Abstract

Using original datasets based on archival research, I demonstrate that Argentina’s oligarchy invested heavily in a system of free, public primary schools and was extremely successful in increasing educational enrollments and reducing illiteracy throughout the country. These efforts included substantial subsidies to poor, rural areas in particular — areas that experienced the greatest educational gains in this period. I argue that the oligarchy’s commitment to free public education was part of a larger liberal project in which liberal elites made a deliberate attempt to refashion Argentina’s political and economic institutions, as well as its social composition, to match those of the United States and Europe. The liberal project is best understood as a strategy the oligarchs devised in order to prevent a relapse to the dictatorships that plagued the Argentine provinces through 1853. Specifically, subsidies to rural provinces constituted an incentive for provincial governors to behave themselves in the short run. Investments in education, however, were a long-run strategy to reshape the electorate.
1 Introduction

What are the origins of public education? What are its main drivers? A standard answer among economic historians and political scientists is that democracy drives public schooling (Lindert 1994, 2004; Stasavage 2005; Brown and Hunter 2004; Go and Lindert 2010; Mariscal and Sokoloff 2000; Engerman, Mariscal and Sokoloff 2009; Gallego 2010; Ansell 2010). The intuitively appealing idea is that democracy spreads political voice beyond an economic elite and thus empowers a broader swath of the population to vote for redistributive spending on public schooling. A basic challenge for this literature is that although a contemporary cross-section of countries reveals a positive correlation between democracy and education, from a historical perspective, it turns out that the origins of public schooling among many of the educational leaders predates democratization by a significant amount of time; Japan, Austria, Germany, Denmark, the Netherlands, Norway, and Sweden are several key examples noted as exceptions (cf. Lindert 2004; Mariscal and Sokoloff 2000). That is, there are many cases in which education takes off in non-democratic contexts. Any accounting of the fundamental causes of educational expansion should be able to account both for the timing as well as the mechanism for the rise of public schooling.

In this paper, I offer an alternative explanation for the growth of public schooling as a means of nation-building, using historical evidence from Argentina since 1862. Using original datasets based on archival research, I demonstrate that Argentina’s oligarchy invested heavily in a system of free, public primary schools, that their efforts included substantial subsidies to poor, rural areas, and that the oligarchy was extremely successful in increasing educational enrollments and reducing illiteracy throughout the country. Using time-series, province-level data, I also show that schooling in the poorest provinces
depended fundamentally on the oligarchic political coalition: ironically, the schooling expansion in the poor, interior provinces ended abruptly in 1912, the year Argentina transitioned to electoral democracy.

My argument is in three parts. First, I link the origins of nation-building to the evolution of global markets. Specifically, I argue that the increasing opportunities for international trade circa 1840 increased the incentives for geographically distinct political regions (the Argentine Provinces) to create a set of national institutions. In the absence of national institutions, fundamental policies regarding tariffs, access to rivers and ports, and the distribution of customs revenues could not be settled.

Second, I argue that the viability of national institutions rested on the eradication of regional warlordism in the provinces. This is because the provincial governors (i.e. the regional warlords, or caudillos) had both the incentive and the ability to renege on promises to abide by national agreements, especially those having to do with international trade. Drafting a constitution, in other words, was not sufficient for creating self-enforcing national institutions; this deeper step required undermining both the incentive and the ability of regional warlords to defect.

The third and final piece of my argument is that public schooling emerged as a fundamental piece of the strategy intended to undermine regional warlordism and replace it with national, liberal institutions instead. This functioned through two mechanisms: in the short run, public schooling involved extensive transfers from the national government to the provinces as an inducement to remain in the oligarchic coalition. In the long run, schooling served to change the social structure in the provinces. Merely eliminating particular caudillos was insufficient, since there was nothing preventing a successor caudillo from taking his place. In order to prevent the recurrence of warlordism, the conditions under which it is sustainable needed to be changed.
This paper contributes to several literatures. First, the literature that links democracy and education tends to emphasize class-based redistribution as the fundamental characteristic of public schooling, and thus focuses on democracy as the mechanism for achieving transfers from rich to poor through the political system. Instead, I emphasize the regional/geographic aspect of redistribution, from the wealthy center to the poorer periphery in the process of nation-building. Geographic redistribution is an important phenomenon, yet it tends to be overshadowed by class-based redistribution in most analyses.

Second, a prominent literature on the economic bases of regime type conceives of autocracy as a regime in which wealthy elites are unified against the poor (e.g. Acemoglu and Robinson 2001, 2006; Boix 2003). In this conception, redistribution under autocracy occurs only as a response to revolutionary threats from below. In contrast, I emphasize that autocracies are riddled with intra-elite conflict, and that such conflict can generate substantial redistribution that ends up benefiting the poor, even in the absence of pressure from below. In the Argentine case, elite splits along regional lines led to massive redistribution from the wealthy, yet numerically smaller Buenos Aires to the poor, yet numerically powerful interior. In the process, Argentina’s oligarchy built the most successful system of public elementary schools in Latin America.

The paper proceeds as follows. First, I situate this paper within extant research on the emergence of public schooling. Second, I spell out the theory linking trade to the evolution of national institutions, and ultimately to the emergence of public schooling. Third, I provide evidence that is consistent with the theory. I establish that Argentina’s oligarchy did, in fact, invest substantial resources in creating a system of free public schooling; that public schooling under the oligarchy required extensive transfers from the national government to the provinces (especially the poor, interior provinces); and
that this effort was extremely successful in raising enrollment rates and reducing illiteracy throughout the country. I also show that the schooling expansion in the poorest, interior provinces ended abruptly in 1912, the year Argentina transitioned to electoral democracy. I end with a discussion of implications and next steps for future research.

2 Literature Review

2.1 Democracy and Education

Cross-sectional and pooled analyses Cross-sectional empirical research on the democracy-education link has turned up mixed results. Lake and Baum (2001) provide cross-sectional evidence that democracy is associated with an increase in primary school enrollment, a reduction in average class size in primary schools, and a reduction of adult illiteracy. Brown and Hunter (2004) find that democracies feature more education spending than autocracies in a panel of 17 Latin American countries, 1980-1997. Mulligan, Gil and Sala-i Martin (2004), however, find that democracy is not correlated with education expenditures in a cross-section of roughly 100 countries, with observations averaged over various periods since 1960.

Fixed-effects analyses A major limitation of cross-sectional studies, of course, is the threat of omitted variables in the form of country characteristics that are fixed or slow to change. Several works deal with this by employing within-country estimators that control for country-specific fixed effects. Employing fixed-effects regressions in a sample of 128 countries over a 30-year period, Baum and Lake (2003) find that democracy increases secondary enrollments among females. Stasavage (2005) finds that multiparty competition increases education spending on primary schools in a panel of African countries,

Employing country fixed-effects puts this second group of studies on firmer empirical footing. Nevertheless, these studies too rest on a set of strong assumptions. Specifically, that they have accounted statistically for time-varying factors within countries that might be correlated with both democracy and education. Yet it is quite plausible to think that unobserved political and economic processes are unfolding in the background, driving both changes in the level of democracy as well as changes in public schooling investments. Or perhaps that changes in schooling are driving the emergence of democracy over time.

**Historical approaches** To address these issues, a longer-term historical perspective is required — one that accounts for the sequencing of events, and that takes into account the historical evolution of political, economic, and schooling institutions. Mariscal and Sokoloff (2000) and Engerman, Mariscal and Sokoloff (2009) build on the factor endowment thesis of Engerman and Sokoloff (1997) and Engerman and Sokoloff (2002). Based on evidence from the historical trajectory of New World economies, 1895–1945, they argue that initial factor endowments affected wealth equality; relative equality led to democratic institutions, which ultimately led to greater investments in infrastructure and human capital.

Peter Lindert has offered extensive historical evidence on the link between democracy and education (1994; 2003; 2004), comparing the trajectories of public schooling both across and within countries over time. Lindert’s explanation for the rise of public schooling emphasizes the complementary role of decentralization in shaping both the timing and the geographic spread of public schooling across low- and high-demand areas within
countries.

Focusing on the U.S. case, Claudia Goldin and Lawrence Katz argue that American schooling was propelled by a complex set of virtues that were in place by the time of the Civil War. These virtues included “public provision by small fiscally independent districts, public funding, secular control, gender neutrality, open access, a forgiving system, and an academic curriculum” (Goldin 2001; Goldin and Katz 2008). Focusing on the pre-Civil War era, Go and Lindert (2010) show that local democracy was an especially important virtue in explaining the particular success of the Northern United States.

2.2 Colonial Origins and Education

Emphasizing the importance of colonial origins, Gallego (2010) builds on Acemoglu, Johnson and Robinson (2001) in explaining the origins of schooling. He finds that local democracy is particularly important, a finding consistent with Go and Lindert (2010). Colonial origins, of course, do not have to affect schooling through democratic institutions in particular. Iyer (2010) shows that direct versus indirect British rule affected schooling access by altering the quality of governance. Within the context of direct British rule, caste and religious diversity at the local level, moreover, seem to have had further deleterious effects on basic educational outcomes Chaudhary (2009).

As Martínez-Fritscher, Musacchio and Viarengo (2010) show, however, colonial origins are not destiny. Using the case of Brazil, 1889–1930, they demonstrate that a commodity boom increased state-level export revenues as well as education expenditures and outcomes.¹ As in the current paper, Martínez-Fritscher, Musacchio and Viarengo argue that non-democratic governments can have strong incentives to invest in basic

¹I thank Aldo Musacchio for sharing preliminary drafts of the paper with me and for insightful conversations on these issues.
public schooling, point to intra-elite competition as a major part of the explanation, and link trade shocks to changes in schooling investments and outcomes. The Brazilian case, however, demonstrates that trade revenues increased schooling investments at the state level through existing political institutions at the national level. The Argentine case demonstrates a different mechanism, in which trade creates a strong incentive to fundamentally alter the institutions themselves, and in which public schooling emerges as one strand of the new institutional equilibrium.

2.3 Alternative Accounts of State-Building and Education

I am not, of course, the first to claim that states pursue public education as part of the nation-building process. Much of this literature, however, has focused on the role of education in spreading a specific ideology or a national culture. Weber (1976) provides the classic account using the French case. Newland (1994) argues that in Latin America, 1900–1950, public schooling was a means by which powerful central governments sought to create a homogeneous culture within their national boundaries. Lott (1990; 1999) argues that education is adopted as a technology for lowering the costs of producing the government transfers needed to build coalitions.

In contrast, I focus on two other dimensions of the political economy of public schooling. First, I focus on public schooling as a means of undermining the political economy of dictatorship and enabling alternative political equilibria. Second, I focus on the ways in which schooling can serve to unite a geographically fragmented set of regions into a single political entity via regional redistribution (rather than through creating linguistic, ethnic or cultural homogeneity). The Argentine case, in this sense, holds a unique advantage over cases like France, in which it is difficult to distinguish the geographic explanation from a cultural-linguistic one. In the French case, culture and language vary
fundamentally across geographic regions. Since there is a strong correlation between
culture and language on the one hand and geographic region on the other, culture and
regions are potentially confounded. In the Argentine case, in contrast, cultural-linguistic
diversity does not map fundamentally onto geographic region, thus allowing us to test
the two explanations separately.

3 Argument

The political economy of Argentina between 1810 and 1850 was characterized by regional
dictatorship, armed conflict, a rudimentary economy (of which cow hides and salted beef
were the primary products), low GDP per capita, a rural population, and low levels of
human capital. By 1900, Argentina’s political economy was characterized by a unified
national government run by a coalition of liberal oligarchs, a greatly expanded and
diversified economy, high GDP per capita, a largely urban population, and high levels of
human capital. I argue that public schooling emerged as one important component of
this deep shift in Argentina’s political economy.

This characterization of public schooling as being one component of a more complex
equilibrium has two implications. First, it implies that schooling is endogenous to these
other facets of Argentina’s political economy. Second, it implies that in order to locate a
fundamental cause of public schooling, we need to look for an exogenous source of change.
I argue that the increasing opportunities for international trade pushed Argentina from
the equilibrium of regional warlordism, a primitive economy, and low human capital to
the equilibrium of a national oligarchy, a relatively developed economy, and high human
capital.

Thus, there are two parts to the argument. The first seeks to explain the incentives
of an oligarchic government to provide public schooling in the absence of (democratic) institutions such as mass suffrage, which we often think of as a necessary link between citizens preferences and public policies. This part of the theory emphasizes the importance of intra-elite conflict, geographic redistribution and the social conditions under which various political institutions are viable. The second part of the theory tackles the question of institutional change over time. That is, it deals with the *exogenous* factor that spurred the process by which Argentina’s institutions evolved from a loose confederation of warring provinces run by dictators to a unified nation run by a liberal oligarchy? Here, the role of international trade takes center stage. In the remainder of this section, I elaborate both parts of the theory, with specific reference to the Argentine case.

### 3.1 The Political Economy of Dictatorship in Argentina

The Wars of Independence (1810–1820) that ended Spanish control over the territory we now call “Argentina,” were followed by decades of internecine civil war among the Platine provinces, the outcome of which was “the rise of regional warlordism or *caudillismo,*” in which each province was ruled by an autocratic governor, or *caudillo* (Rock 1987 pg. 80). Juan Manuel de Rosas, the archetypical *caudillo* of this era, ruled the province of Buenos Aires from 1829 to 1852 as its governor, with dictatorial powers conferred by plebiscite.

The civil wars among the provinces were fueled largely by economic issues, and trade in particular. Trade disputes centered on three issues: provincial tariffs, trade access to the Paraná river for the Littoral provinces (particularly Santa Fe and Entre Ríos), and the distribution of customs duties from the port city of Buenos Aires (Rock 1987). The latter two issue were the most explosive and reveal the importance of the region’s natural geography, which endowed the province of Buenos Aires with control over the
region’s only natural deep-water harbor and major port, as well as control over access to the Paraná river (see Figure 1). Whoever controlled the port city of Buenos Aires, controlled access to trade and all revenues deriving from trade.

The essence of the game, then, is that you have multiple regions, each led by a dictator with a standing army. One of these regions (Buenos Aires) has a natural advantage due to its control over trade. It would prefer to remain independent (i.e. not to cooperate with the other provinces), but this chokes off economic growth in the remaining regions (the provinces), all of whom have the option of using force to regain access to trade.

Inefficient Solutions under Dictatorship  One obvious solution requires all-out war, with the end result that either the provinces defeat Buenos Aires or the other way around. This, in fact, was attempted multiple times, but never succeeded. The caudillos of Santa Fe, Entre Ríos and Corrientes (the three Littoral provinces) jointly defeated, but did not conquer, the province of Buenos Aires in the Battle of Cepeda (1820). They set their terms to require free river navigation and free commerce (Rock 1987 pp. 93–94). Enforcing these terms proved difficult, however, especially as the members of the coalition turned on one another. Within a year, Buenos Aires resumed its blockade, and reasserted its monopoly over trade. Intermittent conflict ensued for the next 60 years, including the Battle of Caseros (1852) in which Rosas was deposed, the Battle of Cepeda (1859) in which Buenos Aires was again defeated, and the Battle of Pavón, in which Buenos Aires claimed a marginal victory. Never was one side able to completely dominate the other militarily.

2If the description of the caudillos as vicious warlords seems extreme to readers who are more familiar with Argentina’s Golden Age, it is worth elaborating on this episode. The main falling out was between Estanislao López, the caudillo of Santa Fe and Francisco “Pancho” Ramírez, caudillo of Entre Ríos. The end result was that “Ramírez was defeated, pursued, captured, and killed. In a spectacle that had become common during the civil wars, his head was displayed in an iron cage in the main church of Santa Fe” (Rock 1987 pg. 97).
Figure 1: Map of Argentina, circa 1860. The map highlights the natural geography of the region, especially as it pertains to trade. The Province of Buenos Aires sits at the basin of the *Rio de la Plata*, thus endowing it with the advantage of controlling the region’s primary harbor for trans-Atlantic trade, as well as access to the *Rio Paraná*, which was a crucial trade route for the Littoral provinces of Santa Fe, Entre Ríos, and Corrientes. Source: Garnier (1862)
Efficient Solutions under Dictatorship  Fighting, of course, is costly and there is an efficient alternative in which Buenos Aires and the provinces reach a bargain (cf. Fearon 1995). This also was attempted multiple times. Especially under Rosas, Buenos Aires agreed to a de facto redistribution of trade revenue in the form of subsidies to the provinces. In theory, the level of subsidies should be set just high enough to make the provinces indifferent between attacking Buenos Aires and accepting the bargain.

There are two problems with this solution: credibility and moral hazard. Buenos Aires’ promise to “cooperate” (allowing river access and providing subsidies) is only credible to the extent that the provinces can actually threaten an attack. Given the conflicts among the provinces themselves, however, presenting a unified front to threaten Buenos Aires was difficult. As described above, as soon as the coalition between Santa Fe and Entre Rios fell apart, Buenos Aires quickly defected from the agreement.

Even during times when Buenos Aires did cooperate, however, and the provincial caudillos did receive their subsidies, it would have been impossible for them to verify if they were getting a “fair” share of the pie. That is, as trade increased and the size of the pie grew, keeping the provinces at bay would require a bigger payoff. Since most trade went through Buenos Aires, it had private information about the extent to which revenues were growing. The provincial caudillos had some idea of the available revenues based on the remnants of trade that passed through other ports and overland routes, but this would have been a noisy indicator at best.

Of course, there are institutional solutions that the caudillos could have adopted to overcome this moral hazard problem. The solution proposed in this case was the adoption of a federal constitution, with the following stipulations: the port city of Buenos Aires would be federalized (i.e. it would cease to exist within the political boundaries of the province of Buenos Aires), the federal government would gain direct control over trade,
and the provinces would each gain representation in a national legislature that would structure the bargaining over the distribution of federal revenues.

Federalism solves the moral hazard problem because each of the caudillos (or their provincial representatives) would both be able to observe fluctuations in trade and also bargain over the distribution of benefits in a structured manner. Additionally, creating an institution has a major advantage over writing a simple contract that sets subsidies at a particular level, a solution that is inflexible to the fluctuations of both trade revenues and local needs. National institutions provide a set of rules according to which all the members of the national government can bargain as conditions evolve.

Unfortunately, commitment remains a problem. Simply writing a federal constitution does not create a credible commitment. So long as each of the provinces is ruled by a caudillo with a standing militia, the incentives to renege on federalism remains. There is no reason to believe that a set of rules for structuring the bargaining process is any more binding than a the promise of subsidy set at a fixed rate. What’s to prevent the armed caudillo of Buenos Aires from reneging on the promise to federalize the port, given that the ability of the remaining provinces to enforce that promise was inconsistent at best?

### 3.2 Undermining Regional Warlordism and the Role of Trade

I have argued above that federalism is an efficient alternative to regional warfare, that it solves the moral hazard problem that plagues other bargaining solutions in which the province of Buenos Aires maintains a monopoly on trade, but that so long as the provinces are ruled by warlords, there is an unsurmountable commitment problem to

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3See Klein (1988) for a similar argument regarding vertical integration in the context of economic firms. It is worth emphasizing that the solution of federalism differs from the solution of vertical integration, which would be more akin to a situation in which one of the provinces integrates the rest into its own political structure. Federalism involves the creation of an additional institutional layer within which the provinces bargain.
cooperation. The solution is to get rid of warlordism in the provinces, and the first step is to get rid of warlordism in Buenos Aires in particular. This is because the crux of the commitment problem is the inability of Buenos Aires to maintain free trade.

**The problem of disarming**  Rosas required a large standing army to maintain his dictatorship, both in order to crush local dissent in Buenos Aires and also to ward off attacks by caudillos in the other provinces. This required money, the primary source of which was trade revenues, which Rosas monopolized at the expense of the other provinces. As long as Buenos Aires was ruled by a dictator, Buenos Aires would monopolize trade. But as long as the Littoral provinces were also ruled by dictators with the ability to challenge Buenos Aires, the best strategy for the residents of Buenos Aires was to maintain Rosas in power as their defender. In other words, regional warlordism across the provinces is an equilibrium from the perspective of mass support for the dictators within the provinces as well.

**The role of trade**  Of course, there are factions within Buenos Aires and within the provinces that lose out in the warlord equilibrium. In particular, all parties who value free trade through the port, all the political opponents who suffer under the repression within each province, and the political entrepreneurs who stand to gain from deposing the caudillos and taking their place. In order to move the system out of the warlord equilibrium, the potential gains for these opposing factions to defeat Rosas have to outweigh the costs of fighting. My argument is that an exogenous shift in the value of trade raises the incentives of the opposing factions to overthrow the warlords, starting with Rosas in Buenos Aires.
**The limits of force** Even if correct, the preceding argument is incomplete. Eliminating the warlords themselves is necessary but insufficient for changing the system; there is always another dictator-in-waiting, ready to replace the old dictator if he falls. The limitation of simply removing the warlords is that it ignores the social conditions that sustain warlordism within the provinces in the first place. This is especially true for the set of poor provinces in the interior.

The solution adopted by the opposition was to change the social and demographic conditions of Argentina, such that they would no longer be hospitable to dictatorship. As argued above, if any of the interior provinces retained a warlord, the best response for the masses in Buenos Aires would be to maintain a warlord as well. Thus, the solution would have to be applied within the wealthier provinces, such as Buenos Aires, Santa Fe and Entre Ríos, as well as in the poorest interior provinces, such as Catamarca and Santiago del Estero.

### 3.3 The Role of Public Schooling

In the eyes of the political and intellectual leadership of the opposition, known in Argentina as the Generation of 1837, the fundamental social and demographic factors that allowed dictatorship to thrive was Argentina’s rural, uneducated population. Public schooling, together with urbanization and immigration were seen as the central components of a long-run strategy to alter the social structure of Argentina (cf. Sarmiento 1974[1868]).

**Education and the Nature of Political Support** Public schooling shifted Argentina away from dictatorship through several mechanisms. In the long run, the educational component of schooling was crucial for undermining the formation of ties between
citizens of the provinces and the traditional caudillos. Schooling expands the set of economic opportunities of local populations by enabling families to invest in human capital. This, in turn, increases the cost for a caudillo to buy their political support.

This is not to say that education undermines political transfers. In fact, the liberal oligarchy that replaced the dictatorship and controlled Argentina during its high-performing equilibrium after 1880 was notorious for its political machines. It is to say that the provision of schooling transforms the level and types of services that the population demands as compensation for its political support.

This has two implications. First, that the caudillos (or aspiring caudillos) are priced out of the market for buying the political support of large swaths of the population. Second, since only the national government has the resources to provide this level of service in the poor provinces, public schooling establishes direct ties between the inhabitants of the provinces and the national government.

**Education and Urbanization** Many of the economic opportunities that become available with increasing levels of human capital are located in distant cities and towns. Education thus contributes to geographic mobility and urbanization, which undermine the traditional patron-client relationship, which typically thrives by establishing long-term promises and obligations based on personal ties. Urbanization severs those ties.4

Moreover, since public schooling is a local public good (in the sense that is impossible to exclude people from the local externalities generated by schooling), schools are an excellent means of targeting localities. That is, assume that families value schooling but that not all communities can afford to build and sustain a school. A wealthy, central authority can concentrate resources in one community at the expense of others. This

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4In his critique of the “barbaric” nature of Argentina under the caudillos, Sarmiento (1974[1868]) touts the “civilizing” influence of cities per se.
would have the effect of drawing families out of surrounding areas without schools to the town with a school, thus further undermining the support base for localities that don’t cooperate with the central government.

**Schooling and the National Coalition** Public schooling not only worked to undermine the potential for dictatorship, but it served the positive function of sustaining the emerging national coalition of liberal oligarchs. This too worked through several mechanisms, the common aim of which was to shift the relationship between citizens and the provinces to citizens and the national government.⁵

First, public schools were a highly visible symbol of a national institution working in local communities. Second, as noted above, even though schooling was provided by provincial governments, most of them required substantial aid from the national government. Thus, citizens came to realize that their valuable education depended on cooperation between the provincial and national governments. Third, public schooling provided valuable employment to relatively educated locals in the form of teaching and administrative positions. From the point of view of a central authority, then, teaching positions were a valuable form of patronage.

### 4 Evidence

In this section, I provide evidence that (a) international trade was the exogenous factor that spurred the process by which Argentina’s institutions evolved from a loose confederation of warring provinces run by dictators to a unified nation run by a liberal oligarchy; (b) the timing of the public schooling expansion coincides with the establishment of national institutions; (c) the patterns of school financing and sub-national

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⁵I thank Stephen Haber for invaluable conversations on these issues.
schooling outcomes are consistent with my argument that public schooling was driven by the oligarchy’s ruling strategy. Specifically, I show that public schooling was driven by geographic rather than class-based redistribution. Public schooling involved extensive subsidies from the national government for the provision of public schools the provinces, especially in the poor interior. I also describe how the oligarchy adapted its strategy of providing public schools in the era of mass politics by nationalizing schools in the poorest provinces, and show that the advent of electoral reform in 1912 undermined both the political institutions of the oligarchy as well as its patterns of investment in public schooling.

4.1 Trade and the Origins of National Institutions

Among the profusion of dictatorial micro-states, Juan Manuel de Rosas was the archetypal *caudillo* of this era and ruled the province of Buenos Aires from 1829 to 1852 as its governor. Despite the many downsides to dictatorship, Rosas’ dictatorial powers were conferred by plebiscite. He was considered a hero for bringing stability to Buenos Aires by protecting it from hostile neighboring provinces (Rock 1987 pg. 104). Consistent with the theoretical argument, given the existence of warlordism in neighboring provinces, the best response of the citizenry within each of the provinces was to support their own warlord as well. In this section I provide evidence for how trade ultimately drove Argentina out of this equilibrium and into an equilibrium of national institutions.

The Rosas Economy  
Argentina in the first half of the nineteenth century was underdeveloped, to say the least. Goods were transported mostly by mule train and ox cart, and the majority of the population was illiterate and lived in mud and straw shacks. Jerked beef, cowhides, and tallow were the primary export commodities. Still, trade
in these goods expanded significantly under Rosas, roughly doubling between 1837 and 1852 (Rock 1987 pg. 107). Moreover, the beginnings of the wool export boom can be traced to the Rosas era as well. Wool exports grew from an annual average of 310 tons between 1830 and 1834, to an annual average of 4,371 tons between 1845 and 1849 (Ferreres 2006). Notably, the wool boom was driven by an exogenous shift in demand from the British textile industry Lynch (1993).

The Role of Geography  As Figure 1 makes clear, the natural geography of Argentina strongly affected regional possibilities for trade. The city of Buenos Aires housed the region’s only deep-water harbor, and thus the lion’s share of trans-Atlantic trade was routed through the province. This affected merchants in other provinces, who were liable to pay tariffs in order to ship their goods through Buenos Aires. It also guaranteed that Buenos Aires held a virtual monopoly on the collection of import taxes, by far the greatest revenue source available to provincial governments.

Secondly, Buenos Aires was able to control access to the Paraná River, which was the crucial trade route for the Littoral provinces of Santa Fe, Entre Ríos, and Corrientes. Buenos Aires, moreover, had a strong incentive to block the Paraná both because it would choke the economies of these provinces and also because it would divert additional imports and the associated customs revenues from Rosario to Buenos Aires.

Trade and the Fall of Rosas  Conflict over trade fueled the civil wars well before Rosas rose to power. For the purposes of my argument, I focus only on the events that precipitated Rosas’ fall from power, and which ultimately opened the way to creating national institutions in Argentina. In 1845, Rosas closed the Paraná at the Vuelta de Obligado, which triggered a naval blockade by the British and French. The blockade
failed and by 1848 Rosas closed the Paraná once again. At this point, Justo José de Urquiza, the caudillo governor of Entre Ríos, formed an alliance with Brazil and Uruguay to oppose Rosas. In 1851, Urquiza marched into Buenos Aires and toppled the Rosas regime.

Crucially for my argument, Urquiza did not meet much resistance from Rosas’ former supporters. That is, Rosas no longer found much support from within Buenos Aires either. To understand this, it is important to recall that a major faction within Buenos Aires had a strong interest in supporting Urquiza. These were the so-called Unitarists, who suffered under the Rosas regime and who stood to gain from free trade. As trade expanded, the opportunity costs of living under Rosas grew, and Rosas support base in Buenos Aires shrank.

In short, expanding opportunities for global trade increased the incentives of rival caudillos to join forces with the Unitarists within Buenos Aires, overthrow Rosas, and establish national institutions that would help prevent a backslide into regional warlordism.

**Trade and National Institutions** With Rosas’ overthrow, the generation of liberal thinkers and statesmen who had been living in exile returned to Argentina and were instrumental in crafting a liberal, constitutional state. They still faced the challenge of crafting a nation out of the fragmented provinces, but the increasing opportunities for international trade created a large and strong enough coalition with the incentives to do so. With these political institutions in place, Argentina’s economy began expanding at an even greater rate. I trace the evolution of trade and national institutions graphically in Figure 2.

Among the “Generation of 1837,” was Juan Bautista Alberdi, whose work served
Figure 2: Trade and the evolution of political institutions in Argentina, 1820–1930. Exports are measured in real pesos per capita, denominated in pesos moneda nacional (not to be confused with the contemporary Argentine peso, deflated with the CPI (1900=1)). Sources: Ferreres (2006)
as the basis for Argentina’s Constitution of 1853. Similarly to the U.S. Constitution, it established a federal structure, an independent judiciary, an elected bicameral legislature (lower house by direct elections and the upper house by indirect election of the Provincial legislatures) and an electoral college for the election of the president and vice president.

Yet, Buenos Aires did not agree to the Constitution until it was amended in 1860 to table the issue of federalizing the city of Buenos Aires, to which the Province of Buenos Aires would not yet agree. In 1862, Bartolomé Mitre was elected the first President of a unified Republic of Argentina. He established a national customs house and treasury in 1862, a national judiciary in 1863, and a national army in 1864. Mitre also established a national postal system and began connecting the country via railroad, with the first line completed in 1870 (Rock 1987 pg 125).

Buenos Aires’ reluctance to hand over its control over the port to the newly fashioned federal government was the last major sticking point, but it was an understandable one. As long as the other provinces were still ruled by warlords, it would foolish for Buenos Aires to relinquish its greatest economic asset. Thus, between 1862 and 1874, the national government set about eradicating the remaining caudillos, felling the last one, Ricardo Lopez Jordan of Entre Ríos, in 1874.

With the last of the provincial caudillos gone it was only a matter of time before the city of Buenos Aires became federalized. This finally happened in 1880, after Julio Roca rose to the presidency. His political victory was challenged militarily by the Governor of Buenos Aires, Carlos Tejedor. Roca defeated Tejedor, and abolished standing armies in all the provinces, including Buenos Aires.

Thus, by 1880, regional warlordism had been abolished. Argentina had become a Republic, with national institutions rooted in a national political system of “interlocking networks and alliances radiating from Buenos Aires (Rock 1987 pg 129).”
4.2 National Institutions and the Origins of Public Schooling

In this section, I provide evidence for the argument that public schooling was a key component of the oligarchy’s governing strategy. First, I provide the basic outlines of schooling under the oligarchy and show that the timing of the schooling expansion is consistent with my argument that the change in political institutions led to the rise of schooling. Second, I provide evidence that primary schooling in the poor, interior provinces depended on generous subsidies from the national government. Finally, I demonstrate that these expenditures (transfers to the poor, interior provinces) were held together by the oligarchic political equilibrium. To do this, I show that the expansion of nationally-run schools in the interior provinces came to a halt immediately following the passage of the Sáenz Peña Electoral Reform of 1912 — and did not resume again until the fall of democracy in 1930. Ironically, democratic reform undermined the federal funding of public schooling in the poorest areas of the country.

The Growth of Public Schooling under Oligarchy  The argument that public schooling was a key component to sustaining the oligarchy implies that the timing of Argentina’s school expansion should follow the transition from dictatorship to oligarchy. It is important to make clear that we should not expect to observe that the trade boom is followed immediately by the schooling expansion. Indeed, Argentina’s first trade boom in wool exports began in the mid-1840s, but the major take-off in public schooling does not occur until roughly 1880. This is entirely consistent with my argument, according to which we should observe that the schooling expansion will coincide with the emergence of the oligarchy’s political institutions (which, in turn, had been made possible by the expansion of trade).

Domingo Fausto Sarmiento is widely credited with leading Argentina’s schooling
expansion. He served twice as the Minister of Education for the Province of Buenos Aires and between 1868 and 1874 served as President of the Republic, after which he took up the post of Superintendent of Argentina’s Ministry of Education. Sarmiento believed that public education was the key to the economic success of the United States and it was his hope to replicate that success in Argentina (Bushnell and Macaulay 1994). In fact, Sarmiento visited the United States with a full delegation of researchers who collected data on the sources of U.S. success in educating its own children.\(^6\)

According to the federal Constitution of 1853, schooling was a policy area to be left in the hands of the provincial governments. In contrast to the United States, where political authority over schools devolved from state governments to local districts, the Argentine provinces seldom devolved control to municipal governments. In theory, each province was responsible for its own schooling policies, though the federal government subsidized primary schools in the provinces from the very beginning. It is estimated that national subsidies to the provinces quadrupled during Sarmiento’s presidency, 1868–1874 (Rock 1987 pg 130).

Federal subsidies notwithstanding, a national education policy did not take shape until 1881, with the establishment of Argentina’s National Board of Education, the Consejo Nacional de Educación. This body was established in the wake of the federalization of the Buenos Aires in 1880. Crucially, the Consejo was established as an independent body rather than an executive agency, ostensibly to ensure a separation between partisan politics and national education policy. Three years later, Argentina’s Basic Education Law (Ley 1420) of July 8, 1884 established mandatory, secular, and free public primary school for children between the ages of six and fourteen. The law held sway in the Fed-

\(^6\)Sarmiento led an effort to replicate the U.S. model of local, democratic school boards in the Province of Buenos Aires, though this turned out to be a complete failure (Pineau 1997).
Figure 3: Enrollment in primary schools by Dependencia as a percentage of school-aged children (6–14 years old), Argentina, 1861–1930. Sources: constructed by author using enrollment data from the Informe de Educación (various) and data on school-aged population from the Censo Nacional (various). Pre-1885 data from Ramos Mejía (1910).

We can trace the contours of Argentina’s schooling expansion by following the overall growth of public schools, as well as the relative contributions of provincially and nationally-run schools. Figure 3 tracks the enrollment of school-aged children in Ar-

eral Capital of Buenos Aires and the national territories only, due to the constitutional protection of provincial autonomy in educational matters. Nevertheless, the Ley 1420 established a standard that was soon followed by most provinces and it reaffirmed a commitment to subsidizing provincial schools.
Figure 4: Number of primary-school teachers per 100 school-aged children (6–14 years old), Argentina, 1861–1930. Sources: Post-1884 data constructed by author using enrollment data from the Informe de Educación (various) and data on school-aged population from the Censo Nacional (various). Pre-1885 data from Ramos Mejía (1910).
Argentina, according to whether they were educated in provincial, national, or private schools. Less than 20% of school-aged children were enrolled in primary schools before the establishment of the Consejo in 1881, after which enrollments started climbing. By 1905 enrollments topped 40% and reached nearly 60% by the transition to democracy in 1912. It is worth noting that the electoral reform of 1912 did little to alter the overall trajectory of enrollment rates, nor did it affect the relative importance of public schools in comparison to private ones. Figure 4 graphs the evolution of the teaching force, the main input in schooling. The these data reveal a pattern nearly identical to the pattern in enrollments.

The next major development in the oligarchy’s schooling policy came with passage of the Law 4874, better known as the Ley Láinez on October 19, 1905, the aim of which was to alleviate illiteracy, particularly in rural, “backwards” provinces (citations needed). The first Láinez schools appear in 1906 except for in the province of Buenos Aires where they are not introduced until 1909. The Láinez law broadened the federal government’s role in public education by establishing its right to administer national schools directly in the provinces. The law thus marked an important turning point in the relationship between the federal and provincial governments, in which the latter traded autonomy for financial gain. More important for immediate purposes, however, is that the Láinez law spurred a second major change in the institutions of public schooling under the oligarchy.

Another way to measure the progress of Argentina’s public schools is to analyze outcomes. As enrollment rates grew from under 20% in 1870 to 60% in 1912, adult illiteracy fell from around 80% in 1869 to 36% by 1914 — a reduction of over 40 percentage points. (Additional data on literacy rates at the provincial and municipal level are available upon request).
4.3 Public Schooling Patterns under the Oligarchy

Enrollment trends aggregated at the national level are sufficient to demonstrate the counter-intuitive fact of a major public schooling expansion under oligarchy (Figures 3 and 4). A skeptical reader might argue, however, that there’s a simpler explanation for the historical sequence described above: the economic expansion directly drove the schooling expansion itself. There are at least three versions of this alternative story. The first is a supply-side story, according to which economic growth drove the schooling expansion by increasing revenues in the provinces that benefitted directly from the trade boom (cf. Martínez-Fritscher, Musacchio and Viarengo 2010). The second is a demand-side story, according to which economic growth drove the schooling expansion by attracting European immigrants who placed a high value education relative to native Argentines. The third story is that the export economy drove the schooling expansion by transforming the social structure of the wheat-producing pampas regions. On this account, the development of wheat agriculture favored small family-run farms, thus creating an egalitarian social structure and promoting local democratic institutions. Much as in the U.S. Midwest, these developments favored the expansion of public primary schooling.\footnote{See Gallo (1977, 1983) for the case of Santa Fe, Argentina and Haber and Menaldo (2010) for a more general argument about the relationship between cereal agriculture, the social structure, and human capital.}

Each of these alternative explanations implies that the aggregate growth of schooling at the national level was actually driven by a schooling expansion limited to the provinces whose economies directly benefitted from the trade boom. In order to address this possibility, I turn to a subnational analysis of school finance and enrollments.
Enrollment patterns in the provinces  I first establish that primary schooling expanded throughout Argentina, and was not concentrated in or limited to those provinces most directly affected by the expanding export economy. To do so, I construct time-series cross-sectional data sets on schooling inputs (schools and teachers) and intermediate outputs (enrollment and attendance) at the province level starting in 1884. I collected the data using the series of annual education reports, the Informe sobre el Estado de Educación Común en la Capital, Provincias, y Territorios Nacionales (various), published by the Consejo Nacional from 1881 to 1948. Details are provided in the attached data appendix.

The time-series cross-sectional data on enrollment rates demonstrate impressive growth in primary school enrollment across all provinces, regardless of their connection to the export economy. The data strongly suggest that primary schooling was driven by a concerted national effort, rather than by supply or demand-side force within provinces or municipalities.

In fact, public school enrollments among the school-aged population grew especially rapidly in the poor, interior provinces. Between 1885 and 1912 Catamarca’s primary school enrollment grew from 10% to 68%, Jujuy’s from 16% to 56%, San Juan’s from 38% to 72%, and San Luis’ from 33% to 75%. To put these figures in context, public enrollment in the wealthy province of Buenos Aires grew from 23% to only 44% and from 33% to 59% in the Federal Capital during the same period (Figure 5). Thus, not only did enrollments climb in every one of the provinces, but by the fall of the oligarchy in 1912, enrollments levels in much of the poor interior exceeded those in the province of Buenos Aires.8

8I thank Matt Carnes for insightful conversations about these data.
Figure 5: Annual enrollment rates in public primary schools as a percentage of school-aged children (6–14 years old) by province and in the Federal Capital, 1885–1947. Sub-national enrollment trends demonstrate that schooling under the oligarchy expanded even in the poorest provinces — as well as the schooling collapse in those provinces under democracy, 1912–1930. Sources: constructed by author using enrollment data from the Informe de Educación (various) and data on school-aged population from the Censo Nacional (various).
Table 1: Revenue sources for the Buenos Aires Board of Education (Consejo General de Escuelas), 1884–1904. All amounts denominated in pesos (moneda nacional), rounded to the nearest peso. I’ve included under each type of tax both current receipts and past-due receipts from previous years collected in the current year. Sources: Informes (various) for 1884 and Reyna Almandos (1926) for 1894 and 1904.

<table>
<thead>
<tr>
<th>Tax source</th>
<th>1884</th>
<th>1894</th>
<th>1904</th>
</tr>
</thead>
<tbody>
<tr>
<td>Property tax (2 per mil)</td>
<td>476,389</td>
<td>1,203,891</td>
<td>3,223,035</td>
</tr>
<tr>
<td>Municipal contributions</td>
<td>171,764</td>
<td>67,778</td>
<td>971,188</td>
</tr>
<tr>
<td>National subsidies</td>
<td></td>
<td>209,586</td>
<td></td>
</tr>
<tr>
<td>Provincial subsidies</td>
<td></td>
<td>179,600</td>
<td></td>
</tr>
<tr>
<td>School fees</td>
<td>9,362</td>
<td>3,021</td>
<td>118,552</td>
</tr>
<tr>
<td>Rental fees</td>
<td></td>
<td>20,985</td>
<td>10,756</td>
</tr>
<tr>
<td>Private donations</td>
<td>10,631</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>$668,146</td>
<td>$1,475,275</td>
<td>$4,533,117</td>
</tr>
</tbody>
</table>

Federal Subsidies to the Provinces In order to establish a direct link between national efforts and primary school enrollments under the oligarchy, I turn to budget data. I establish the main sources of province-level funding before turning to the comparative importance of federal subsidies across the provinces.

The main province-level revenue source for public schooling in this era was a property tax, the contribución directa. Buenos Aires, which generated most of its own revenues to pay for its public schools, serves as a good example. The Buenos Aires Board of Education, the Consejo General de Escuelas, generated between 70% and 80% of its total revenues from a 2 per mil tax on property levied by the province, the proceeds of which were reserved solely for funding the Consejo. The remaining funds came from municipal contributions (15% of each municipality’s total receipts), national subsidies, other provincial funding, and miniscule amounts from school fees and private donations (Table 1).
Few provinces were able to match Buenos Aires in terms of school funding, whether due to a lack of resources, administrative capacity, or incentives. Budget data on federal subsidies to provincial schools (Table 2) indicate that measures such as enrollments and the size of the teaching force (e.g. Figures 3, 4, and 5) actually underestimate the national government’s role in the public schooling expansion. This is because a great extent of the provincial schools were funded by federal pesos.

The federal government began subsidizing provincial schooling in 1871 — well before the *Ley Láinez* established nationally-administered schools in the provinces in 1905. The first law establishing national education subsidies, the *Ley 463*, determined that

<table>
<thead>
<tr>
<th>Province</th>
<th>National Expenditures (pesos fuertes)</th>
<th>Provincial Expenditures (pesos fuertes)</th>
<th>Total Expenditures (pesos fuertes)</th>
<th>National Expenditures (% of total)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buenos Aires</td>
<td>4,166</td>
<td>914,746</td>
<td>918,912</td>
<td>0.5</td>
</tr>
<tr>
<td>Córdoba</td>
<td>6,558</td>
<td>19,675</td>
<td>26,233</td>
<td>25.0</td>
</tr>
<tr>
<td>Corrientes</td>
<td>10,447</td>
<td>72,495</td>
<td>82,942</td>
<td>12.6</td>
</tr>
<tr>
<td>Entre Ríos</td>
<td>33,200</td>
<td>16,200</td>
<td>49,400</td>
<td>67.2</td>
</tr>
<tr>
<td>Santa Fe</td>
<td>7,000</td>
<td>41,887</td>
<td>48,887</td>
<td>14.3</td>
</tr>
<tr>
<td><strong>Interior Provinces</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Catamarca</td>
<td>2,741</td>
<td>11,262</td>
<td>14,003</td>
<td>19.6</td>
</tr>
<tr>
<td>Jujuy</td>
<td>8,374</td>
<td>2,791</td>
<td>11,165</td>
<td>75.0</td>
</tr>
<tr>
<td>Mendoza</td>
<td>45,880</td>
<td>46,384</td>
<td>92,264</td>
<td>49.7</td>
</tr>
<tr>
<td>La Rioja</td>
<td>15,000</td>
<td>5,112</td>
<td>20,112</td>
<td>74.6</td>
</tr>
<tr>
<td>Salta</td>
<td>23,400</td>
<td>15,950</td>
<td>39,350</td>
<td>59.5</td>
</tr>
<tr>
<td>San Juan</td>
<td>23,613</td>
<td>33,149</td>
<td>56,762</td>
<td>41.6</td>
</tr>
<tr>
<td>San Luis</td>
<td>34,962</td>
<td>15,404</td>
<td>50,366</td>
<td>69.4</td>
</tr>
<tr>
<td>Santiago del Estero</td>
<td>6,664</td>
<td>8,592</td>
<td>15,256</td>
<td>43.7</td>
</tr>
<tr>
<td>Tucumán</td>
<td>35,257</td>
<td>54,239</td>
<td>89,496</td>
<td>39.4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>257,262</td>
<td>1,257,886</td>
<td>1,515,148</td>
<td>17.0</td>
</tr>
</tbody>
</table>

Table 2: Primary school expenditures by province and national subsidies, Argentina 1875. Source: Ramos Mejía (1910) and my calculations.
the poorest provinces (La Rioja, San Luis, and Jujuy) were to receive $\frac{3}{4}$ of their total education budgets from the federal government. The wealthiest provinces (Buenos Aires, Córdoba, Entre Ríos and Santa Fe) were to receive only $\frac{1}{3}$, and the remaining provinces $\frac{1}{2}$.

Budget data published by the Consejo Nacional reveal that received subsidies strayed to some extent from the fixed ratios established by law. In 1875, for example, Buenos Aires received only 0.5% of its provincial education budget instead of 33%. Corrientes received only 13% instead of the promised 50%. Nevertheless, the poorest provinces received virtually the full amount and it is abundantly clear that public schooling in the interior provinces depended on substantial subsidies from the national government from a very early date (Table 2).

**Teaching positions as public employment**  As argued in the theory section, one of the political functions of public schooling was to cut patronage ties between citizens in the provinces and replace them with alternative connections to national institutions. This does not necessarily imply that receiving a teaching job was conditioned explicitly on political support for the oligarchy, and I do not provide direct evidence showing that it was. Teaching positions were, however, a major source of government employment, particularly in the poorer interior provinces (Table 3).

Occupational data from the Census of 1895 show that the number of adults employed by schools equaled or exceeded the population with civilian government jobs in the provinces of Catamarca, La Rioja, Salta, San Juan, San Luis, and Santiago del Estero. Moreover, schooling-related employment exceeded military employment in Córdoba, Catamarca, Jujuy, La Rioja, San Juan, San Luis, and Santiago el Estero. This is consistent with my argument that public schooling provided an important new form of
public employment over which the national government could re-orient the ties between citizens and the state.

4.4 The Transition to Mass Politics

The growth of the export economy over which the liberal oligarchy presided was tremendously successful by standard measures. With a real per capita GDP of $2,756 (1990 International Geary-Khamis dollars), Argentina ranked 13th in the world by 1900. By the time of the Sáenz Peña Reform of 1912, real per capita GDP had grown to $3,904, or 9th in the world ahead of Denmark, Germany, and France (Maddison 2009). Economic growth attracted massive waves of immigration (from Spain and Italy in particular), which accounted for a large component of Argentina’s population explosion: from 1,877,490 in 1869 to 7,903,662 by 1914. Crucially the urban population grew from 28.6% of the total population to 52.7% in the same period (Censo Nacional 1947). Thus, economic expansion under the oligarchy paved the way for the era of mass politics.

By the turn of the century, the political landscape had radically changed as well. Juan B. Justo founded Argentina’s Socialist Party in 1894. The middle-class Radical party had staged several uprisings in support of electoral reform. President Julio Roca experimented with minor change in the electoral rules for the elections of 1904 in order to placate pressure from within his own party. That year, Alfredo Palacios of the Socialist Party won a seat in the Chamber of Deputies (the lower house in Congress) from the Boca district in the Federal Capital (Rock 1987). In short, the oligarchy faced a very different set of pressures in the early 20th century than it had over the previous decades.

In this section, I argue that one of the strategies the oligarchy adopted in response to the rapidly changing social and demographic structure was to centralize control over the provision of public schooling in the provinces under the Ley Láinez. This provided a
<table>
<thead>
<tr>
<th>Province</th>
<th>Education</th>
<th>Military</th>
<th>Government</th>
<th>Lawyers</th>
<th>Working Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buenos Aires (city)</td>
<td>2,739</td>
<td>3,058</td>
<td>9,876</td>
<td>735</td>
<td>305,129</td>
</tr>
<tr>
<td>Buenos Aires (province)</td>
<td>2,488</td>
<td>3,433</td>
<td>3,639</td>
<td>159</td>
<td>357,116</td>
</tr>
<tr>
<td>Córdoba</td>
<td>800</td>
<td>505</td>
<td>1,122</td>
<td>126</td>
<td>140,063</td>
</tr>
<tr>
<td>Corrientes</td>
<td>401</td>
<td>789</td>
<td>749</td>
<td>29</td>
<td>93,884</td>
</tr>
<tr>
<td>Entre Ríos</td>
<td>722</td>
<td>843</td>
<td>772</td>
<td>74</td>
<td>110,800</td>
</tr>
<tr>
<td>Santa Fe</td>
<td>831</td>
<td>1,152</td>
<td>4,674</td>
<td>140</td>
<td>162,289</td>
</tr>
<tr>
<td><strong>Interior Provinces</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Catamarca</td>
<td>207</td>
<td>72</td>
<td>205</td>
<td>19</td>
<td>38,316</td>
</tr>
<tr>
<td>Jujuy</td>
<td>125</td>
<td>48</td>
<td>134</td>
<td>6</td>
<td>26,003</td>
</tr>
<tr>
<td>Mendoza</td>
<td>279</td>
<td>723</td>
<td>761</td>
<td>42</td>
<td>49,462</td>
</tr>
<tr>
<td>La Rioja</td>
<td>156</td>
<td>46</td>
<td>156</td>
<td>19</td>
<td>30,108</td>
</tr>
<tr>
<td>Salta</td>
<td>180</td>
<td>255</td>
<td>102</td>
<td>49</td>
<td>50,812</td>
</tr>
<tr>
<td>San Juan</td>
<td>237</td>
<td>188</td>
<td>206</td>
<td>24</td>
<td>42,351</td>
</tr>
<tr>
<td>San Luis</td>
<td>232</td>
<td>451</td>
<td>220</td>
<td>20</td>
<td>30,403</td>
</tr>
<tr>
<td>Santiago del Estero</td>
<td>215</td>
<td>132</td>
<td>110</td>
<td>18</td>
<td>73,366</td>
</tr>
<tr>
<td>Tucumán</td>
<td>360</td>
<td>457</td>
<td>527</td>
<td>41</td>
<td>92,240</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>9,972</td>
<td>12,152</td>
<td>23,253</td>
<td>1,501</td>
<td>1,602,342</td>
</tr>
</tbody>
</table>

Table 3: Total number employed for various occupations in 1895, by province. Public schools were an important source of employment for educated Argentines with at least a modicum of formal education. Schooling jobs were especially important in the Interior. The most relevant comparisons are to other forms of public employment (government and military jobs) and other common professions pursued by educated Argentines (lawyers). Though it is worth noting that schools provided less than 1% of all jobs held by the working population. Source: Censo Nacional (1895). Notes on data: the Education category most likely includes teachers and administrators; although the Census does not make this explicit. The Working Population is calculated as the population over 14 with a “profession,” which, according to the 1895 Census, includes everything from doctors, engineers, cobblers, day laborers, peons, busboys, maids, acrobats, and prostitutes to beggars and mendicants.
means of controlling the flow of economic resources to the provinces more directly than
the previous system of subsidies. It also strengthened the direct link between citizens
and the national government at the expense of links with the provincial administrations.
Finally, national control over the schools greatly enlarged the ranks of public employ-
ees whose jobs were beholden to the national government rather than the provincial
governments.

The Ley Láinez and Centralization  As established above (Figure 5), the national
government played a major role in the expansion of Argentina’s public school system
since at least the early 1870s. Why, then, was there a sudden shift in policy from
subsidies to direct administration? One common interpretation is that the national
government simply was unsatisfied with the progress of public education in the hands of
the provinces. The spectacular growth of enrollment rates and concurrent reduction of
illiteracy, however, casts doubt on this interpretation. Moreover, establishing national
schools in the provinces required more than a simple policy change by the National Board
of Education. The Láinez Law, in fact, undermined a basic guarantee of state autonomy
established under the federal Constitution of 1853, which assigned responsibility over
education to the provincial governments. I argue that the Ley Láinez represented a shift
in the PAN’s strategy driven by the social and demographic changes that characterized
Argentina during the transition to an era of mass politics.

First, I establish that the Ley Láinez did not contribute significantly to the already
impressive growth of schooling in the provinces. The time-series graphs of enrollment
rates each includes a vertical line marking the passage of the Ley Láinez in 1905 (Fig-
ure 5). In not a single province did enrollment rates rise (or rise faster) after 1905 in
comparison to previous years. Only in the capital city (Capital Federal) is there a no-
noticeable acceleration in enrollment rates soon after 1905. Schooling in the capital city, however, had been controlled by the national government since the city was federalized in 1881. In other words, the Ley Láinez was unnecessary if the intention was simply to expand schooling in the capital city — the federal government had been empowered to do so for nearly a quarter century.
Figure 6: Enrollment in then nationally-run Láinez primary schools as a percentage of total enrollment, by province, 1905–1947. Sources: constructed by author using enrollment data from the Informe de Educación (various) and data on school-aged population from the Censo Nacional (various).
Rather than boost enrollment rates, the Láinez schools mostly displaced provincial schools in the interior provinces. Moreover, the rate of displacement drastically slowed in 1912, coincident with the passage of the Sáenz Peña electoral reform and the transition to democracy. National schools accounted for nearly 70% of enrollment in Catamarca by 1912 — a mere seven years after the establishment of the first national schools. They accounted for over 60% of enrollment in San Luis, 40% in Jujuy, La Rioja, Salta, San Juan, and Santiago del Estero, and roughly 30% in Tucumán by 1912. Generally, the percentage of enrollment in national schools then froze at the level it had reached by 1912, indicating that the strategy of centralization was abandoned in that year (Figure 6).

**Democracy and the Collapse of Schooling in the Interior** The evolution of enrollment rates within the provinces and the Federal Capital reveals a second set of patterns and suggests a political explanation for the oligarchy’s investment in primary schools. With the benefit of annual enrollment data, we see a remarkable pattern in which enrollment rates in eight of the fourteen provinces abruptly collapse with the Sáenz Peña electoral reform of 1912. Seven of the eight are poor provinces from the Interior; enrollment rates either freeze or even decline under electoral democracy (1912–1930) in Catamarca, Jujuy, La Rioja, Salta, San Juan, San Luis, and Tucumán (Figure 5).

Moreover, enrollment rates in these same provinces *regained* their upward trajectory with the fall of electoral democracy in 1931. This is consistent with the political interpretation of the 1931 military coup as initiating a reversion to the traditional political coalition of the oligarchy (citations needed). The fact that a basic change in Argentina’s national electoral law simultaneously disrupted schooling across multiple provinces in the Interior reinforces the argument that primary schooling in these provinces was driven by a national effort. Moreover, it strongly suggests that the incentive for the national
government to subsidize schooling in the Interior depended on the oligarchy’s political coalition. Surprisingly, the democratic reform of 1912 reduced the incentives of the national government to invest in public primary schools in the poorest provinces of the Argentine Interior.

5 Discussion

In this paper I argued that public schooling emerged in Argentina circa 1880 as a strategy devised by an oligarchic coalition in order to prevent a relapse to the regional dictatorships that plagued the Argentine provinces through 1853. Secondly, I argued that the increasing opportunity for international trade was the exogenous change that pushed Argentina from the equilibrium of regional warlordism, a primitive economy, and low human capital to the equilibrium of a national oligarchy, a relatively developed economy, and high human capital.

Using original datasets based on archival research, I demonstrated that Argentina’s oligarchy invested heavily in a system of free, public primary schools, that their efforts included substantial subsidies to poor, rural areas, and that the oligarchy was extremely successful in increasing educational enrollments and reducing illiteracy throughout the country. Using time-series, province-level data, I also showed that the schooling expansion in the poor, interior provinces ended abruptly in 1912, the year Argentina transitioned to electoral democracy, thus implying that schooling in the poorest provinces depended fundamentally on the oligarchic political coalition.

By exploring the origins of public primary schooling in Argentina, my hope is that this paper has also shed some light on central debates in political science. The arguments and evidence presented in this paper suggest that there is something important missing from
redistributive theories that emphasize class as the basic social cleavage, and democracy as the fundamental institution through which redistribution is accommodated politically (e.g. Acemoglu and Robinson 2006; Boix 2003). Elites are seldom unified, and geography is a basic dimension along which intra-elite conflict is fought. Finally, I hope this paper has contributed to an emerging literature on the political economy of non-democratic regimes (cf. Haber 2006).

The next step of this project is to test more systematically the alternative explanations for the emergence of public schooling. To this end, I have collected and matched department-level data from the Argentine Censuses of 1895 and 1914. Data on the extent of wheat agriculture, ethnic and religious diversity of the population, percentage of property owners, percentage of foreign-born, school enrollments, and literacy rates are the main variables in the current version of the dataset. These data would allow me to estimate, both in levels and in differences, the various alternative interpretations according to which schooling grew as a direct outcome of economic growth or changing social conditions due to increased demand.
Data Appendix

The historical data on the growth of primary schooling in Argentina, 1884–1946, was collected through extended fieldwork in Argentina in 2007. The data are a time-series cross-sectional panel, comprised of annual observations for each of the fourteen Argentine provinces, in the Federal Capital, and as an aggregate figure for the National Territories and Colonies.

Schooling Measures

The full dataset includes measures of: (1) the number of schools, (2) the number of teachers and administrative staff by gender, (3) enrollment by gender (4) and average attendance by gender. Each of these measures is observed by dependencia, which is the locus of administrative control: national, provincial, annexed to a school of education, or private (I elaborate on dependencies below). Using these data I also estimate the gender ratio of enrolled students (gender egalitarianism has been proposed as a cause of the rapid growth of US secondary schools) and student-faculty ratios, which are commonly used as a crude measure of quality.

Archives and Sources  The schooling data were collected at the Centro Nacional de Información y Documentación Educativa and the Sala Americana at the Biblioteca Nacional de Maestros both of which are housed in the Ministry of Education in Buenos Aires. Between 1882 and 1946, Argentina’s basic educational statistics were compiled by the federal government under various titles: Informe Sobre el Estado de la Educación Común en la Capital y la Aplicación en las Provincias de la Ley Nacional de Subvenciones later shortened to Índice de Sobre Educación Común and later again to Educación
Throughout the text, I refer to all volumes in this series as the Informes.

**Comments on dependencias** Though U.S. schools can be classified either as public or private, the governance of Argentina’s school system is a bit more complex. There are four sources of administrative control, or dependencia. The majority of public schools in this era were administered either by provincial governments (Escuelas Fiscales Provinciales) or by the national government (Escuelas Nacionales). A small number of primary schools, (Escuelas Anexas), were administered by nationally-run normal schools (i.e. schools of education) in which some of the teaching was done by student-teachers. Since this constitutes a relatively small number of schools, and since they were nationally administered, I count these together with the nationally-administered Escuelas Nacionales unless otherwise stated in the text. Private schools (Escuelas Particulares) tended to be religious, though there is a small number of secular schools including English, French, etc. schools founded by immigrants hoping to preserve the heritage of their home countries.

We should think of the dependencia as indicating administrative or political rather than financial control over public schools. This is because even the provincially-run schools benefitted from extensive financial subsidies from the national government.

Finally, it is worth noting that all public schools in the Federal Capital and the national territories and colonies were financed and administered by the Consejo Nacional, the national Ministry of Education.

**Estimating the School-aged Population**

I define school-aged as between 6 and 14 years old, following the mandatory schooling age range established by the national education law of 1884, the Ley 1420. It is worth noting, however, that the age of mandatory schooling varied across provinces, with most
provinces requiring less than the national law. I estimate the size of the school-aged population for each geographic region (e.g., provinces, the city of Buenos Aires, the national aggregate) using data from the National Census, *Censos Nacionales*, of 1869, 1895, 1914, and 1947, using linear interpolation to estimate between-census-year values.

Initially, I augmented these data with additional observations from the National School Census, the *Censos Escolares*, of 1884, 1909, 1931, and 1943. Unfortunately, the *Censo Escolar* of 1909 seems to undercount rather severely the number of school-aged children, which produces over-inflated enrollment rates for 1909 and all years interpolated using the 1909 data (e.g., with enrollment far exceeding 100% in some cases). Moreover, I was never able to locate a published version of the 1931 school Census, only secondary accounts criticizing its results (Rojo 1932), most likely an internal publication of the Argentine Ministry of Education. Due to the fact that the *Censo Escolar* of 1884 was the only one with population counts generally in line with those of the national census, I chose to estimate the school-aged population using data from the national censuses alone.
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