders to increase the reach of the state – thus an account of state development must explain variation by explaining success and failure of development efforts rather than incentives to limit infrastructure development.

Motivated both by ideological currents widespread in the region at the time, and by practical concerns of responding to the post-independence political and economic crisis which they confronted, Latin American leaders throughout the region responded with efforts to strengthen the state and expand its reach from the capitals into peripheral regions of the country. By increasing the power of the state in these areas, leaders hoped to secure political stability and economic development, as well as what they often described as 'progress': the introduction of modern European values into a population which was often mostly indigenous. In some countries (most notably Chile) this process saw dramatic success, while in others, such as Peru, the course of the late 19<sup>th</sup> century saw a series of attempts at increasing state power, which had limited long-term effect. Thus, the discrepancy in transportation density between Peru and Chile, only one of several manifestations of the gap in state power between the countries<sup>22</sup>, was the result of failed efforts to expand the transportation network in Peru rather than a decision that this was not worth pursuing.

### **Acknowledging and Explaining Failed State Development Efforts**

Chile and Peru saw the construction of the first railroads in South America, as lines in both countries were inaugurated in 1851. The first Chilean railroad ran 81km, connecting the mining town of Copiapó to the port of Caldera in the Chilean north. Three months

---

<sup>22</sup> In my dissertation, in addition to transportation infrastructure, I examine a series of other indicators of state power: primary education, tax collection, police presence, and composition of the military. These factors combine to produce a measure of state presence throughout the national territory which can be used to show exactly where O'Donnell's 'brown areas' exist, and where the state can actually exercise authority over the population. I show that a significant gap between Peru and Chile emerged by 1900 (indeed, before the War of the Pacific), and explain why gap has remained wide throughout the 20<sup>th</sup> century despite political and economic crisis in Chile and despite efforts at the development of state power by various governments in 20<sup>th</sup> century Peru.

earlier, Peru saw its first railroad open for service. These regional pioneers, who entered the new Iron Age together, saw their paths diverge dramatically over the next several decades.

Over the course of the next twenty years, Peru enjoyed one of the greatest fiscal bonanzas in the history of Latin America, as revenue from the export of guano from islands off the Peruvian coast provided the government with large revenues collected without impositions on the population. This revenue prompted a consensus within Peru that the money should be spent on national development: the guano, used for fertilizer abroad, should also enable economic growth and social 'progress' at home. Many saw railroads as the way to do this. Manuel Pardo was not the first, but only the most notable personage to argue that the guano revenues should be spent on railroad development. In his 1860 'Estudios sobre la Provincia de Jauja', Pardo wondered why Lima was importing wheat from Chile when the fertile valleys of this region, located in the *sierra* to the east of Lima, could provide for the market in the capital. What was missing was a transportation network which would tie the country together, allowing products from Peruvian producers to be consumed by Peruvian consumers. Pardo became president several years later, and kicked off an era of massive railroad building in the country, beginning construction on eight lines which would connect most of the important centers of the country (Contreras and Cueto 1999, 120-4). Overall, Shane Hunt (1974) has calculated that railroads absorbed 20% of the Peruvian receipts from the sale of guano contracts to foreign firms.

Of the eight trunk lines begun under Pardo's administration, two were finished, partly because of economic crisis, partly because of political instability, and finally because of the war with Chile. Thus, the limited network of Peruvian railroads by 1900 cannot be ascribed to the decision of political elites not to develop transportation into the interior, but to the failure of the development efforts. These development efforts foundered in a climate where power changed hands constantly and governments faced domestic threats to their rule on an annual basis.

Chile, on the other hand, saw political stability during this period. While Chilean leaders did not have access to the huge revenues of the guano trade as did their Peruvian counterparts, they had sufficient revenue, generated mainly from customs duties imposed on both imports and exports. These revenues allowed the Chilean railroad network to develop steadily throughout the mid 19<sup>th</sup> century, and the nitrate bonanza of the Chilean north after the War of the Pacific led to massive development of public works. Thus the gap in railroad development between Peru and Chile by 1900 reflects the Chilean nitrate boom and the collapse of the Peruvian economy in the 1880s to some extent. However, a similar gap can be seen before the War of the Pacific.

The question of interest, then, is why similar efforts to develop state power (including transportation infrastructure) succeeded in Chile and failed in Peru. I suggest that the answer to this question is political rather than structural. A structural explanation would turn to factors such as geography, population density, or resource availability to explain the failure of state development in Peru. However, these explanations are not convincing when the empirical reality is confronted: Chilean railroads, too, were some of the most costly to construct in the history of this technology (Thomson and Angerstein 2000), as they traversed large deserts and difficult topographies in the north, and included some of the largest river bridges ever built in the south. Thus, geography represented a

serious challenge in both countries, and yet by 1916, only seven towns with a population of 2000 or more did not have their own railroad station. (ibid., 24) Peru and Chile both had sufficient resources to undertake the development of railroads in the second third of the 19<sup>th</sup> century: Peruvian governments enjoyed the fruits of the guano boom, while Chilean governments made do with revenues from import tariffs and export taxes collected from a declining mining sector.

Thus, there is no significant difference between the countries in structural terms. In political terms, however, the countries could not look more different. While between 1841 and 1881, Chile had only 5 Presidents, all of whom completed either one or two five year terms, Peru saw much more political turmoil. This political instability had a dramatic effect: while all of the leaders who came to power in Peru agreed on the ends of 'sowing the guano wealth', the means were different. And in a jumble of unenforced legislation contradicting that issued by a previous short-lived government, Peruvian prosperity was squandered, and the state did not develop.

Herbst's model is an important step toward understanding state development because it provides an explanation for variation across cases. At first glance, it seems applicable in Latin America because the statistical evidence supports it. However, this is not sufficient grounds for accepting its validity. The causal mechanisms of Herbst's theory, like any social science explanation, must fit the cases to which it is applied: correlation should not be enough for us to accept the validity of a theory. In the African context, Herbst addresses this by tracing a political history stretching back to the Berlin Conference to show that the weak states were the result of decisions made by state elites not to expend the costs necessary to extend authority over the national territory. In the Latin American context, state leaders had very different ideas, wanting to develop the infrastructural power of their states with political, economic, and social ends. Since they were making a different set of calculations than Herbst's African leaders, his model should not be applied to our region.

The failure of state development in Latin America must be seen as precisely that; a failure. Any explanation of state development in Latin America must address explanations for failed development efforts. A new model must be developed which builds on Herbst's insights about the different incentives and challenges facing leaders of individual countries while accounting for the vagaries of state building efforts in the historical experience of the developing world. This model must weigh both structural conditions and the nature of domestic politics in constructing an explanation for state development. Combining historical and constant causes, an explanation of variation in state development will shed light on a wide range of concerns in the study of historical and modern Latin America.

### **Appendix: Data Issues and Other Concerns**

*Geography and Roads:* It is also unclear that geography would provide a significant explanation for elements of state development other than transportation and communication technology. Herbst argued that geography was an important factor in the calculation of state utility in the extension of authority across distance. Other axes of this authority which reflect the growth of state infrastructural power seem to depend less on the spatial distribution of population in the national territory. Would Herbst's test have worked in the African context had he used a measure of state development such as the

spread of primary education? There is no reason to think that the spread of primary education is affected by the distances from the capital: the fixed cost of training teachers, designing curricula, issuing textbooks, etc. must be much higher than the variable costs of the distribution of these goods throughout the territory. A model which claims to explain variation in state development across countries must be able to explain variation for a variety of indicators of state development. Barring that, it must pick the indicator which poses the hardest test. Using roads to operationalize state development in a model in which geography is the independent variable does not meet this criteria. If Herbst's model holds up using other measures of state development, only then can it be considered convincing. Otherwise, one could argue that the conclusions reached are an artifact of the specification of the model.

*Data:* One problem with the available population data is that the number of subnational units coded varies drastically: in Bolivia, the census data is presented for nine departments, while in Peru, Colombia and Brazil, the number is nearly four times as high. Since the density of population within each subnational unit is not homogeneous, there is the possibility of an ecological inference error here. This means that subnational units with low population densities overall may in fact contain very dense pockets of population. Data at a less aggregated level, therefore, might show a different result and lead the country to be coded differently. This is most clearly the case in Bolivia, where the available census data only provided population densities for the country's nine departments. The three departments of Cochabamba, La Paz, and Oruro had the highest population densities. This, however, is the result of the fact that they contained several of the country's largest cities, which are surrounded by vast rural areas with very low population densities. Thus, if population density could be calculated at a sub-departmental level, the country would certainly move to a different category. This might be the case with Herbst's application of this method to African cases as well. If changing the level of aggregation at which population densities are recoded moves countries from one category to another, this raises serious questions about the validity of the model. It is only salvageable, I believe, if either a) countries do not move between categories when recoded at different levels of aggregation, or b) there is a *theoretically* (i.e. not based on available data) motivated decision of level of aggregation. Absent one of these factors, this problem of ecological inference threatens to undercut the significance of any results generated from this method.

*Topography:* A problem related to the reality of Latin American geography as well as data issues is also significant: while Africa is essentially one large plateau with few drastic elevation changes, Latin America is divided by a large mountain range (the Andes) which vastly complicates the calculus of transportation cost in many countries. Accounting for this is difficult. Since railroad data for 1900 is only available at this moment at the national level<sup>23</sup>, it is difficult to identify with any degree of certainty the importance of topography in this geographic argument. Nevertheless, certain preliminary conclusions can be drawn. A regression was performed on the railroad density data in

---

<sup>23</sup> In my dissertation, I have local-level data for the presence of railroads. Each district in both Peru and Chile can also be characterized in terms of the percentage of territory above a certain elevation, the difference between maximum and minimum elevation of settlements, and the elevation of the capital. This will allow a more disaggregated exploration of this relationship. That data has not been collected for all of the countries in this study.

Table 1 using a dummy variable for the Andes (I assigned a value of 1 to Colombia, Ecuador, Peru, and Bolivia, and 0 to all other countries). The results show that the presence of large mountains is significant in determining the extent of transportation infrastructure developed.<sup>24</sup>

This is an issue which needs much more exploration in order to tailor this model to a Latin American context with such complicated topography. As Centeno (2002, 163) writes: “The physical geography of the continent [Latin America] presented logistical and administrative obstacles only replicated in selected parts of Europe. [continues in footnote 200, p.163] One could even find a rough correlation between the success of state making in those regions and suitability of terrain. Certainly the plains of France made it easier to impose central authority than the mountains of southeastern Europe.” A simple statistical test suggests that this is the case: a regression with the presence of the Andes and population distribution as independent variables, and railroad density as the dependent variable. Both independent variables are signed in the correct direction, but neither is significant at the 95% confidence level (not surprising, given the small sample size). This model explains 39% of the variance in the sample.

## Bibliography

- Anuario Estadístico de la República de Chile* (1862: Santiago).
- Anuario Estadístico de la República Mexicana* (1896: Mexico City, D.F.).
- Anuario Estadístico de la República de Paraguay* (1886: Asunción).
- Anuario Estadístico de la República de Uruguay* (1884: Montevideo).
- Anuario General De Estadístico de la Controloría General de Colombia* (1946: Bogotá).
- Centeno, Miguel Angel (2002) *Blood and Debt: War and the State in Latin America* (State College, PA: Penn State Press).
- Coatsworth, John (1981) *Growth Against Development: The Economic Impact of Railroads in Porfirian Mexico* (Dekalb, Ill.: Northern Illinois University Press).
- Collier, David and Collier, Ruth B. (1991) *Shaping the Political Arena* (Princeton, NJ: Princeton University Press).
- Contreras, Carlos (2004) *El Aprendizaje del Capitalism: Estudios de Historia Económica y Social del Perú Republicano* (Lima: IEP).
- Contreras, Carlos and Marcos Cueto (1999) *Historia del Perú Contemporáneo* (Lima: Red para el Desarrollo de las Ciencias Sociales en el Perú).
- Deas, Malcolm (2002) ‘The Man on Foot: Conscription and the Nation-State in Nineteenth Century Latin America’ in Dunkerley, ed. pp. 77-93.
- Deutsch, Karl (1966) *Nationalism and Social Communication: An Inquiry into the Foundations of Nationality* (Cambridge, MA: MIT Press)
- Diaz Canseco, Ernesto (1929) *La Red Nacional de Carreteras* (Lima: Imprenta Torres Aguirre).
- Diez de Medina, Lucio (1927) *La Población de Bolivia* (La Paz).
- Direccion Generale de Statistique (1916) *Annuaire Statistique du Bresil 1908-1912*, vol.1

---

<sup>24</sup> The regression had the presence of Andes as the only independent variable, and railroad density as the dependent variable. The Andes dummy variable was significant at the 95% level and signed in the expected direction: it was associated with lower railroad density, and the  $r^2$  was .293.

- Dunkerley, James, ed. (2002) *Studies in the Formation of the Nation State in Latin America* (London: ILAS).
- Earle, Rebecca ed. (2000) *Rumours of Wars: Civil Conflict in 19th Century Latin America* (London: ILAS).
- Ertman, Thomas (1997) *Birth of the Leviathan: Building States and Regimes in Medieval and Early Modern Europe* (Cambridge: Cambridge Univ. Press).
- Fowler, Will (2000) 'Civil Conflict in Independent Mexico, 1821-1857: An Overview' Chapter 3 in Earle (2000), pp.49-86.
- Gerth, H. H. and Mills, C. Wright, eds. (1958) *From Max Weber: Essays in Sociology* (New York: Oxford University Press).
- Gootenberg, Paul (1989) *Between Silver and Guano: Commercial Policy and the State in Post-Independence Peru* (Princeton, NJ: Princeton Univ. Press).
- Gootenberg, Paul (1993) *Imagining Development: Economic Ideas in Peru's 'Fictitious Prosperity' of Guano, 1840-1880* (Berkeley: University of California Press).
- Gómez, Fernando 'Los Censos en Colombia antes de 1905' in Urrutia, Miguel, ed. (1970) *Compendio de Estadísticas Históricas de Colombia* (Bogotá), pp. 9-30.
- Grabendorff, Wolf (1982) 'Interstate Conflict Behavior and Regional Potential for Conflict in Latin America' *Journal of Interamerican Studies and World Affairs* Vol. 24 No. 3, pp. 267-294.
- Helleiner, Eric (1997) 'One Nation, One Money: Territorial Currencies and the Nation-State' ARENA Working Papers – [www.arena.uio.no/publications/wp97-17.htm](http://www.arena.uio.no/publications/wp97-17.htm)
- Helmke and Levitsky (2004) 'Informal Institutions and Comparative Politics: A Research Agenda' Forthcoming in *Perspectives on Politics*.
- Herbst, Jeffrey (2000) *States and Power in Africa: Comparative Lessons in Authority and Control* (Princeton: Princeton University Press).
- Izard, Miguel (1970) *Series Estadísticas Para la Historia de Venezuela* (Merida: U. de los Andes).
- Joseph, Gilbert M. and Daniel Nugent, eds. (1994) *Everday Forms of State Formation: Revolution and the Negotiation of Rule in Modern Mexico* (Durham, NC: Duke Univ. Press).
- Kapiszewski and Kazan, ed. (2002) *Encyclopedia of Latin American Politics*. (New York: Greenwood Press).
- Klarén, Peter (2000) *Peru: Society and Nationhood in the Andes* (New York: Oxford University Press).
- Knight, Alan (2002) 'The Weight of the State in Modern Mexico' in Dunkerley, ed. Pp. 212-253.
- Lewis, Colin (2002) 'The Political Economy of State-Making: the Argentine, 1852-1955' in Dunkerley, ed., pp. 161-188.
- López-Alves, Fernando (2000) *State Formation and Democracy in Latin America, 1810-1900* (Durham, NC: Duke University Press).
- Loveman, Brian (2001) *Chile: The Legacy of Hispanic Capitalism* 3<sup>rd</sup> Edition (New York: Oxford University Press).
- Maletta, Hector and Alejandro Bardales (198?) *Perú: Las Provincias en Cifras 1876-1981* Volume 1: Población y Migraciones (Lima: Universidad del Pacífico).

- Mallon, Florencia E. (1983) *The Defense of Community in Peru's Central Highlands: Peasant Struggle and Capitalist Transition, 1860-1940* (Princeton, NJ: Princeton University Press).
- Mallon, Florencia E. (1995) *Peasant and Nation: the Making of Post-Colonial Mexico and Peru* (Berkeley: University of California Press).
- Mamalakis, Markos J. (1976) *The Growth and Structure of the Chilean Economy: From Independence to Allende* (New Haven: Yale University Press).
- Mann, Michael (1984) 'The Autonomous Power of the State: Its Origins, Mechanisms and Results' *Archives Européennes de Sociologie* (vol. 25, pp. 185-213).
- McEvoy, Carmen (1994) *Un Proyecto Nacional en el Siglo XIX: Manuel Pardo y su Visión del Perú* (Lima: Pontificia Universidad Católica del Perú).
- Migdal, Joel S. (1988) *Strong Societies and Weak States: State-Society Relations and State Capabilities in the Third World* (Princeton, NJ: Princeton University Press).
- O'Donnell, Guillermo (1993) 'On the State, Democratization and Some Conceptual Problems: A Latin American View with some Glances at Post-Communist Countries' *World Development* Vol. 21 No. 8, pp. 1355-69. Reprinted in O'Donnell (1999), pp. 133-159.
- O'Donnell, Guillermo (1999) *Counterpoints: Selected Essays on Authoritarianism and Democratization* (Notre Dame, IN: University of Notre Dame Press).
- Pierson, Paul (2003) *Politics in Time: History, Institutions, and Social Analysis* (manuscript, Harvard University)
- Porter, Bruce (1994) *War and the Rise of the State* (New York: The Free Press).
- Scott, James C. (1998) *Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed* (New Haven, CT: Yale University Press).
- Skuban, William Eugene (2000) *Nationalism and National Identity on the Peruvian-Chilean Frontier: the Case of Tacna and Arica, 1880-1930* (Ph.D. Dissertation, University of California at Davis).
- Spruyt, Hendrik (1994) *The Sovereign State and its Competitors* (Princeton NJ: Princeton University Press).
- Tilly, Charles (1992) *Coercion, Capital and European States Ad 990-1992* (London: Blackwell Publishers).
- Tilly, Charles, ed. (1975) *The Formation of National States in Western Europe* (Princeton NJ: Princeton University Press).
- Vaughan, Mary Kay (1997) *Cultural Politics in Revolution: Teachers, Peasants, and Schools in Mexico, 1930-1940* (Tucson: University of Arizona Press).
- Walker, Charles F. (1999) *Smoldering Ashes: Cuzco and the Creation of Republican Peru: 1780-1840* (Durham, NC: Duke University Press).
- Weber, Eugen (1976) *Peasants into Frenchmen: the Modernization of Rural France 1870-1914* (Stanford, CA: Stanford University Press).
- Yashar, Deborah (1999) 'Democracy, Indigenous Movements, and the Postliberal Challenge in Latin America; *World Politics* v.52 #1 pp. 76-104.