

Edited by **Stephen Haber**

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**Political Institutions
and Economic Growth
in Latin America**
Essays in Policy, History,
and Political Economy

Hoover Institution Press Stanford University Stanford, California

2000

Schooling, Suffrage, and the
Persistence of Inequality in the Americas,
1800–1945

The importance of institutions in economic growth has come to be more fully appreciated in recent years, by both scholars and policymakers.¹ Schools are widely acknowledged as among the most fundamental of such institutions. Increases in a society's levels of schooling and literacy have been related theoretically as well as empirically to many socioeconomic changes conducive to growth, including higher labor productivity, more rapid technological change, and higher rates of commercial and political participation.² Moreover, in addition to promoting growth, they also have a powerful influence on the distribution of the benefits of growth. Schooling and literacy attainment can be salient avenues for individuals to realize upward mobility, and limiting access to education has been shown to be an effective barrier to advancement by those affected.³ Although we know that substantial differences in the prevalence of schooling and literacy across countries may have contributed to disparities in their patterns of economic growth, we lack a basic under-

1. Douglass North, *Structure and Change in Economic History* (New York: Norton, 1981).

2. Theodore W. Schultz, *The Economic Value of Education* (New York: Columbia University Press, 1963).

3. Robert Higgs, *Competition and Coercion: Blacks in the American Economy, 1865–1914* (Cambridge, Eng.: Cambridge University Press, 1977).

standing of how these differences first emerged and evolved over time.

This chapter examines the experience in the Americas after colonization by the Europeans. The New World is an interesting case for the study of investment in schooling and literacy in that many societies arising out of European colonization were so prosperous that they clearly had the material resources to support the establishment of institutions of primary education.⁴ Only a relatively small number, however, made such investments on a scale sufficient to serve the general population before the twentieth century. At a general level, such contrasts in institutional development across the Americas have often been attributed to differences in wealth, national heritage, culture, or religion, but systematic comparative studies are rare or nonexistent. Even those that have been conducted typically neglect how the institutions developed over the long run, confining their focus to cross-sectional variations in the contemporary world.

One striking feature of the development of educational institutions in the Americas is the major investment in primary education made by the United States and Canada early in their histories. Virtually from the time of initial settlement, North Americans seem generally to have been convinced of the value of providing their children with a basic education, including the ability to read and write, and established schools to accomplish that goal. In colonial New England, schooling was frequently organized at the village or town level and funded through a variety of sources: charity, lotteries, license fees for dogs, taverns, marriages, and traders in slaves, sales of public lands, as well as the so-called *rate bill*, whereby all

4. Stanley L. Engerman and Kenneth L. Sokoloff, "Factor Endowments, Institutions, and Differential Paths of Growth among New World Economies: A View from Economic Historians of the United States," in Stephen Haber, ed., *How Latin America Fell Behind* (Stanford: Stanford University Press, 1997).

but designated paupers would be charged when they had children enrolled. Instruction by family members, neighbors, or private tutors often filled in where formal schools were not convenient or available. The United States probably already had the most literate population in the world by the beginning of the nineteenth century, but the "common school movement," getting under way in the 1820s, put the country on a new path of investment in educational institutions. Between 1825 and 1850 nearly every northern state that had not already done so enacted a law strongly encouraging or requiring localities to establish "free schools," open to all children and supported by general taxes. Although the movement made slower progress in the South, schooling had spread to the point that, by the middle of the nineteenth century, more than 40 percent of the school-age population in the United States overall was enrolled and nearly 90 percent of white adults were literate. In early nineteenth-century Canada schools were also common, and even though this northernmost English colony lagged behind the United States by several decades in establishing tax-supported primary schools with universal access, its literacy rates were nearly as high.

The rest of the hemisphere trailed far behind the United States and Canada in education and literacy. Despite enormous wealth, the British colonies in the Caribbean basin, with the possible exception of Barbados, were very slow to organize schooling institutions that would serve broad segments of the population. Indeed, it was evidently not until the British Colonial Office took a direct interest in the promotion of schooling, late in the nineteenth century, that significant steps were taken in this direction. Similarly, even the most progressive Latin American countries, such as Argentina and Uruguay, were more than seventy-five years behind the United States and Canada in providing primary schooling and attaining high levels of literacy. Most of Latin America was unable to achieve these standards until well into the twentieth century, if then. This relative backwardness in the organization of institutions of primary

education could have significantly affected the long-run development of these other nations of the Americas, and thus the question of what accounts for this pattern is especially intriguing. Differences in the resources available to invest in schooling, as reflected in, say, per capita income, is perhaps the first possibility that comes to mind as to why the rest of the hemisphere lagged behind the United States and Canada, but the latter do not appear to have been much advantaged in that dimension at the time they began to move ahead in the promotion of education.

Religion is another potentially significant factor, and some have suggested that societies in which Catholics predominated may have been slow to invest in public schools, either because the Church valued education, at least for ordinary people, less than their Protestant counterparts, or because it stifled individual or community initiatives to organize private or public schools. Although plausible and consistent with the greater prominence of Catholicism in Latin America, this view has to contend with the relatively high levels of schooling and literacy in French Canada, as well as the modest levels among the British (and largely Protestant) colonies in the Caribbean basin. A third possibility is that differences in ethnicity or national heritage played an important role in determining which societies made major investments in schooling early in the process of development and which did not. This sort of explanation encompasses arguments that Native Americans did not consider the establishment of schools an attractive use of resources because of their association with Western ways of thinking or that populations with English backgrounds had a greater appreciation of education than those of Spanish descent. Yet another hypothesis is that the long tradition of centralized structures of government in Latin American countries may have impeded the organization of schools on a widespread basis. For example, local or provincial governments, which had the authority to take the lead in organizing primary schools in

the United States and Canada, may have effectively or legally been constrained in carrying out such initiatives elsewhere.

Finally, another hypothesis is that the long-standing greater degree of inequality in Latin America, as compared to the United States or Canada, may play a role in explaining the differential records in establishing education institutions. Several mechanisms could have led extreme levels of inequality to depress investments in schooling institutions. First, in a setting where private schooling predominated, or where parents paid user fees for their children, greater wealth or income inequality would generally reduce the fraction of the school-age population enrolled—holding per capita income constant. Second, greater inequality may also have exacerbated the collective action problems associated with the establishment and funding of universal public schools because the distribution of benefits across the population would be quite different from the incidence of taxes and other costs or because population heterogeneity made it more difficult for communities to reach consensus on public projects. Given that early public schooling systems were almost universally organized and managed at the local level, these problems may have been especially relevant. Where the wealthy enjoyed disproportionate political power, elites could procure private schooling services for their own children and resist being taxed to underwrite or subsidize services to others. Extreme inequality in wealth or income might also lead to low levels of schooling on a national basis if it were associated with substantial disparities across communities or geographic areas. As long as schools had to be supported by local resources, poor districts might not have been able to sustain an extensive system of primary education. Only the populations of wealthy districts, presumably small in number, would then have easy access to schooling.

Our original motivation for undertaking this comparative examination was an interest in whether and how the extent of inequality in wealth, human capital, and political power might have

influenced the evolution of educational institutions and thus the path of economic growth and the persistence of inequality over time. Indeed, this concern with the impact and persistence of the extreme inequality characterizing much of the New World is largely responsible for the organization of the chapter. In the next two sections we survey the record of schooling and literacy in the Americas, highlighting salient patterns and discussing the general consistency of the history with some of the explanations for divergence that have been suggested. In the third section we systematically analyze relevant evidence and find that, although investment in schooling is strongly and positively correlated with per capita income over time and across countries, much variation remains to be accounted for. Moreover, the extent of inequality in political power, as reflected in the proportion of the population who vote, does seem to be associated with lower literacy and schooling rates. Although the comparison between the experiences of the United States (especially) and Canada with those of other countries in the hemisphere serves as our reference point, we are also concerned with the variation within the latter group. Argentina, Uruguay, Cuba, Costa Rica, Chile, and Barbados may have lagged behind the U.S. and Canada, but they made earlier and greater progress at educating their populations than did their neighbors. Other explanations for the variation across the Americas in levels of investment in education may ultimately prove as powerful as ones derived from differences in the degree of inequality, but this comparative examination should nevertheless help improve our understanding of the differential paths of development observed in the New World. Whatever tended to reduce or delay investments in schooling institutions fostered inequality in the distribution of human capital and likely retarded economic growth over the long run.

Not long after permanent settlements on the northern part of the North American mainland were established by Europeans, educational institutions began to be organized. Foremost among them were primary schools that drew students from local communities who administered as well as supported them. Massachusetts is frequently celebrated as the leader, but other colonies in New England conceded little in their enthusiasm for basic and widespread education.⁵ Indeed, all of the region's states had made some provision for public education by 1800, generally requiring towns beyond a certain size to support a primary or grammar school. Despite resistance to the levying of school taxes slowing the responses to these governmental initiatives, New Englanders already enjoyed relatively broad access to primary education and had attained high rates of literacy through a combination of local public schools, private institutions, and home instruction. Elsewhere in the United States, schooling was not so widespread; private schools generally predominated in the Middle Atlantic and the South. Aside from New York, few governments in these regions had gone beyond requiring public schooling to be provided to the children of paupers until the early 1800s. Access to schools was especially limited in the South, even among the free population.

The first major breakthrough in the expansion of schooling occurred during the second quarter of the nineteenth century with a series of political battles—known as the “common school movement”—that took place throughout the country for tax-supported, locally controlled “free schools.” Such schools were to be open to all who wished to attend, supported primarily through local taxes (often, however, receiving some aid from state governments), and

5. Ellwood P. Cubberley, *The History of Education* (Boston: Houghton Mifflin, 1920).

managed by local authorities (state-appointed officers typically provided some oversight to the multitude of local school systems that operated within the respective states). Although there had previously been scattered successes, principally in New England, at achieving the goal of universal access to a primary education, the movement is usually dated as beginning about 1825 and ending about 1850, by which time virtually every northern state had passed and implemented laws to encourage townships or counties to establish such common schools.

This twenty-five-year period was marked by intense political struggle in state after state, with especially strong support for free schools coming from urban dwellers, members of labor organizations, and residents of western states—reflecting the drive for democratization that occurred during the Jacksonian era. Opposition is said to have come from religious and private school interests as well as from the wealthier classes who might have expected to bear disproportionate increases in taxes.⁶ Entirely free schools were obtained only gradually, however, as the progression of laws and township policies chipped away incrementally at the traditional use of permanent endowments, licensing fees, lotteries, and “rate bills” (tuition or user fees) to finance the schools and replaced them with general taxes. Resistance to raising rates or levying new taxes was always a factor to be overcome, and state governments often offered inducements like financial aid for schools tied to decisions by districts to agree to tax themselves; even some northern states continued to rely on a combination of taxes and rate bills to fund the schools as late as 1871 (New Jersey). Although some southern states passed legislation allowing for free schools as early as the 1830s,

6. For a discussion of the “common school movement,” see Cubberley, *History of Education*. Also see Lee Soltow and Edward Stevens, *The Rise of Literacy and the Common School in the United States* (Chicago: University of Chicago Press, 1981).

there was limited progress in establishing them until after the Civil War.⁷

Historians of education typically highlight the fact that the common school movement was one of a number of campaigns for democratization in various social and economic policies that coincided with, or followed shortly after, widespread extension of the suffrage.⁸ Despite the sentiments popularly attributed to the Founding Fathers, voting in the United States was largely a privilege reserved for white men with significant amounts of property until early in the nineteenth century. By 1815, only four states had adopted universal white male suffrage, but as the movement to do away with political inequality gained strength, they were joined by the rest of the country as virtually all new entrants to the Union extended voting privileges to all white men, and older states revised their laws. The shift to full white manhood suffrage was largely complete by the late 1840s, with only minor restrictions in a few states enduring beyond 1850.⁹ Overall, the timing of the movements for extending the suffrage and for common schools, with the latter following the former, is consistent with the view that increasing equality in political influence helped realize the increased investments in public schooling, along with the corresponding extension of access to a primary education. That the southern states were generally the laggards in both broadening the electorate and starting common schools, while New England and the western states were leaders in both, likewise provides support for this view. Since doing away with property restrictions on the franchise enhanced the political voice of the groups that would benefit most from the establishment of tax-supported free schools, it should not be surprising if the

7. Cubberley, *History of Education*.

8. *Ibid.*

9. Spencer D. Albright, *The American Ballot* (Washington, D.C.: American Council on Public Affairs, 1942).

achievement of greater equality in political influence led to the institutional changes that contributed to greater equality in the distribution of human capital.

Although both the French and English areas of Canada had relatively few schools and low levels of literacy in 1800, as compared to their neighbor to the south, this northernmost country in the hemisphere made major investments in extending institutions of primary education to the general population early. By the end of the nineteenth century, Canada ranked second in the world, only behind the United States, in terms of literacy and the fraction of its school-aged population actually enrolled. Despite being influenced by political developments in both Britain and France, there was a pronounced impact on Canada arising from extensive economic contacts with the northeastern part of the United States. Whatever the source, Canadian concern with the establishment of a broad system of public schools began increasing at the beginning of the nineteenth century. The organization, management, and financing of education was carried out primarily at the district level, but some supervision and financial aid was provided by provincial governments. The second quarter of the nineteenth century was a period of expanding school systems and growing support from public resources, as in the United States. Tax-supported free primary schools, however, were not fully realized on a widespread basis until the third quarter of the nineteenth century.¹⁰ Compulsory education legislation followed over the 1870s (Ontario [1871], British Columbia [1873], and Manitoba [1876], but Quebec did not pass such legislation until 1943. Under the Union Act of 1841 and the British North America Act of 1865, allowance was made for separate

secular and religious schools, both of which would be state financed, for those provinces who wanted them. Most important here was Quebec, which maintained, in addition to a secular school system, separate Catholic and Protestant schools. Canada was clearly behind the United States in both schooling and literacy for most of the nineteenth century but managed to virtually close the gap by 1895 in terms of the ratio of students in school to the population aged five to nineteen (0.60 to 0.62 respectively). As in the United States, the progress of the movement for tax-supported public schools coincided generally in time with, or followed soon after, extensions of the franchise.¹¹

Many elements seem to have contributed to the early spread of tax-supported primary schools in the United States and Canada. The two societies may have been quicker to invest in institutions of primary schooling because of the English belief in the value of education, which was perhaps rooted in religious views. In seventeenth-century New England at least, the organization of primary schools was often rationalized as necessary for ensuring that all members of the population were able to read the Bible. Rough quantitative estimates of their prevalence suggest that only modest shares of the population could have attended such schools, and it is also clear that literacy rates in the New England and Middle Atlantic colonies were much higher than those in the southern colonies as well as those in Europe at that time. This would seem to cast doubt on the notion that the high rates of primary schooling and literacy were due solely to either English heritage or religion, especially in conjunction with the records of British colonies in the Caribbean. Indeed, the arguments for public schooling during the common

10. See, for example, Charles E. Phillips, *The Development of Education in Canada* (Toronto: W. J. Gage, 1957); and J. Donald Wilson, Robert M. Stamp, and Louis-Philippe Audet, *Canadian Education: A History* (Scarborough, Ont.: Prentice-Hall of Canada, 1970).

11. For a discussion of how and why the franchise was extended in the West more generally, see Daron Acemoglu and James A. Robinson, "Why Did the West Extend the Franchise?" (University of Southern California; Massachusetts Institute of Technology, 1998, manuscript).

school movement focused on the economic and civic importance of education, rather than the religious. Schooling would help equip men for self-governance and participation in a democracy and provide an avenue for self-improvement and upward mobility. It was, however, to be provided to girls as well, and a comparison of the scattered estimates of literacy from the late 1700s through the 1850s suggests that although all benefited from the expansion of common schools, they helped females close a gender gap.

Among all of the economies in the New World, whether established by Britain or other European countries, the United States and Canada had made greater commitments to public schooling and attained higher literacy rates than any other country in the Americas by the early nineteenth century. This pattern is all the more striking when one recognizes that these societies were not generally considered to have been the most prosperous of those in the Americas at the time.¹² The idea that their distinctiveness in this regard may have something to do with differences in ethnic heterogeneity or in the degree of inequality is both intuitive and consistent with what we know.¹³ For example, the much greater economic equality and ethnic homogeneity present in the northern United States and Canada, as compared to elsewhere in the Americas, would be expected in principle to have led to a relatively even sharing of costs and benefits and thus to reduce the severity of collective action problems and to increase the likelihood of a community taxing itself to finance universal primary schools. Further support for this notion of the significance of equality (in this case, political equality) comes from the coincidence in time between the common school movement of the 1820s and 1830s in the United States and the broadening of the

12. Engerman and Sokoloff, "Factor Endowments."

13. See Claudia Goldin and Lawrence F. Katz, "Human and Social Capital: The Rise of Secondary Schooling in America, 1910 to 1940" (Harvard University, 1997, manuscript) for a discussion of this idea in another context.

franchise during that same era, and from similar associations between suffrage reform and the passage of measures to support public schools in both Canada and England.¹⁴ Moreover, within the United States, there is also a cross-sectional correspondence across states between leadership in broadening the franchise and leadership in the establishment of universal common schools.

Whatever the source, the United States and Canada were clearly far ahead of their neighbors in the Americas in providing basic schooling to their populations throughout the 1800s and well into the 1900s (see table 1). By 1870, more than 80 percent of the population aged ten or above in both the United States and Canada were literate, more than triple the proportions in countries such as Argentina, Chile, Costa Rica, and Cuba and four times the proportions in Brazil and Mexico. These stark contrasts were partly due to high literacy in the United States and Canada, which had the most literate populations in the world at that time. But much of the explanation seems to be in the poor performance of the other societies in the Americas. Even during the era of European colonization—when their levels of per capita income were comparable—these other societies obviously trailed the colonies that were to become the United States and Canada in developing institutions of primary education and literate populations. Moreover, even those that were more successful at realizing economic growth, such as Argentina in the late nineteenth and early twentieth centuries, were much slower to establish systems of public schooling that reached broad segments of their populations. For example, the nonwhite population in the United States had literacy rates comparable to, or higher than, those in Argentina in 1870, 1890, and 1910.

Overall, the United States and Canada appear to have been the only nations in the hemisphere to attain high levels of literacy by

14. For discussions of the connection between extensions of suffrage and public schooling in many countries and contexts, see Cubberley, *History of Education*.

TABLE 1
Literacy Rates in the Americas, 1850-1950

	Year	Ages	Rate (in percent)
Argentina	1869	6+	23.8%
	1895	6+	45.6
	1900	10+	52.0
	1925	10+	73.0
	1946	10+	92.7
Barbados	1946	10+	92.7
Bolivia	1900	10+	17.0
Brazil	1872	7+	15.8
	1890	7+	14.8
	1900	7+	25.6
	1920	10+	30.0
	1939	10+	57.0
British Honduras (Belize)	1911	10+	59.6
	1931	10+	71.8
Chile	1865	7+	18.0
	1875	7+	25.7
	1885	7+	30.3
	1900	10+	43.0
	1925	10+	66.0
Colombia	1918	15+	32.0
	1938	15+	56.0
	1951	15+	62.0
Costa Rica	1892	7+	23.6
	1900	10+	33.0
	1925	10+	64.0
Cuba	1861	7+	23.8 (38.5, 5.3)*
	1899	10+	40.5
	1925	10+	67.0
	1946	10+	77.9
Guatemala	1893	7+	11.3
	1925	10+	15.0
	1945	10+	20.0
Honduras	1887	7+	15.2
	1925	10+	29.0

TABLE 1
(continued)

	Year	Ages	Rate (in percent)
Jamaica	1871	5+	16.3
	1891	5+	32.0
	1911	5+	47.2
	1923	5+	67.9
	1943	10+	76.1
Mexico	1900	10+	22.2
	1925	10+	36.0
	1946	10+	48.4
Paraguay	1886	7+	19.3
	1900	10+	30.0
Peru	1925	10+	38.0
Puerto Rico	1860	7+	11.8 (19.8, 3.1)*
Uruguay	1900	10+	54.0
	1925	10+	70.0
Venezuela	1925	10+	34.0
Canada	1861	All	82.5
English-majority counties	1861	All	93.0
French-majority counties	1861	All	81.2
United States			
Northern whites	1860	10+	96.9
Southern whites	1860	10+	56.4
All	1870	10+	80.0 (88.5, 21.1)*
	1890	10+	86.7 (92.3, 43.2)*
	1910	10+	92.3 (95.0, 69.5)*

SOURCES: For the countries in South America, Central America, and the Caribbean, see Carlos Newland, "La Educación Elemental en Hispanoamérica: Desde la Independencia hasta la Centralización de los Sistemas Educativos Nacionales," *Hispanic American Historical Review* 71, no. 2 (May 1991), and "The Estado Docente and Its Expansion: Spanish America Elementary Education, 1900-1950," *Journal of Latin American Studies* 26, no. 2 (May 1994); Aline Helg, *La Educación en Colombia, 1918-1957: Una historia social, económica y política* (Bogotá, Colombia: Fondo Editorial, CEREC, 1987); George W. Roberts, *The Population of Jamaica* (Cambridge, Eng.: Cambridge University Press for the Conservation Foundation, 1957); John A. Britton, ed., *Molding the Hearts and Minds: Education, Communications, and Social Change in Latin America* (Wilmington, Del.: Scholarly Resources, 1994); West Indian Census, *General Report on the Census of Population 9th April, 1946* (Kingston: Government Printing Office, 1950). For the United States, see U.S. Bureau of the Census, 1967 (Washington, D.C.: Government Printing Office), chapter 4. For Canada, see Marc Egnal, *Divergent Paths: How Culture and Institutions Have Shaped North American Growth* (New York: Oxford University, 1996), p. 81.

* The figures for whites and nonwhites are reported respectively within parentheses.

the middle of the nineteenth century. In contrast, not until late in the 1800s were two other sets of New World societies able to raise literacy rates much above the relatively modest level of 30 percent. The first group consisted of a number of British colonies in the Caribbean basin, where investments in public schooling institutions date back to the British emancipation of slaves in 1834, when provisions were made for grants to each colony for the education of blacks. These funds were cut off in 1845, after which each colony was responsible for its own educational policies and expenditures. Only Barbados seems to have maintained, if not increased, this early support for primary schools, with costs being covered by a mixture of local taxes, charity, school fees, and aid generally provided to both religious as well as secular schools. The British Colonial Office continued to support the expansion of public schooling, however, arguing (for example) that compulsory education was needed more in the West Indies than in advanced societies.

Compulsory schooling laws were introduced, first in British Guiana in 1876, with Saint Lucia and the Leeward Islands following in 1889 and 1890, respectively, but they were ineffectively enforced. Although a wide variety of policies came to be pursued by the various colonies, yielding a diverse pattern of schooling and literacy rates, the efforts of the Colonial Office, coupled with the availability of more resources from colonial taxation, may be responsible for the general pattern of marked progress in the extension of primary schooling and the diffusion of literacy during this period. Barbados was the major success story, with estimated literacy rates placing it among the more developed nations of the world. In other colonies, such as British Honduras and Jamaica, however, improvements were steady but slower, with the most striking increases in literacy occurring after 1891. Rates of literacy for blacks were generally lower in most of the British colonies in the Caribbean than in the United States but were comparable to or above those of most countries in South and Central America.

The other group of New World societies that began to realize rapid and substantial increases in literacy, paralleling major extensions of public schooling, during the late 1800s consists of a subset of former Spanish colonies. Argentina and Uruguay were the clear leaders among them (although still far behind the United States and Canada), with more than half their populations (age ten or older) literate by 1900. Chile and Cuba trailed somewhat behind, with roughly 40 percent literacy, and Costa Rica further still, at 33 percent. These five countries, which varied considerably in many important respects, had attained literacy rates greater than 66 percent by 1925. In contrast, a broad range of other Latin American countries, including Mexico, Brazil, Venezuela, Peru, Colombia, Bolivia, Guatemala, and Honduras, were not able to move much beyond 30 percent literacy until after 1925.

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Although virtually all New World economies enjoyed high levels of per capita income by the standards of the period, the United States and Canada had pulled far ahead of their Latin American neighbors in the establishment of schools and literacy attainment by the beginning of the nineteenth century. This dramatic contrast with the North is perhaps the most salient feature of the Latin American record in the development of education institutions overall, but it should not be allowed to obscure the important differences across countries in literacy rates and schooling (see tables 1 and 2). There were no significant movements toward public provision of primary education anywhere in Latin America until late in the nineteenth century, but literacy rose quickly in those countries that had taken the lead in promoting schooling. By 1900, Argentina, Chile, and Uruguay had literacy rates of over 40 percent, followed by Costa Rica with 33 percent. These figures are low relative to those of the United States and Canada but much higher than those of the two

TABLE 2
Students as a Percentage of Population in Selected Latin American Countries
 (ca. 1896)

Country	Population	Students	Students as a Percentage of Total Population
Costa Rica	243,205	21,829	8.98%
Uruguay	800,000	67,878	8.48
Argentina	4,086,492	268,401	6.57
Paraguay	329,645	18,944	5.75
Mexico	11,395,712	543,977	4.77
Guatemala	1,460,017	65,322	4.47
Venezuela	2,323,527	100,026	4.30
Nicaragua	282,845	11,914	4.21
Ecuador	1,271,861	52,830	4.15
El Salvador	777,895	29,427	3.78
Chile	3,267,441	95,456	2.92
Peru	2,700,945	53,276	1.97
Colombia	3,878,600	73,200	1.89
Brazil	14,002,335	207,973	1.49
Bolivia	2,300,000	24,244	1.05

SOURCE: Oficina Nacional de Estadística, *Resúmenes Estadísticos: Años 1883-1910* (San José, Costa Rica: Imprenta Nacional, 1912).

largest Latin American societies, Mexico and Brazil, with only 22 and 25 percent, respectively. Moreover, countries such as Bolivia, Guatemala, and Honduras fell even further behind, with literacy rates ranging from 11 to 17 percent. When one considers that these countries had similar government structures (federations) and a common institutional heritage (Spanish or Portuguese in the case of Brazil), the question of the sources of these substantial differences seems both intriguing and relevant to understanding what conditions were conducive to early investment in educational institutions like primary schools.

The local governments established under Spanish rule reflected

the corporate quality of Latin American society, characterized by a hierarchical structure where only *vecinos* (neighbors) were considered citizens. Such sharp distinctions in social class endured after independence, and neighbors continued to dominate the political order throughout the nineteenth century by way of political systems based on indirect elections and restrictions on voting that included income/wealth and literacy requirements. With this sort of extreme inequality in the distributions of income, human capital, and political power, it is perhaps not surprising that Latin American local governments typically failed to organize schools that were tax supported and open to all in what were generally very heterogeneous populations. This pattern stands in stark contrast with the experience in the United States and Canada, where local and state governments were the pioneers in establishing such schools. In Latin America national governments often had to get involved before substantial progress was made. Indeed, it is the timing of when national governments chose or were able to directly intervene in promoting education institutions that is often crucial in accounting for the differences between countries in their records of providing their populations with literacy and other basic skills. The greater importance of national government policy in Latin America and some of the conditions that influenced when national governments got involved are illustrated in our review below of four cases: Argentina, Chile, Costa Rica, and Mexico.

Argentina

After Argentina had established itself as a state and a national and stable government had been set up, the 1853 constitution directed that primary education was to be provided by the provincial governments and that Congress had the right to introduce guidelines for general and university education. In 1881, the National Council of Education was created to act as the governing body for Buenos Aires and the national territories; educational policy outside

those federal districts continued to be made by provincial authorities. The federal government would intervene in the educational affairs of provinces, however, when elementary school systems proved inadequate or provincial resources for education were scarce. Nevertheless, provincial government control over primary education remained unchallenged, as a matter of law, until 1904 when the Lainez Law eroded local jurisdiction over educational matters by allowing the federal government to establish elementary schools anywhere in the country in order to raise school standards. One of the most important pieces of education legislation during the nineteenth century was the 1420 Law, the final leg in the drive toward mass education started in 1860 under President Sarmiento. This 1884 law made primary education free and compulsory for all children between the ages of six and fourteen, instituted lay education, set limits on the maximum distance that a student could travel to attend school, and required one school for every 1,500 inhabitants in any given town.

Argentinean educational attainment was impressive by Latin American standards; the average literacy rate in the country went from 22.1 percent in 1869 to 65.0 percent in 1914.¹⁵ Nonetheless, the school system in Argentina was concentrated in the more prosperous regions and in areas with greater economic importance, such as urban centers (see table 3), particularly the area around Buenos Aires, as well as regions with a greater number of foreign-born. This pattern of much higher rates of literacy in urban centers than in the rest of respective countries was typical of Latin American societies that lagged in the establishment of educational institutions, but not of the United States or Canada.

The fact that the 1853 constitution conferred the responsibility of providing education to the provinces can partly explain this situation;

15. Leslie Bethell, ed., *The Cambridge History of Latin America*, 5 vols. (Cambridge, Eng.: Cambridge University Press, 1984).

TABLE 3
Literacy Rates in Selected Cities

City	Year	Male	Female	Total	Country Literacy Rate
Boston, Massachusetts	1850			91.1	95.1 *
New York City, New York	1850			93.6	93.9 *
Philadelphia, Pennsylvania	1850			93.2	93.1 *
Santiago, Chile	1854	52.4	43.3	47.1	13.3
Buenos Aires, Argentina	1855	56.0	48.0	52.0	23.8
					(1869)
San Juan, Puerto Rico (white)	1860	67.4	79.4	71.8	19.8
San Juan, Puerto Rico (colored)	1860	22.5	15.4	18.2	3.1
San Juan, Puerto Rico (all)	1860	52.3	43.0	47.9	11.8
Havana, Cuba (white)	1861	58.4	55.6	57.5	38.5
Havana, Cuba (colored)	1861	8.2	6.7	7.4	5.3
Havana, Cuba (all)	1861	45.9	34.1	41.3	23.8
San Jose, Costa Rica	1864	57.0	23.0	40.2	23.6
					(1892)
Buenos Aires, Argentina	1869	55.0	47.0	52.2	23.8
Kingston, Jamaica	1871			40.4	16.3
Santiago, Chile	1875	37.0	33.3	34.4	25.7
São Paulo, Brazil	1882			42.0	15.3
					(ca. 1882)
Kingston, Jamaica	1891			59.2	32.0
Buenos Aires, Argentina	1895	75.0	64.0	71.8	45.6

SOURCES: Newland, "La Educación Elemental"; Leslie Bethell, ed., *The Cambridge History of Latin America*, vols. 4 and 5 (Cambridge, Eng.: Cambridge University Press, 1984); Roberts, *The Population of Jamaica*, p. 78; U.S. Bureau of Census, *Seventh Census of the United States: 1850* (Washington, D.C.: Government Printing Office, 1853).

*Literacy level is for the state, not the country, that is, Massachusetts, New York, Pennsylvania. Also, literacy rates correspond to population over the age of twenty.

ation; poor provinces were less able to raise the resources necessary to make substantial improvements in schooling, and the 1881 law set a limit to federal government aid to provinces while making it solely responsible for funding schools in the capital and federal territories. Although virtually all regions in Argentina substantially

TABLE 4
Provincial Government Expenditures on Primary Education in Argentina
(per capita)

Province and City	ANNUAL EXPENDITURES (IN NOMINAL PESOS)	
	1874	1896
Buenos Aires	0.30	1.16
<i>Littoral</i>	0.37	0.56
Santa Fé	0.47	0.67
Entre Ríos	0.12	0.50
Corrientes	0.56	0.48
<i>Central</i>	0.11	0.29
Córdoba	0.09	0.29
San Luis	0.29	0.42
Santiago del Estero	0.06	0.24
<i>Andina</i>	0.38	0.60
Mendoza	0.71	0.72
San Juan	0.55	0.78
La Rioja	0.10	0.34
Catamarca	0.14	0.48
<i>Norteña</i>	0.36	0.46
Tucumán	0.50	0.49
Salta	0.18	0.38
Jujuy	0.07	0.38
TOTAL	0.28	0.68

SOURCE: Juan Carlos Vedoya, *Cómo fue la enseñanza popular en la Argentina* (Buenos Aires: Plus Ultra, 1973), p. 89.

NOTE: The 1896 data were converted into pesos fuertes (\$1 peso = \$0.35 peso fuerte) to make figures comparable. Per capita figures were obtained by dividing provincial budgets for education for the years 1874 and 1896 and by census figures for the population for 1869 and 1895.

boosted their per capita investments between 1875 and 1896, the province of Buenos Aires, which included the city of Buenos Aires, as well as the most productive farmlands in the country, did so at a pace that was nearly twice the national average, 300 percent (see table 4). By 1895, the literacy rate in Buenos Aires was 71.8 percent,

while the rest of the country had a literacy rate of only 45.6 percent.¹⁶ In 1914 the national literacy rate was 64.8 percent; in the eastern provinces of Buenos Aires, Santa Fé, Entre Ríos, and Corrientes, it reached 73.1 percent, but in the rest of the country the literacy rate was only 42.4 percent. Heavy immigration at the end of the nineteenth century induced many changes, however.¹⁷

Immigration had a major positive impact on literacy. The foreign-born were not only relatively more literate than the native population but more demanding of better public services such as education, and national governments were concerned with their incorporation into society. The Argentine government was aware that the provision of public education served as a means of encouraging immigration and of socializing immigrants, and legislation to promote schooling, such as the 1420 Law and the 1904 Lainez Law, was thus partly influenced by the inflow of people. Other evidence suggesting a conscious policy of using schools to foster assimilation is a 1920 law establishing that the primary educational system should create state schools without ethnic or religious discrimination, giving it an integrative character. The positive effect of immigration on literacy in Argentina can be seen in table 5; in 1895 and 1914 the average literacy rate of those who were foreign-born was 55 and 59 percent, respectively; whereas that of natives was 25 and 40 percent. Interestingly, the difference between literacy rates for foreign and native children between the ages of six and fourteen was quite small in 1909 (57 and 56 percent respectively; see table 5). This implies that the gap between the foreigners and natives was solely due to adults and that the growth of primary schooling was substantial enough that more than half of school-age children were then able to attain literacy—regardless of their place of birth.

16. See table 3.

17. From "Resúmen de la República" (Buenos Aires: República Argentina), table 13.

TABLE 5
Literacy Rates for Argentina by Province and Country of Birth:
1895, 1909, and 1914

Province and City	FOREIGN BORN (IN PERCENT)			NATIVES (IN PERCENT)		
	1895 (All ages)	1909 ^a (6-14)	1914 (All ages)	1895 (All ages)	1909 ^a (6-14)	1914 (All ages)
Buenos Aires	68%	71%	74%	53%	78%	65%
Martin García Island	n.a.	100	71	n.a.	61	72
<i>Littoral: East</i>						
Buenos Aires	60	57	64	37	60	50
Santa Fé	60	52	63	30	59	46
Entre Ríos	57	52	64	27	50	42
Corrientes	41	52	55	18	45	33
<i>Central</i>						
Córdoba	58	51	67	27	51	43
San Luis	70	58	74	27	49	46
Santiago del Estero	71	52	63	11	33	26
<i>Andina: West</i>						
Mendoza	53	45	54	31	49	42
San Juan	56	52	51	32	54	42
La Rioja	65	48	63	22	39	39
Catamarca	68	59	69	21	40	39
<i>Norteña</i>						
Tucumán	64	56	56	19	50	38
Salta	41	55	53	18	64	36
Jujuy	25	42	24	17	43	30
<i>Territories</i>						
<i>North</i>						
Misiones	20	38	38	17	45	34
Formosa	31	44	39	20	50	33
Chaco	51	52	56	15	50	35
Los Andes ^b	n.a.	8	47	n.a.	28	26
<i>Center</i>						
La Pampa	61	44	67	18	41	34
<i>West</i>						
Neuquén	23	47	42	8	39	22

TABLE 5
(continued)

Province and City	FOREIGN BORN (IN PERCENT)			NATIVES (IN PERCENT)		
	1895 (All ages)	1909 ^a (6-14)	1914 (All ages)	1895 (All ages)	1909 ^a (6-14)	1914 (All ages)
<i>Territories (continued)</i>						
<i>South</i>						
Río Negro	44	46	54	20	43	28
Chubut	77	63	67	28	56	36
Santa Cruz	73	n.a.	77	26	n.a.	45
Tierra del Fuego	84	67	78	39	61	54
TOTAL	55	57	59	25	56	40

SOURCES: For years 1895 and 1914, *Resúmen de la República* (República de Argentina). The numbers represent the literate foreign (native) population divided by the total foreign (native) population. For the year 1909, *Censo General de Educación* (1909) (Buenos Aires: República de Argentina, 1910). The number represents the literate foreign (native) population divided by the foreign (native) population between the ages of six and fourteen.

^a The 1909 figure for the total is a weighted average.

^b Los Andes existed transitorily between the years 1900 and 1943. Its surface was then divided between the provinces of Catamarca and Jujuy. We therefore classify it among the northern territories.

The expansion of the public schools in Argentina was not part of a general movement for democratization as it was in the United States. Major Argentine electoral reforms did not precede the first big push at establishing more and better-funded public schools as they had in the United States. Indeed, the 1853 constitution had not restricted the right to vote based on income/wealth or literacy, but that did not mean that there was general political equality in late-nineteenth-century Argentina. Some provinces maintained income/wealth or literacy requirements for suffrage, and the ease of political expression for the poor and illiterate was likely also constrained by a limited number of polling places and the absence of a secret ballot. Although partly due to a puzzling lack of propensity for foreign-born to apply for citizenship and thus obtain the right

to vote, the fraction of the population who voted remained very low (less than 2 percent in 1896, for example) until 1912, when the Sáenz Peña Law ushered in the secret ballot. Although Argentina was one of the outstanding achievers in matters of education in Latin America, its high level of literacy tended to be concentrated in the littoral area (Buenos Aires, Santa Fé, Entre Ríos, Corrientes) and among the immigrants who not only contributed to the increase in the level of literacy but promoted active government policy in matters of education.

Chile

As in Argentina, immigration played an important role in increasing the relative levels of education in Chile. The rate of literacy in 1854 was 13.3 percent for the country as a whole but 46.3 for the foreign-born.¹⁸ Problems of regional disparity prevailed in Chile as well; between the years 1885 and 1914 an increase in nitrates led to an economic boom that mainly benefited the cities. The consequent growth of cities led to an expansion in public services, of which schooling was among the most important. Between 1885 and 1910, literacy increased from 28.9 percent for the population as a whole to more than 50 percent, with the literate population heavily concentrated in Chile's three large cities: Santiago, Valparaíso, and Concepción. The Chilean experience is puzzling in that the country was able to maintain a relatively high level of education when compared with the rest of Latin America despite its large number of private schools and what appeared to be relatively strict voting laws. A closer examination, however, shows that Chile was one of the few countries that provided subsidies to private schools¹⁹ and that

18. Carlos Newland, "La Educación Elemental en Hispanoamérica: Desde la Independencia hasta la Centralización de los Sistemas Educativos Nacionales," *Hispanic American Historical Review* 71, no. 2 (May 1991).

19. Carlos Newland, "The Estado Docente and Its Expansion: Spanish America

the laws governing elections during the nineteenth century were less constraining in Chile than in the rest of Latin America.

One of the first laws to govern elections was the 1833 constitution, which established income and property requirements that could easily be met by artisans, salaried workers, miners, petty merchants, public employees (such as army officers and policemen), and the 60,000 men in the national guard, for whom the government purposefully set low income requirements in 1840.²⁰ Veterans of the wars of independence were exempted from the income and literacy requirements. In 1874, suffrage was expanded to include all literate males, regardless of income since "whoever [could] read and write [had] the income that the law require[d]."²¹ A sufficient test of literacy was whether a person could write his own name, starkly different from other Latin American countries, where individuals had to show a "literary" or professional title in order to fulfill the literacy requirement.²² As a result of the 1874 law the number of registered voters tripled: from 49,047 in 1872 to 148,737 in 1878. The only group to significantly grow in numbers, both in absolute and relative terms, were registrants listing agriculture as their only occupation, from 16,698 in 1872 to 70,966 in 1878. Thus political power may not have been as unequally distributed in Chile as it was in the rest of Latin America. This does not necessarily mean that there was higher political participation than in other Latin American countries. If political power had been held by a broader spectrum of the population, it is possible that local government would have been

Elementary Education, 1900–1950," *Journal of Latin American Studies* 26, no. 2 (May 1994).

20. J. Samuel Valenzuela, "Building Aspects of Democracy before Democracy: Electoral Practices in Nineteenth Century Chile," in Eduardo Posada-Carbó, ed., *Elections before Democracy: The History of Elections in Europe and Latin America* (New York: St. Martin's Press, 1996).

21. *Ibid.*, p. 224.

22. See, for example, the 1857 constitution in Mexico.

less reticent to provide public education and that collective-action problems may have been dampened.

Costa Rica

Costa Rica has long been considered a relatively egalitarian society. Historians have attributed part of this equality to its endowments: a sparsely populated land, with a small indigenous population, and a predominance of free peasantry in the central valley. The lack of precious minerals as well as the difficulty of realizing scale economies in agriculture owing to a mountainous terrain also likely contributed to relative equality in incomes. One fundamental characteristic of Costa Rica's political organization, once it became independent from Spain in 1821, were *ayuntamientos* (city councils), which had been set up by the Cádiz constitution between 1812 and 1814 as a basic governmental structure. During the conflicts between Guatemala and León (in Nicaragua) over control of the newly independent states in Central America, these councils assumed many functions typical of a national state, such as defense, and until 1823 they rotated the seat of government every three months between the four principal cities: Cartago, San José, Alajuelá, and Heredia. After the newly independent nation of Costa Rica was established, the government recognized the authority of the *ayuntamientos* for the provision and control of education, originally conferred on them by the Cádiz constitution.²³

The role of the municipalities in overseeing schools was bolstered during the 1820s when the national government implemented a series of measures that helped the municipal govern-

23. Luis Fernando Sibaja, "Ayuntamientos y Estado en los Primeros Años de Vida Independiente de Costa Rica (1821-1835)," in *Actas del III Congreso de Academias Iberoamericanas de la Historia: El Municipio en Iberoamérica (Cabildos e Instituciones Locales)* (Montevideo, Uruguay: Instituto Histórico y Geográfico del Uruguay, 1995).

ments to raise more revenue for educational expenses.²⁴ In 1849, education boards, composed of leading local civil, political, and ecclesiastical figures, were set up to supervise local school systems. The 1869 constitution made primary education obligatory for both sexes and tuition-free, with municipalities in charge of its general direction and the federal government in charge of inspection. Because of the problems municipal governments had in raising revenue, however, the Treasury assumed responsibility for paying teachers' salaries. All other expenses were left to the municipalities, including the costs of infrastructure, which demanded substantial funds and exacerbated the fiscal problems faced by local governments. This situation remained unchanged until 1885, when a new administration issued two laws, the Fundamental Law of Public Instruction (1885) and the General Law of Common Education (1886), that set the basis for reform from the bottom up. The new laws relied on two basic premises: that the executive power had absolute control over matters related to primary education and that this power was to be exercised through the government's direct delegates and administered through the local authorities. Citizens in each district were required to pay for infrastructure expenses in public schools. In addition, the laws increased the federal allocation for education, and the national government began buying school supplies in bulk and selling them to the local boards of education at a discount. In August 1888, Congress approved a federal loan for education of \$300,000 pesos at 9 percent interest. Although the districts that benefited most from this loan were those that had enough revenue to cover the interest payments, localities with lower

24. Astrid Fischel, *Concenso y Represión: una interpretación socio-política de la educación costarricense* (San José, Costa Rica: Editorial Costa Rica, 1987). Local taxes included taxes on cutting up cattle (the largest source of revenue), fines (including those charged for not attending school), money from the commutation of a sentence, taxes for the sale of tobacco and liquor, donations and contributions, vacant inheritances, and taxes on heads of family.

revenues were entitled under the law to receive government aid if they could not raise sufficient funds by taxing their constituents. An important reason for the success of these reforms was that the minister of public instruction, Mauro Fernández, was also the minister of finance at this time; this made it easier to coordinate the educational reforms and the reforms concerning local public finances.

The increased government funds assigned to primary education in the 1885 and 1886 laws reflected an interest and support for public schooling in Costa Rica. Unlike any of the other Latin American countries, Costa Ricans attributed particular significance to primary education, which was seen as the basis for a democracy. During the 1881 economic crisis, when the price of coffee fell and a fiscal crisis ensued, subsidies from the federal government to the school system were suspended for secondary and higher education (including normal schools) but not for primary education.²⁵ In contrast, Chile committed roughly equivalent amounts to primary, secondary, and higher education in 1875, despite there being many more students in primary school. In 1900, Mexico spent \$104.79 per secondary school student and \$126.42 per higher education student, while devoting only \$0.20 to primary students.

Mexico

In Mexico, even under Spanish rule, schooling was seen as important (it was originally used by the Catholic Church as a means of converting the indigenous population to Catholicism). By the end of the eighteenth century the Bourbon dynasty had set up a system that encouraged the expansion of schooling by giving *cabildos* (town councils) control over all matters relating to primary education. The 1812 Cádiz constitution established a General Director of Studies to oversee all matters of education in the colonies and instructed the colonial government to create primary schools in which children

25. Ibid.

would be taught to “read, write and count, and catechism,” while retaining localities’ rights over education.²⁶ This municipal prerogative was recognized after independence in the 1824 constitution, which protected the right of the new federal entities to organize education according to their specific needs. Schooling was declared “necessary for all citizens” in the provisional constitution of 1814, and, after independence, the 1833 constitution declared schooling obligatory for men, women, and children.²⁷ The ten years of civil war before independence, together with almost fifty years of persistent deadlock between conservatives and liberals, however, led to a climate of uncertainty and constant changes in government that undoubtedly complicated the task of raising resources to support an extensive system of public schools. Not until after the reform wars and the end of the French intervention (1867) was a legal outline of the public school system drafted (1861) and enacted (1867 and 1869) as laws of public instruction. It took another decade for the society to invest the necessary resources in the project, during the period of President Porfirio Díaz’s government.²⁸

In contrast with the Costa Rican experience, the Mexican government did not divide the tasks of control and administration between itself and the municipalities. The 1867 and 1869 laws of pub-

26. Antonio Annino, “The Ballot, Land and Sovereignty: Cadiz and the Origins of Mexican Local Government, 1812–1820,” in Eduardo Posada-Carbó, ed., *Elections before Democracy: The History of Elections in Europe and Latin America* (New York: St. Martin’s Press, 1996). Even though most of the articles in the Cádiz constitution were not implemented as law, owing to the wars of independence (1810–21), it began a process of decentralization by creating more *cabildos*. These town councils were used as a political instrument aimed at weakening insurgency but in fact gave towns greater local autonomy and reinforced insurgency from the periphery to the center.

27. Fernando Solana, Raúl Cardiel Reyes, and Raúl Bolaños Martínez, coordinators, *Historia de la educación pública en México* (Mexico: Fondo de Cultura Económica, 1981).

28. The period of the Porfiriato starts in 1876 when Porfirio Díaz assumes the presidency for the first time; it ends in 1910 with the Mexican revolution.

lic instruction—intended to reorganize public education at a national level and to unify tuition-free primary schools in the country—began the tendency toward centralizing all matters relating to education. Due to the federal nature of the country, however, their implementation was limited to the capital city (Distrito Federal, hereafter, DF) and the federal territories (Baja California, Quintana Roo, and Tepic), even though some states issued similar laws afterward. A similar situation arose with the 1869 law, which suppressed religious education and set out in detail the number of schools required, as well as study plans and school calendars that were to be used throughout the country. Consequently, conflicts about educational policy arose early between different levels of government. For example, the Díaz administration proposed the Federal Law of Public Instruction of 1888, which created a unified federally directed primary school system, and urged states to adopt the law. The result was a de facto congressional veto, which was essentially overturned when, in 1890, the minister of public instruction called two national education congresses and got them to agree on a uniform national school system.²⁹ Because Congress opposed the loss of state and municipal power in educational matters, from 1896 onward the Díaz government implemented all legislation relating to education by presidential decree. This strategy of bypassing Congress, or using parallel institutions to override it, was repeated by the central government even after the revolution (1910) that followed Díaz's rule.

Nevertheless, the federal government undertook to establish a system of tuition-free primary schools with the 1888 Federal Law of Primary Instruction. By 1900, many state governments had passed similar laws subsidizing and administering municipal schools, which up to this point had been inadequately supported, and creating a unified state policy in matters of education. During the 1920s

29. Mary Kay Vaughan, *The State, Education, and Social Class in Mexico, 1880–1928* (DeKalb: Northern Illinois University Press, 1982).

President Calles set up federal delegates in charge of education and gave them the power to administer the federal funds in each district. This created parallel bureaucracies for education in each state—one associated with the state and one with the federal government. The 1920s also marked the creation of the Ministry of Education (1921) and the first national campaigns (called cultural missions) to implant literacy nationwide by the two most prominent secretaries of education in Mexican history: José Vasconcelos (1921–1924) and Moisés Sáenz (1928). Those campaigns coincided with the largest increase in the federal budget for education at that time: 15 percent of the total federal budget for the year 1923, which by 1930 then fell to its prerevolutionary level of 7 to 9 percent. In sum, although the federal government promoted the expansion of the school system, it was at the expense of local government control, and thus national and provincial governments gradually took over the responsibilities of municipalities in matters of education.³⁰

Mexico's history in matters of education raises two distinct issues: What factors led the country toward a centralized administration of education? and When centralization did occur, what were the results? that is, Was centralization beneficial in stimulating the expansion of public schools? Who benefited? and How costly was it to let the states, and ultimately the national government, conduct all policy relating to schooling?

In municipalities and provinces with great inequality or population heterogeneity, elites who would have borne a greater than proportionate share of the costs and received a less than proportionate share of the benefits, would have been inclined to use their disproportionate political influence to oppose raising and disburs-

30. *Ibid.* State expenditures on schooling went from 10.52 percent in 1878 to 23.08 in 1910, becoming the largest item in states' budgets. Combined expenditures in education for both the federal and the state governments during the Porfiriato increased at an impressive pace: \$26,767,224 in 1878 and \$126,177,950 in 1910—a rise of more than 370 percent.

ing funds for public schools. In such cases, the federal government could step in as a third party to solve collective action problems or compel an implicit redistribution of resources. When the federal government first began to pursue an active educational policy, however, during the Porfiriato, the gap between the expenditures of the federal government and those of the states widened, and by 1910 \$6.92 was spent per inhabitant in the DF and federal territories, while an average of \$0.36 was spent by the state governments.³¹ This was because the federal government was constrained to focus on districts over which it had unambiguous authority in educational matters and reflected the limited support of public schools in most states. This was not true throughout Mexico, however. The generally more prosperous states of northern Mexico, such as Coahuila, Sonora, Nuevo León, Tamaulipas, and Chihuahua, together with the state of Yucatán (the major henequen producer), had among the highest expenditures on education in the country (see table 6).

The northern states had demonstrated early on a commitment to public schooling; indeed, in some areas public schools with broad access were established at the beginning of the nineteenth century, not unlike the pattern in the United States and Canada. Like their northern neighbors, the cities and towns of northern Mexico had relatively homogeneous populations of largely European descent who had isolated or exterminated the indigenous groups of the region in order to occupy the territory. This tended to produce communities with relative equality in income and human capital (as in Canada and the United States). The city of Chihuahua, founded in 1709, opened its first primary public school in 1786 when its population reached 18,288 inhabitants, and in 1797 efforts were undertaken to create a system of public schools in every large town in the state. By 1808 there were public primary schools in five different

31. See table 6.

localities.³² But the centralization of the control and administration of resources left such localities impoverished and unable to set their own priorities in matters of education. Efforts to reduce this problem—such as those undertaken under the Díaz administration, which gave preferential treatment to some municipalities (in this case, Nuevo León and Coahuila, two of the northern states) by giving them the responsibility of administering primary school expenditures in their states—proved unsuccessful. In other words, although the intervention of the federal government stimulated the spread of public schooling in the country at large, some of the more progressive states' school systems may have actually deteriorated because of a redistribution of resources across states, or toward the center, by federal taxation.

As our brief review of the four case countries illustrates, the pattern common to the northern part of North America, wherein local or state populations mobilized early on to establish primary schools accessible to everyone, was rare in Latin America. Moreover, those relatively few areas where this did occur, such as in parts of northern Mexico and Costa Rica, resembled the United States and Canada in having relatively homogeneous populations.³³ This seems consistent with the idea that, given some base level of per capita income, the ease with which collective efforts to coordinate, organize, or provide public goods, such as universal access to primary schools, varied across communities with the degrees of population homogeneity and equality in economic and political circumstances. From this perspective, it is not surprising that the highly

32. Luis Alboites, *Breve Historia de Chihuahua* (Mexico: Colegio de Mexico, 1994).

33. To say that the population of northern Mexico was homogeneous is not strictly accurate. Although precise figures are not available, it seems likely that many Native Americans were living in isolated rural areas. The towns and more densely settled districts, however, had relatively homogeneous populations of European descent.

TABLE 6
Combined State and Municipal Revenue and Primary School Expenditures during the Porfiriato (in pesos per capita)

State	Combined State and Municipal Revenue		Increase in per Capita Revenue 1888-1907	Expenditures in Primary Education		Increase in Primary School Expenditures 1874-1907
	1888	1907		1874	1907	
<i>Northwest</i>						
Baja California*						
Baja California Sur*						
Nayarit*						
Sinaloa	4.44	4.65	4.73%	0.31	0.60	93.55%
Sonora	3.67	6.56	78.75	0.38	0.98	157.89
<i>North</i>						
Chihuahua	2.96	6.98	135.81	0.02	0.98	4800
Coahuila	3.47	6.66	91.93	0.25	1.12	348
Durango	1.15	2.47	114.78	0.10	0.53	430
Zacatecas	2.62	2.87	9.54	0.08	0.52	550
<i>Northeast</i>						
Nuevo León	1.40	3.31	136.43	0.36	0.68	88.89
Tamaulipas	1.34	5.66	322.39	0.07	0.77	1000
<i>Central West</i>						
Aguascalientes	1.40	4.24	202.86	0.11	0.38	245.45
Guanajuato	1.74	2.01	15.52	0.24	0.19	-20.83
Jalisco	1.09	2.53	132.11	0.05	0.34	580
Querétaro	1.49	2.45	64.43	0.09	0.18	100
San Luis Potosí	2.63	2.53	-3.80	0.17	0.28	64.71
<i>Gulf</i>						
Tabasco	3.26	5.35	64.11	0.25	0.52	108
Veracruz	4.82	4.05	-15.98	0.19	0.46	142.11
<i>Central South</i>						
Distrito Federal*						
Hidalgo	2.10	2.80	33.33	0.18	0.39	116.67
México	1.24	2.93	136.29	0.24	0.31	29.17
Morelos	3.20	4.04	26.25	0.27	0.51	88.89
Puebla	2.15	3.64	69.30	0.20	0.30	50
Tlaxcala	1.12	2.09	86.61	0.16	0.35	118.75

TABLE 6
(continued)

State	Combined State and Municipal Revenue		Increase in per Capita Revenue 1888-1907	Expenditures in Primary Education		Increase in Primary School Expenditures 1874-1907
	1888	1907		1874	1907	
<i>South</i>						
Chiapas	0.66	2.43	268.18	0.03	0.23	666.67
Colima	2.25	4.45	97.78	0.21	0.61	190.48
Guerrero	1.58	1.25	-20.89	0.22	0.18	-18.18
Michoacán	1.16	1.56	34.48	0.07	0.12	71.43
Oaxaca	0.77	1.59	106.49	0.09	0.24	166.67
<i>Southeast</i>						
Campeche	3.16	7.24	129.11	0.18	1.00	455.56
Quintana Roo*						
Yucatán	2.35	11.51	389.79	0.17	0.80	370.59
TOTAL	38.17	68.69		3.12	7.39	
AVERAGE	2.01	3.62	95.58	0.16	0.39	185.58

SOURCE: Mary Kay Vaughan, *The State, Education, and Social Class in Mexico, 1880-1928* (DeKalb: Northern Illinois University Press, 1982).

NOTES: The federal government spent \$1.37 per inhabitant on education in 1878, and \$6.92 in 1910. The regional division for Mexico is based on Angel Bassols's (UNAM, Department of Economics) economic classification of states, based on the physical characteristics of the region.

*Funded by the federal government.

stratified societies of Latin America lagged far behind the United States and Canada in establishing schooling institutions and attaining high rates of literacy.

We have emphasized two closely related reasons why population homogeneity might favor the successful completion of collective action projects such as the establishment of universal schools. First, where citizens are alike in values, endowments, and behavior, they should find it easier to agree on whether and how to carry out such an enterprise. Second, when the benefits and especially the costs of a project are unequally distributed, and in fact serve as a

means of redistributing substantial resources from rich to poor, those who bear a highly disproportionate share of the costs will likely attempt to block the project. Particularly in cases where this group also enjoys disproportionate political power, such projects often fail. This type of situation is seen throughout Latin America in the restrictions on the conduct of elections—who had the right to vote and whether ballots were secret or public. Income (or wealth) and literacy requirements for suffrage were common, but it was mainly a lack of literacy that limited the population who could participate politically. In this way, elite individuals who were generally among the small group who could vote, and who stood to bear a much higher share of the costs than they would reap of the benefits, would resist public enterprises such as the provision of universal schools supported by tax revenue. Thus, the inequality in the distributions of income, human capital, and political power that arose out of the conditions of early settlements tended to persist over time—perpetuated at first by the institutions of imperial Spain and then by those that evolved (or failed to evolve) in the newly formed states after independence.

With independence from Spain, the new nations had more liberty to shape their social and economic institutions, and great contrasts across the paths they came to follow are evident. None of them generated universal primary schools on any widespread basis from local or state levels, as had much of the United States and Canada. When major progress came on this front, it was typically because of interventions from national governments at the end of the nineteenth century or later. In Costa Rica, one of the most progressive nations, a more equal distribution of resources and a relatively homogeneous population may have made resistance to public schools less enduring and more easily overcome, but the national government played a major role by infusing needed resources to the municipalities. In Argentina and Chile, the effects of exogenous factors such as immigration, coupled with more equality in political

power (as compared to other Latin American countries), helped spur the respective national governments to push for the expansion of public schools. In Mexico, however, whose highly heterogeneous and unequal society was perhaps more typical of Latin America overall, the political climate was adverse for major investments in public education, and a sharp break with past institutions was necessary to establish an extensive public school system.

III

Although other factors such as per capita income were important, our review suggests that the extent of inequality in the Americas, especially as reflected in the distribution of political power, may well have been influential in accounting for the magnitude of investments in schooling early in the development process. Both in the United States and in Canada, large numbers of distinct political jurisdictions chose to introduce universal primary schools supported by general taxes not long after major extensions of the suffrage. A similar pattern of expansions of primary schools following suffrage reform is also evident in nineteenth-century Britain. Within Latin America, those countries that were leaders in public provision of education, and in the attainment of high rates of literacy—Argentina, Costa Rica, and Chile (to a perhaps lesser degree)—generally had relatively greater equality in the distributions of income, human capital, and political power, probably throughout their histories since European colonization. Societies that had quite heterogeneous populations and much less equality, such as Mexico, were, in contrast, slower to establish or expand public schools. Overall, the evidence across countries on the proportions of the population that were literate and that enjoyed the right to vote is consistent with these characterizations.

Although the theories of how the extent of inequality might affect the social decision to invest in public institutions of primary

education are reasonable, and receive considerable support from the outlines of the historical experience, one would like to subject the idea to a more systematic test of consistency with the evidence. This is not easy, however. First, estimates of inequality in income or wealth during the nineteenth century exist for only a few countries, and data are scarce for other relevant variables as well. Second, and fundamental in a conceptual sense, it is difficult to identify clear lines of causation because the provision of universal primary schooling has a powerful effect on the degree of inequality in each of the various dimensions we focus on (wealth/income, human capital, and political power). When variables are mutually reinforcing or simultaneously determined, discerning what is exogenous and what is endogenous is not transparent.

The problem is that, throughout the nineteenth century, citizenship and the right to vote were linked to literacy in most of the Americas. Indeed, as seen in table 7, virtually all Latin American countries maintained, with minor exceptions, both literacy and wealth requirements for the franchise through the early twentieth century. Some examples include Bolívar's constitution, which required the capacity to read and write to obtain citizenship; the Cádiz constitution of 1812, which required citizens to be literate by 1830 (this condition applied to the remaining colonies such as Cuba and Puerto Rico); the Peruvian constitution of 1823, which made literacy a binding condition for citizenship by the year 1840 (three years later, a new constitution made the literacy requirement binding immediately); and Mexico's policy, in which each state decided on the date when literacy would become a binding requirement for citizenship (most states set the dates between 1836 and 1850).³⁴ Furthermore, because the education system taught most individuals to read first and write later, many of the definitions of citizenship in the

34. Dorothy Tanck de Estrada, "Las Cortes de Cádiz y el desarrollo de la educación en México," *Historia Mexicana* 29, no. 1 (1979): 17.

newly independent Latin American countries made reading and writing separate requirements; an individual had to read *and* to write in order to obtain full citizenship rights. These restrictions on the right to vote seem to have been enforced, with some exceptions.³⁵ As evident from both tables 7 and 8, the proportions of the population voting in Latin American elections varied substantially among countries and were generally very low by international standards—especially in those with low literacy rates (see table 1). This suggests both that such countries had highly heterogeneous populations and that groups with low literacy rates had limited political power and found it difficult to secure increases in resources targeted at the expansion of schools (among other public services they might have desired). The obstacle to mobilizing support for public schools with open access was made all the more formidable by the fact that those who enjoyed the right to vote were likely those who would have paid most of the taxes for operating new schools and yet reaped few of the direct benefits. In such a situation, where inequality in human capital and political power reinforce each other, it is easy to understand how both forms of inequality could persist over time in societies that began with extreme inequality—as many of the New World economies other than the United States and Canada did.

A basic test of the hypothesis that inequality in political power may have worked toward delaying investments in the establishment of broad systems of public schooling in many New World societies is to examine whether there were great imbalances in who had the right to vote and how they varied across countries.

35. In Chile, a voting registry was created in which political parties sought to enroll most of their supporters; one logical choice of supporters for the ruling parties was the National Guard. To enfranchise the National Guard, the government had to lower income restrictions and slacken literacy requirements (a person was required to read and write their name) and, by doing so, it enfranchised most of the population. See Valenzuela, "Building Aspects of Democracy."

TABLE 7
Laws Governing the Franchise and the Extent of Voting
in Selected American Countries, 1840-1940

		Secret Ballot	Wealth Require- ment	Literacy Require- ment	Voting Population (in percent)
1840-80					
Chile	1869	Y	Y	Y	1.6%
	1878	Y	N	N ^a	—
Costa Rica	1890	N	Y	Y	—
Ecuador	1848	N	Y	Y	0.0
	1856	N	Y	Y	0.1
Mexico	1840	N	Y	Y	—
Peru	1875	N	Y	Y	—
Uruguay	1840	N	Y	Y	—
	1880	N	Y	Y	—
Venezuela	1840	N	Y	Y	—
	1880	N	Y	Y	—
Canada	1867	N	Y	N	7.7
	1878	Y	Y	N	12.9
United States	1850 ^b	Y	N	N	12.9
	1880	Y	N	N	18.3
1881-1920					
Argentina	1896	N	Y	Y	1.8 ^c
	1916	Y	N	N	9.0
Brazil	1894	N	Y	Y	2.2
	1914	N	Y	Y	2.4
Chile	1881	Y	N	N	3.1
	1920	Y	N	Y	4.4
Colombia	1918 ^d	Y	N	N	6.9
Costa Rica	1912	N	Y	Y	—
	1919	N	N	N	10.6
Ecuador	1888	Y	Y	Y	2.8
	1894	Y	N	Y	3.3
Mexico	1920	Y	N	N	8.6
Peru	1920	N	Y	Y	—
Uruguay	1900	N	Y	Y	—
	1920	Y	N	N	13.8
Venezuela	1920	N	Y	Y	—
Canada	1911	Y	N	N	18.1
	1917	Y	N	N	20.5

TABLE 7
(continued)

		Secret Ballot	Wealth Require- ment	Literacy Require- ment	Voting Population (in percent)
United States	1900	Y	N	Y ^e	18.4%
	1920	Y	N	Y	25.1
1921-40					
Argentina	1928	Y	N	N	12.8
	1937	Y	N	N	15.0
Bolivia	1951	?	Y	Y	4.1
Brazil	1930	N	Y	Y	5.7
Colombia	1930	Y	N	N	11.1
	1936	Y	N	N	5.9
Chile	1920	Y	N	Y	4.4
	1931	Y	N	Y	6.5
	1938	Y	N	Y	9.4
Costa Rica	1940	Y	N	N	17.6
Ecuador	1940	Y	N	Y	3.3
Mexico	1940	Y	N	N	11.8
Peru	1940	Y	N	Y	—
Uruguay	1940	Y	N	N	19.7
Venezuela	1940	Y	Y	Y	—
Canada	1940	Y	N	N	41.1
United States	1940	Y	N	Y	37.8

^a After eliminating wealth and education requirements in 1878, Chile instituted a literacy requirement in 1885, which seems to have been responsible for a sharp decline in the proportion of the population that was registered to vote.

^b Three states, Connecticut, Louisiana, and New Jersey, still maintained wealth requirements in 1840 but eliminated them soon afterward. All states except Illinois and Virginia had implemented the secret ballot by the end of the 1840s.

^c This figure is for the city of Buenos Aires and likely overstates the proportion who voted at the national level.

^d The information on restrictions refers to national laws. The 1863 constitution empowered provincial state governments to regulate electoral affairs. Afterward, elections became restricted (in terms of the franchise for adult males) and indirect in some states. It was not until 1948 that a national law established universal adult male suffrage throughout the country. This pattern was followed in other Latin American countries, as it was in the United States and Canada to a lesser extent.

^e Eighteen states, seven southern and eleven nonsouthern, introduced literacy requirements between 1890 and 1926. These restrictions were directed primarily at blacks and immigrants.

TABLE 8
International Comparisons of Laws Relating to Suffrage,
and the Extent of Voting

Country	Year Secret Ballot Attained	Year Women Gained the Vote	Year Universal Equal Male Suffrage Attained	Proportion of Population Voting 1900 (in percent)
Austria	1907	1919	1907	7.9%
Belgium	1877	1948	1919	22.0
Denmark	1901	1918	1918	16.5
Finland	1907	1907	1907	4.6
France	1831	1945	1848	19.4
Germany	1848	1919	1872	15.5
Italy	1861	1946	1919	6.8
Netherlands	1849	1922	1918	12.0
Norway	1885	1909	1921	19.5
Sweden	1866	1921	1921	7.1
Switzerland	1872	1971	1848	22.3
United Kingdom	1872	1918	1948	16.2
Canada	1874	1917	1898 ^a	17.9
United States	1849 ^b	1920	1870 ^c	18.4
Argentina	1912	1947	?	1.8 ^d
Bolivia	?	?	1956	—
Brazil	1932	1932	1988	3.0
Chile	1833	1949	1970	4.2
Costa Rica	1925	1949	1913	—
Ecuador	1861	1929	1978	3.3
El Salvador	1950	1939	1950	—
Guatemala	1946 ^e	1946	1965	—
Peru	1931	1955	1979	—
Uruguay	1918	1932	1918	—
Venezuela	1946	1945	1946 ^f	—

^a By 1898, all but two Canadian provinces had instituted universal equal suffrage for males.

^b By the end of the 1840s, all states except Illinois and Virginia had adopted the secret ballot.

^c Eighteen states, seven southern and eleven nonsouthern, introduced literacy requirements between 1890 and 1926. These restrictions were directed primarily at blacks and immigrants.

^d This figure is for the city of Buenos Aires and likely overestimates the national figure.

^e Illiterate males did not obtain the secret ballot until 1956; females did not obtain it until 1965.

^f The 1858 constitution declared universal direct male suffrage, but this provision was dropped in later constitutions. All restrictions on universal adult suffrage were ended in 1946, with the exception of different age restrictions for literate and illiterate persons.

Differential access to the right to cast a vote is one of the most direct, and easily measurable, channels through which an elite can exercise disproportionate political influence. Summary information about the policies governing who had the right to vote in various countries of the Americas during the late nineteenth and early twentieth centuries is reported in table 7. The display indicates that, although the right to vote was generally reserved to adult males, the United States and Canada were the clear leaders in doing away with restrictions based on wealth and literacy and thus had much higher fractions of their populations voting than anywhere else in the New World. Not only did they attain the secret ballot and extend the franchise even to the poor and illiterate much earlier (a right that was to a significant degree withdrawn at the expense of blacks in much of the southern United States during the 1890s and for an extended period), but the United States and Canada were about a half century ahead of even the most democratic countries of Latin America (Uruguay, Argentina, and Costa Rica) in the proportions of the population voting. Through 1940, they routinely had proportions voting that were 50 to 100 percent higher than did their most progressive neighbors to the south, three times higher than in Mexico, and up to ten times higher than in countries such as Brazil and Bolivia.

This pattern suggests that there was at least some relationship between the extents of literacy and of the right to vote—or between inequality in human capital and in political power. The United States and Canada had no restrictions on white male universal suffrage, were early in establishing universal public schools, and enjoyed high levels of literacy; in contrast, nearly all their neighbors in the hemisphere maintained literacy requirements and other restrictions on the franchise until the beginning of the twentieth century or later. Moreover, within Latin America, it was typically those countries that had the broadest franchise and were the first to extend the right to vote—such as Argentina, Uruguay, and Costa

Rica—that led Latin America in expanding the public school system and raising literacy rates late in the nineteenth century. This empirical association is consistent with our hypothesis, but several alternative interpretations might be offered. One is to simply dismiss the low proportions of the voting population as a consequence of the prevalence of literacy requirements in societies with low rates of literacy. But this begs the question of why it was that those countries with low literacy rates were much more likely to maintain the literacy requirements, or why countries that dropped such restrictions were more likely to establish public schools and realize large advances in literacy during the nineteenth and early twentieth centuries. Although others might try to account for the empirical association as largely a result of the legacy of British institutions, one should be skeptical of this approach as well. Not only does it ignore the variation noted within Latin America, but few of the many other (including former) British colonies in the Americas came close to matching the records of the United States and Canada in literacy attainment until the British Colonial Office got involved in promoting public schooling late in the nineteenth century.

The extension of suffrage in the United States and Canada, as well as its relation to the respective movements for the establishment of tax-supported public primary or common schools, helps establish a path of causation from a change in the extent of one form of inequality to a change in the extent of another. Although not excluding the possibility of other factors influencing social decisions to expand public schooling, at least in some of the countries in the Americas, a change in the extent of political inequality acted as a salient stimulus. The achievement of universal white male suffrage in the United States was the product of a long series of hard-fought political battles over the first decades of the nineteenth century—not a commitment on the part of those who drafted the Constitution. Historians of education have judged it no coincidence that this movement triumphed in the 1820s in the United States at the

same time that the movement for “common schools”—tax supported, publicly controlled and directed, and free to all—got started. Other prominent occurrences of the extension of suffrage being implemented just before major expansions of schooling include the passage in England of the landmark Elementary Education law of 1870 (and a series of further laws through 1891 expanding access to primary schools) not long after the Second Reform Act of 1867.³⁶

By providing an even broader international perspective, table 8 highlights how slow most of the New World societies, despite being nominal democracies, were to extend the franchise to the bulk of their populations. The great majority of European nations, as well as the United States and Canada, achieved secrecy in balloting and universal adult male suffrage long before countries in Latin America or the Caribbean, and the proportions of the population voting in the former were always higher and often four to five times those in the latter. Although many factors may have contributed to the relatively low vote totals in Latin America and the Caribbean, the political decisions to maintain wealth and literacy requirements (evidently binding constraints) on the franchise appear to have been of central importance.

To examine the empirical association between the extent of suffrage (a proxy for the degree of inequality in political power) and the investment in schooling institutions more directly, let us look at the ratio of students in primary and secondary schools to the population between ages five to nineteen and at the fraction of the total population who cast votes in a wide range of countries in the Americas and Europe (see table 9). Several features are immediately evident. First, the United States and Canada stood out early as having the highest proportions of school-age children attending school in the world—62 and 60 percent, respectively, in 1895. The only other nations that come close are the only three of the countries in

36. See Cubberley, *History of Education*, pp. 641–44.

TABLE 9
Ratio of Students in School to Population Ages 5–19 and Proportion of the
Population Voting for Selected Countries, 1895–1945

	CA. 1895		CA. 1920		CA. 1945	
	Schooling Ratio ^a	Suffrage ^b (in percent)	Schooling Ratio ^a	Suffrage ^b (in percent)	Schooling Ratio ^a	Suffrage ^b (in percent)
Argentina	0.21	1.8%	0.41	10.9%	0.44	15.0%
Bolivia	0.07	—	—	—	0.18	—
Brazil	0.08	2.2	0.10	4.0	0.22	5.7
Chile	0.16	4.2	0.37	4.4	0.40	9.4
Colombia	—	—	0.20	6.9	0.21	11.1
Costa Rica	0.22	—	0.22	10.6	0.29	17.6
Cuba	—	—	0.31	—	0.37	—
Mexico	0.13	5.4	0.22	8.6	0.28	11.8
Peru	—	—	—	—	0.31	—
Uruguay	0.13	—	0.36	13.8	—	—
Canada	0.60	17.9	0.65	20.5	0.64	41.1
United States	0.62	18.4	0.68	25.1	0.76	37.8
Austria	0.45	7.9	0.52	46.1	0.58	46.9
Belgium	0.42	20.1	0.46	26.3	0.53	28.9
Denmark	0.49	9.9	0.49	30.3	0.50	50.8
Finland	0.12	4.6	0.29	27.3	0.53	44.3
France	0.56	19.4	0.43	21.0	0.60	49.3
Germany	0.54	14.6	0.53	45.6	0.55	48.8
Ireland	0.32	—	0.54	21.9	0.53	41.1
Italy	0.27	4.1	0.36	16.2	0.47	52.5
Netherlands	0.44	5.1	0.45	20.5	0.56	49.5
Norway	0.48	7.9	0.50	32.1	0.52	47.5
Portugal	0.14	—	0.17	—	0.26	—
Spain	—	—	0.27	—	0.34	—
Sweden	0.50	2.8	0.42	11.2	0.45	46.4
Switzerland	0.53	11.8	0.54	19.2	0.49	20.5
United Kingdom	0.45	9.8	0.51	30.4	0.66	49.9

SOURCES: For the schooling data: B. R. Mitchell, *International Historical Statistics: The Americas 1750–1988* (New York: Stockton Press, 1993), and *International Historical Statistics: Europe 1750–1988* (Basingstoke, Hants, Eng.: Macmillan; New York: Stockton Press, 1992). For the data on suffrage: Peter Flora et al., *State, Economy and Society in Western Europe: 1815–1975*, vol. 1 (Frankfurt am Main: Campus Verlag; Chicago: St. James Press, 1983); Dieter Nohlen, ed., *Enciclopedia Electoral Latinamericana y del Caribe* (San José, Costa Rica: Instituto Interamericano de Derechos Humanos, 1993).

^a Schooling ratios were calculated by dividing the total number of students (regardless of age) by the population between the ages of 5 and 19. When groups of population were different from this range, we assumed the same number of people in each age group and weighted the population figures so as to make them comparable. An example of this was Bolivia.

^b Suffrage is used here to represent the proportion of the population that votes in each country.

Europe that attained universal equal male suffrage in the nineteenth century: France (56), Germany (54), and Switzerland (53); notably, Britain fell behind its neighbors by this measure of investment in education, despite dominating them in per capita income. The United States and Canada were also distinguished in 1895 as having, with the exception of Belgium, the highest fractions of their populations voting as well. The Latin American countries generally lag both their North American neighbors and the European countries in both schooling ratios and the extension of the franchise. In South and Central America, Argentina had the highest schooling ratio in 1895, but it was barely a third of the levels prevailing in the United States and Canada. This may partially reflect the preferences of the substantial flows of immigrants from Europe, who were much more literate than those born in Argentina. Given the particularly small proportion of the population voting in 1895, 1.8 percent, it is difficult to explain the country's relatively high schooling ratio as arising from a broad demand for schooling registered through the ability to vote. It was, however, the only Latin American nation to have done away with both wealth and literacy restrictions at this point, and although even qualified immigrants were reluctant (mysteriously so to the many scholars who have studied the phenomenon) to change their citizenship to obtain the right to vote, their children would be doing so within a generation. By 1920, both Argentina and Uruguay had introduced the secret ballot and made other reforms (Uruguay doing away with wealth and literacy restrictions), and both the schooling ratios and the proportions voting soared. Thus Argentina and Uruguay had the highest proportions voting as well as the highest schooling ratios (with the exception of Chile nosing out Uruguay for second place) in Latin America.

From 1895 to 1945, generally, nearly all the European countries, as well as the United States and Canada, implemented further extensions of the franchise, through both broadening male suffrage and giving women the right to vote. Those such as the United

States, Canada, France, Germany, Switzerland, and Belgium, which had already achieved high schooling ratios and relatively high voting percentages by 1895, experienced only modest increases in schooling ratios through 1945. Those that began in 1895 with rather low schooling ratios and proportions voting, such as Finland, Ireland, Italy, and the Netherlands, experienced both a great expansion of suffrage and substantial advances in the fraction of the school-age population in school. Those that remained monarchies (Portugal and Spain) had no significant elections and maintained the lowest schooling ratios in Europe throughout the entire period. Only three of the Scandinavian countries—Sweden, Norway, and Denmark (the Netherlands is perhaps a marginal case)—deviate significantly from the general pattern. Despite restrictions on the franchise and low proportions of the population voting, those countries already had high schooling ratios in 1895; these remained roughly stable through 1945 while the proportions voting jumped.

In Latin America, both the schooling ratios and the proportions voting rose over time for all of the countries on which we were able to obtain information. They remained consistently low by general international standards, however, with the exception of Argentina, Uruguay, and Chile, who approached the schooling ratios in the European democracies near the bottom of their distribution by 1945 (Italy, Sweden, and Switzerland), and the European monarchies (Portugal and Spain), who fall comfortably within the Latin American distribution in schooling ratios. In cross section, the empirical association between the extent of the franchise and the extent of schooling is strong and obvious from a broad international perspective, but it holds as well, though in a weaker form, within Latin America alone.

These comparative statistics are informative, but a multivariate analysis with controls for variation across countries and over time in per capita income would improve our understanding of the systematic patterns in the data. In table 10 we present a set of six

TABLE 10
*Pooled Cross-Country Regressions with the Schooling Ratio
as the Dependent Variable, 1895–1945*

Independent Variable	DEPENDENT VARIABLE					
	School- ing Ratio	School- ing Ratio	School- ing Ratio	Log (School- ing)	Log (School- ing)	Log (School- ing)
	(1)	(2)	(3)	(4)	(5)	(6)
Constant	-0.616 (-2.09)	-0.578 (-1.95)	0.424 (15.00)	-4.809 (-4.54)	-5.33 (-5.05)	-0.415 (-1.85)
D 1920	-0.012 (-0.37)	0.009 (0.32)	0.039 (1.25)	-0.126 (-1.04)	0.018 (0.19)	0.038 (0.29)
D 1945	-0.04 (-0.78)	0.004 (0.09)	0.072 (1.69)	-0.321 (-1.80)	-0.101 (-0.71)	0.079 (0.49)
D Latin America	-0.118 (-2.48)	-0.153 (-3.80)	-0.226 (-6.23)	-0.176 (-1.02)	-0.376 (-2.62)	-0.563 (-3.93)
D U.S.-Canada	0.116 (3.29)	0.116 (3.25)	0.155 (4.23)	0.084 (0.68)	0.102 (0.81)	0.239 (1.79)
D Low PCY Europe	-0.032 (-1.04)	-0.035 (-1.13)	-0.089 (-3.06)	-0.019 (-0.18)	-0.307 (-0.33)	-0.248 (-2.33)
Log(PCY)	0.136 (3.55)	0.134 (3.47)	—	0.561 (4.18)	0.58 (4.22)	—
Voting	0.157 (1.35)	—	0.156 (1.24)	—	—	—
Log(Voting)	—	—	—	0.162 (1.97)	—	0.206 (2.30)
Number of Observations	58	58	61	58	58	61
Adjusted R-squared	0.78	0.77	0.73	0.73	0.72	0.65

NOTES: t-stats in parentheses. Third and sixth equations have three additional Latin American observations: Costa Rica (1920 and 1945) and Uruguay (1920). The variable "voting" represents the proportion of the population that voted in each country (it is equivalent to the variable "suffrage" in table 9).

pooled cross-section regressions with the ratio of students in school to the school-age population as the dependent variable; the first three employ the ratio and the second three use the ratio in logarithmic form. The independent variables include year dummies (for 1920 and 1945), regional dummies (for the United States and Canada, Latin America, and those European nations with per capita incomes below the European average in 1920), the log of per capita income, and the proportion of the population voting (in logarithmic form in the last three regressions).

Although one cannot feasibly distinguish between alternative paths of causation from these regressions alone, the results indicate that inequality in political power, as reflected in the proportion of the population who voted, was significantly related to the fraction of the population provided with schooling. To begin with, the coefficients on the variables representing the proportion of the population voting are consistently positive and large. They are, moreover, of an analytically important magnitude as well as statistically significant in the latter three regressions, where the equations were estimated in logarithmic form. They are only marginally significant in the specifications without logarithms, however. Part of the problem may be that per capita income and the proportion voting are highly correlated (r is about 0.7), reflecting a multicollinearity problem that tends to increase standard errors and diminish statistical significance. Overall, it is impressive that the proportion of the population voting is significantly related to schooling ratios, even after controlling for time, region, and per capita income. Moreover, in equation 4, where both per capita income and the proportion of the population voting were included as independent variables, the regional dummy variables are insignificant. The implication is that the regional differences in schooling can be fully accounted for by differences in per capita income and our measure of inequality in political influence.

IV

Many scholars have long been concerned as to why the United States and Canada have been more successful than other New World economies since the era of European colonization. As we and others have noted, all the societies of the Americas enjoyed high levels of product per capita early in their histories. The divergence in paths can be traced back to the late eighteenth and early nineteenth centuries, when the United States and Canada began to achieve sustained economic growth. Others did not manage to attain this goal until the late nineteenth or twentieth centuries, if ever. In previous work we highlighted the potential relevance of substantial differences across societies in the degree of inequality in wealth, human capital, and political power and argued that the roots of these disparities lay in differences in the initial factor endowments of the respective colonies. In our hypothesis, the extent of inequality exerted significant influence on the way in which strategic economic institutions evolved over time. Where inequality was relatively low, institutions tended to develop so as to make opportunities more accessible to the general population; this served, in our view, to promote growth by stimulating productivity and a broad participation in commercial activities, as well as to preserve relative equality in the society at large. Where inequality was relatively high, institutions tended to evolve so as to restrict access to opportunities, favoring elite groups and preserving relative inequality but reducing the prospects for sustained economic growth. In addition, the close associations between standing (whether economic or political) and race may also have contributed to the persistence of substantial inequality, either through natural, unconscious processes or by increasing direct action by elites to retain their privileged positions and holdings. The record of both growth and inequality over time, as well as the general outlines of institutional development across

the economies of the Americas, seemed to correspond with our framework.

Here we have tried to subject our hypothesis to another test of consistency with the evidence by examining the record over time of the development of education institutions in the Americas. Indeed, we have found significant support for our theory. Not only were the United States and Canada well ahead of their neighbors in establishing institutions of primary education open to virtually all segments of the population, but even among the other countries in the New World, those societies that had relatively more equality or population homogeneity organized public schools earlier and attained higher levels of literacy. The strong cross-sectional patterns are not the only features of the record that are consistent with the theory. Particularly relevant for identifying a causal mechanism is the observation that in both the United States and Canada (and in Britain as well), political decisions to expand public schools with open access followed shortly after the extension of suffrage to broad segments of the population. Moreover, the indications that in many Latin American societies the goal of increasing schooling rates was frequently frustrated by collective action problems at the local or state/provincial levels, especially where there was great inequality and populations were heterogeneous, and that progress typically required the intervention of national governments, also lend support to our view.

Although our account focuses on the importance of the extent of inequality for how education institutions like universal primary education and literacy evolved in specific countries of the Americas, other factors, both systematic and idiosyncratic, also played significant roles. Perhaps foremost among them is immigration. As illustrated by the experiences in Argentina and Chile, both the desire to attract immigrants and the success at doing so tended to encourage public schooling and increase literacy rates. Immigrants to Latin America were generally more literate, and placed a higher value on

education, than the native born. Another factor of importance in Latin America was the relationship between the national government and local and state authorities. National governments were almost always the central force behind an extensive system of public schools, as they were well positioned to appreciate the economic returns of raising educational levels and to overcome the collective action problems that made it difficult for local and even provincial governments to raise sufficient revenue. Even when the national governments decided to provide resources to promote the expansion of schooling, however, they had to resolve difficulties in the demarcation of legal authority, principal-agent issues, and general political economy considerations. Both the form and the severity of these problems varied across countries and influenced the timing and effectiveness of national government intervention in educational policy. Finally, another factor of importance in accounting for the variation across economies is what might be called the *British colony effect*. Although it seems unlikely that the early investments in public schooling by the United States and Canada can be attributed to their British heritage, the rapid increase in schooling throughout the British colonies in the Caribbean basin in the late nineteenth century may well have been related to the activities of the British Colonial Office during that period.

Despite these influences, we regard the evidence as in general consistent with the hypothesis that the extent of inequality and heterogeneity had a major impact on the evolution of educational institutions in the New World and that the relative equality characteristic of the United States and Canada from the beginning was a major reason why these economies were committed early and strongly to the establishment of universal primary schools and successful at attaining high rates of literacy. The relative inequality characteristic of the rest of the hemisphere, however, helps account for why universal schooling and high literacy came much later elsewhere in the New World and may also help us understand why

extreme inequality has persisted to the present day in these latter areas. Our hypothesis remains speculative and requires further study, but we hope that this attempt to examine how the paths of various New World economies diverged will stimulate more work on the interplay between factor endowments, inequality, institutions, and economic growth—in this context and in general.

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