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ABSTRACT

Over the last few years, colonialism, especially as pursued by Europeans, has enjoyed a revival in interest among both scholars and the general public. Although a number of new accounts cast colonial empires in a more favorable light than has generally been customary, others contend that colonial powers often leveraged their imbalance in power to impose institutional arrangements on the colonies that were adverse to long-term development. We argue here, however, that one of the most fundamental impacts of European colonization may have been in altering the composition of the populations in the areas colonized. The efforts of the Europeans often involved implanting ongoing communities who were greatly advantaged over natives in terms of human capital and legal status. Because the paths of institutional development were sensitive to the incidence of extreme inequality which resulted, their activity had long lingering effects. More study is needed to identify all of the mechanisms at work, but the evidence from the colonies in the Americas suggests that it was those that began with extreme inequality and population heterogeneity that came to exhibit persistence over time in evolving institutions that restricted access to economic opportunities and generated lower rates of public investment in schools and other infrastructure considered conducive to growth. These patterns may help to explain why a great many societies with legacies as colonies with extreme inequality have suffered from poor development experiences.

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The study, if not the practice, of colonialism is again in fashion. Over the last few years, the institution, especially as pursued by Europeans, has enjoyed a revival in interest among both scholars and the general public. One reason for this reexamination may be sentimentality for a simpler ordered world, as a number of these new accounts cast colonial empires in a more favorable light than has generally been customary. Deepak Lal, for example, argues that those nations that established empires merit praise, as their creations normally brought about lower levels of conflict and costs of carrying out long-distance trade, as well as promoted greater prosperity in the affected societies.[1] Niall Ferguson highlights progressive sides to Britain's oversight of her colonies, such as the introduction of efficient civil services and rule of law, as well as the abolition of slavery.[2] The image of kinder and gentler imperial powers also has some foundation in the work of Lance Davis and Robert Huttenback, who in their meticulous and detailed estimates found that Britain was not nearly so aggressive or successful in extracting returns from its colonies as she could have been, and indeed that her Empire generated little in the way of returns for the home country overall.[3]

Quite a different motivation, however, has been behind the recent proliferation of studies by economists of the European effort to colonize most of the rest of the world.[4] Inspired by the goal of improving understanding of the processes and institutions of economic growth, these scholars have been attracted by the quasi-natural experiment generated by a small number of European countries establishing many colonies across a wide range of environments. The logic is that the historical record of these different societies can be analyzed to determine whether there were systematic patterns in how their institutions or economies evolved with respect to initial conditions. For example, have colonies with a British heritage, or those in a particular sort of physical environment, realized more economic progress over time than their counterparts have? In other words, the history of European colonization

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[1] Lal 2004.
[2] Ferguson 2003.
[3] Davis and Huttenback 1986.
[4] For examples of what has become a substantial literature, see Engerman and Sokoloff, 1997 and 2002; Acemoglu, Johnson,

provides scholars with a rich supply of evidence, or a laboratory, that can be used to study economic performance and the evolution of institutions over the long run. Because some of the characteristics of the colonies were in place at or near the time of settlement, and thus can reasonably be treated as exogenous, many economists have been hopeful that the data generated by their later development can be used to get at causal relationships or mechanisms.

Inequality is one of the key variables that emerge from these studies as of great consequence to long-run paths of development. Moreover, not only does extreme inequality seem to have had a profound influence on societies so afflicted, but the dynamics of European settlement meant that it generated many colonies in that condition. Several research teams have arrived at similar conclusions, but perhaps the most direct examination of the impact of inequality has been the work we have done on the economies of the Americas. Our investigation began with a question. Why was it that for at least two hundred and fifty years after the Europeans arrived to colonize the so-called New World, most observers regarded the English, French, Dutch, and Spanish settlements on the northern part of the North American continent as relative backwaters with limited economic prospects, and that the flows of resources to the Americas mirrored that view? The simple answer is that per capita incomes, especially for those of European descent, were higher in at least parts of the Caribbean and South America than they were in the colonies that were to become the United States and Canada well into the late-18th and early 19th centuries. Looking back from the vantage point of the early twenty-first century, however, it is clear that the real puzzle is why the colonies that were the choices of the first Europeans to settle in the Americas, were those that fell behind -- and conversely, why the societies populated by those who came later and had to settle for areas considered less favorable have proved more successful economically over the long run.

A traditional and popular explanation for these intriguing patterns credits the success of the

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and Robinson 2001 and 2002; and Easterly and Levine 2003.

North American economies to the superiority of English institutional heritage, or to the better fit of Protestant beliefs with market institutions.[5] However, proponents of this interpretation generally neglect the implications of the fact that various British colonies in the New World evolved quite distinct societies and sets of economic institutions, despite beginning with roughly the same legal and cultural background and drawing immigrants from similar places and economic classes. British Guiana (now Guyana), Jamaica, and British Honduras (now Belize) are among the many whose records of development stand in stark contrast with those of the United States and Canada, but resemble those of neighboring societies of different national heritages. Impressed with how the evidence seemed inconsistent with the notions that British heritage or Protestantism was the key factor, we instead offered an alternative explanation of the divergent paths of development among the societies of the Americas. We highlighted how the great majority of European colonies in the New World came to be characterized early in their histories, primarily because of their factor endowments, by extreme inequality in the distributions of wealth, human capital, and political influence. We argued, moreover, that these initial differences in inequality were of major import, because societies that began with great inequality tended, as compared to the small number -- including those that came to make up the U.S. and Canada -- that began with relative equality and homogeneity of the population, to evolve institutions that contributed to the persistence of substantial inequality and generally poor records of development over the long run.[6]

What led to such substantial differences in inequality across colonies? Briefly put, extreme inequality arose in the colonies of the Caribbean and in Brazil, because their soils and climates gave them a comparative advantage in growing sugar and other lucrative crops that were produced at lowest cost during the 17th, 18th, and 19th centuries on very large slave plantations. These colonies soon specialized heavily in their comparative advantage, and with the consequent importation of enormous

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5. For example, see North 1988 and Coatsworth 1993 for discussions of why the English institutional heritage helped Canada and the United States in realizing economic growth. For general discussions of the role of institutions in worldwide economic growth, see North 1981.

numbers of slaves, their populations came to be composed of a small elite of European descent with the dominant share of the population (generally 85 percent or more) consisting of black slaves, or (later) non-white freedmen and their descendants. Extreme inequality in wealth and human capital came to characterize much of Spanish America as well. The inequality arose here from the endowment of large populations of Native Americans surviving the initial impact with the diseases the Europeans brought with them, and from the Spanish practices (which were influenced by pre-existing Native-American organizations in Mexico and Peru) of awarding claims on land, native labor, and rich mineral resources to members of the elite (whose number were limited by restrictive immigration policies). A few areas that had relatively small native populations, such as Argentina, Uruguay, and Costa Rica, were less affected however. In contrast, the societies of the northern part of North America developed with relative equality and population homogeneity, as there were relatively few Native Americans on the east coast where the colonies were established, and the climates and soils favored a regime of mixed farming centered on grains and livestock which exhibited quite limited economies of scale in production.

Although the great diversity of settlement patterns and economic structures across the Americas provide a particularly well suited context for the study of the impact of inequality on institutional and economic development, the patterns in that part of the world may well have important implications for the experience of societies established as European colonies elsewhere. With the exceptions of Australia and New Zealand, European settlements in other parts of the world were not based upon large numbers of European settlers who became the key productive laborers, but upon small numbers who remained on the perimeter of the country and exercised control through military power or political arrangements with the local rulers. For example, the Portuguese, Dutch, British, and French sailed around the Cape of Good Hope at roughly the same time as they went to the Americas, to acquire territories and control of large native populations in Asia. The numbers of European settlers were few

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6. Engerman and Sokoloff 1997 and 2002. It is notable that the Latin American and Caribbean region continues to have the

and they were generally involved in either political administration or in operating very large agricultural units. As in the Caribbean, these settler populations were rarely directly employed in producing commodities for sale in European markets, and their primary concern was more with control than with the production of economic surpluses. As for Africa, the early European settlements on the coast, mainly trading forts, were not able to exercise control over the native population. Even when Europeans were able to move inland during the 19th century, after the introduction of quinine, European domination was achieved with relatively few settlers through arrangements with local powers or via military prowess.[7] The last to be settled of the European colonies were the Pacific Ocean islands, including Fiji and Hawaii. There too, and particularly where sugar could be grown, Europeans accounted for only small proportions of the population. In virtually all of these colonies, suffrage was restricted and expenditures on education and other public services tended to be miniscule, reflecting (and contributing to) the magnitude of the inequality that existed between those of European descent and others.

Almost everywhere Europeans settled during their grand epoch of expansion across the globe, they did so with far higher levels of wealth, human capital (including literacy and familiarity with technology and markets), and political influence or power than most of the residents native to the area enjoyed. Thus, where the Europeans encountered large native populations who survived contact with western diseases but were colonized, as in Mexico, Peru, Indonesia, or India, their advantages in human capital and other assets generally meant that Europeans did extremely well relative to the bulk of the natives, and that there was great inequality. Where they moved into fairly empty or depopulated territories, however (as in Australia, New Zealand, Canada, or the United States), relative equality tended to prevail. [8] The more heavily populated colonies, or those in tropical areas that could quickly

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highest level of inequality in the world. See Deininger and Squire 1996.

[7] The main exception to this generalization is South Africa, but even here those of European descent accounted for about 20 percent of the population.

[8] In those cases where the endowments were well suited to large-scale labor-intensive production of staples, slaves or contract labor were often brought in to provide a labor force. The importation of slaves to the Caribbean basin to grow sugar is the outstanding example of this, but the extensive use of contract labor from South Asia to augment the labor force, especially

increase population by drawing on imported slave labor, often had quite different comparative advantages than Europe (due to different climates, valuable natural resources, and large native populations). As free populations were primarily motivated by the prospects of economic returns, these areas generally attracted the greater number of Europeans until the 18th century, when the greater opportunities associated with commercial grain agriculture and industrialization shifted attention to mainland North America.[9] Overall, the phenomenon of European colonization generating many societies with extremely high degrees of inequality, and rather few with low inequality, seems unlikely to have been confined to the Americas.

II

The stark contrasts in the degree of initial inequality across the European colonies in the Americas, if not elsewhere, present scholars with a wonderful opportunity to study whether and how inequality affects the processes and path of development. Whereas previous treatments of the impact of inequality on growth have often been concerned with how savings or investment rates might be affected, we and other scholars who have sought to use the natural experiment provided by colonization focus on the hypothesis that extreme differences across colonies in the extent of inequality gave rise to systematic differences in the ways institutions evolved, and in turn on paths of development.[10] The argument is that greater equality or homogeneity among the population led, over time, to more democratic political institutions, more investment in public goods and infrastructure, and to institutions that offered relatively broad access to property rights and economic opportunities.[11] In contrast, where there was extreme

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where land was relatively abundant, after the emancipation of slaves provides another. See Engerman 1982, 1983, and 1986.

[9] Engerman and Sokoloff 2002.

[10] For examples of the approach that highlight variation in savings rates with relative income or with rates of taxation, see Alesina and Rodrik 1994 and Persson and Tabellini 19994. For those investigating the impact of inequality on institutions more broadly, see Engerman and Sokoloff, 1997 and 2002; Acemoglu, Johnson, and Robinson 2001 and 2002; and Easterly and Levine 2003.

[11] There are of course some classic expositions of these and similar ideas. See, for example Tocqueville 1835 and Turner

inequality, political institutions were less democratic, investments in public goods and infrastructure were far more limited, and the institutions that evolved tended to provide highly unbalanced (favoring elites) access to property rights and economic opportunities. The resulting differences in access to opportunities may be important in accounting for the disparate records at long-term growth, because where processes of early industrialization have been sustained (such as in Britain and the United States during the 19th century, and even East Asia in the 20th), they have generally involved broad participation in the commercial economy. Economies that only provided narrow access to opportunities might have been, and be, less capable of realizing sustained economic growth.

There are a variety of mechanisms through which the extent of inequality in a society might affect the character of institutions that develop. The avenue that typically receives the most attention works through political inequality. When political power or influence is concentrated among a small segment of the population, that group is able to shape policies or institutions to its advantage. We expect members of such elites to act in their interest, for example, by inducing the government to make investments and provide services they favor while being assessed for a less than proportionate share of the costs, or to define and enforce property and other sorts of rights in ways that treat them in a preferential manner. Some activity of this sort is present in all societies, as the distribution of political influence is never entirely equal, and those with more resources generally fare better in the competition over influencing the government. But the extent and ultimate impact of such activity can vary even across nominal democracies, especially when the right to vote depends on literacy or wealth (or other attributes), or where ballots are not secret. The absence of democracy, or a situation when one class of the population has the capability to impose its will by force if need be, is an extreme case of how political inequality can lead to institutions that favor a narrow range of the population.

The importance of political inequality (or military might) often figures prominently in

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1947.

discussions of how institutions are established in colonies. The presumption that those with a monopoly of force or a dominant share of the votes get their way does not seem an unreasonable presumption. Nevertheless, it is worth reflecting on the relevance of the well accepted modern adage: *you can't always get what you want*.[12] No matter how much inequality there is in political influence or in any other dimension, there are frequently constraints that inconveniently narrow the range of feasible possibilities for the fortunate individual or class. The initial objects of the colonies established in the Americas, and indeed elsewhere in the world, were generally the same -- to generate economic returns for the respective European country. Although the goals may have been similar, the diverse environments in which the colonies were located led to a variety of economic structures and institutions as the colonizers sought to take best advantage of the different opportunities and challenges they faced in the respective places. Miscalculations of the effects of various institutional designs, with resulting unintended consequences, were, of course, not uncommon. The colonists came with similar backgrounds and institutional heritages, but heterogeneity developed as they applied and adapted the technologies and institutional heritages they brought with them to conditions quite unlike those in the Old World. Moreover, the extent to which the metropolis, or any political authority, could effectively specify the institutions prevailing in any colony varied with the local circumstances.

It is well known that in many of the Spanish colonies in Latin America, especially where aboriginal populations were concentrated, a relatively small number of individuals were favored with large grants of land and claims on labor and tribute from natives that long endured. Less fully appreciated, however, is that there were also efforts to implant a European-style organization of agriculture based on concentrated ownership of land combined with labor provided by tenant farmers or indentured servants in many of the colonies of North America, as when Pennsylvania, New York, Maryland, and Canada (the same could be said for Australia) were established. But these attempts

[12] Rolling Stones 1969.

invariably failed; large landholdings unraveled because even men of ordinary means were able to set up and flourish as independent farmers where land was abundant and cheap, labor was scarce, and scale economies were absent. Despite William Penn having received the royal charter for Pennsylvania, and accordingly having initial control of the territory, such conditions frustrated the attempts of this fabulously wealthy member of the elite to replicate an English-style organization of agriculture in the New World. As much as wealthy men such as Penn might have liked in an ideal world to institute hierarchical institutions that greatly advantaged those of their class, their ability to attain that goal was tempered by the need to attract more labor and more productive labor to their respective colonies; that is, even landowners were desirous of taking steps that would attract more migrants from Europe and elsewhere. Similarly, the Puritans who settled in the Massachusetts Bay Colony might have liked to do as their brethren who chose to site their early 17th century colony on Providence Island (an island off the coast of Nicaragua), and rely on Native American, indentured servants, or slaves to perform their manual labor, but the cold harsh climate in New England would not support such a commercial strategy.[13] Indeed, a century later New Englanders despaired at being able to afford the high prices slaves commanded in the international market.[14]

These cases suggest that political inequality alone was not sufficient for elites to obtain institutions that greatly advantaged them with respect to government policies or access to property rights and other kinds of economic opportunities. In some environments, even when political or military power was highly concentrated in their hands, elites might have voluntarily, and without threat of violent upheaval, found it in their interest to provide better conditions and treatment to the humble. Although there are a variety of factors that might lead to such an evidently anomalous outcome, and ways of characterizing them, the relative scarcity of labor seems in the context of the European colonies

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[13] Kupperman 1993.

[14] As McManus 1973 (p. 23) makes clear, those in the northern U.S. were priced out of the market for slaves by the 1760s: "By 1764 Thomas Rich, one of Philadelphia's leading traders noted that 'the time is over for the sale of Negroes here.'"

to be a crucial one. Where labor was relatively scarce, as compared to land and other resources, political inequality was not accompanied by economic inequality. In such circumstances, the lack of economic inequality (or relative equality) circumscribed how far political elites could go in designing institutions to advantage their members. In a situation where there was relative political equality, however, economic inequality -- as reflected in the relative scarcity of factor in somewhat elastic supply – might lead to institutions that greatly advantaged that scarce factor. Hence, economic inequality can sometimes, in the sorts of conditions that are not uncommon in colonies or less-developed countries (with an abundance of unskilled labor but a scarcity of capital and skilled labor), exert more of an influence on the way institutions evolve than political inequality per se.

III

Comparative study of the record of the long-term development of the societies of the Americas supports our hypothesis that there were empirical regularities in the ways strategic institutions evolved, such that those that began as colonies with relatively extreme inequality were more restrictive in providing access to economic opportunities and less oriented toward investing in public goods and infrastructure than were those that began with relative equality or homogeneity among the population. This pattern contributed to the long-term persistence of extreme inequality among the former group, and may also help to explain why their long-term records of economic growth have been mediocre at best, relative to those of the latter and especially relative to expectations during the era of European colonization. The specific mechanisms that worked to produce the divergence in institutional and other development are complex and difficult to discern, but it seems clear that they often involved factors other than differences in the political power of the elite.

It has long been recognized that the conduct of elections, including who holds the right to vote, is one of the most crucial of institutions. Varying the rules or organization of how votes are cast and of who casts them can have a fundamental impact on the policy choices that the elected representatives – who in some sense constitute the collective government of the electors – make. As governments generally have a monopoly of power over certain important activities, there are often major implications for how a society's resources or wealth is distributed across the population, as well as for the pace of economic growth. Given what is at stake, it should not be surprising that throughout history many have fought and died over both the design of the rules and the outcomes of elections. Most of the societies of the Americas had achieved independence from their colonial masters and were at least nominal democracies by the early 19th century, and thus our estimates (see Table 1) of how broadly the franchise was extended over time and of what fractions of respective populations actually voted in elections have a direct bearing on the extent to which elites based largely on wealth, human capital, race, and gender held disproportionate political power in their respective countries, and on whether and how initial differences in such power or influence persisted**.**

The estimates reveal that until the 20th century it was common in all countries to reserve the right to vote to adult males (white adult males until after the Civil War), but the United States and Canada were the clear leaders in doing away with restrictions based on wealth and literacy, and much higher fractions of the populations voted in these countries than anywhere else in the Americas. Not only did the United States and Canada attain the secret ballot and extend the franchise to even the poor and illiterate much earlier (restrictions that were reintroduced in the United States at the expense of blacks and immigrants late in the 19th century), but the evolution of the proportion of the population that voted was at least a half-century ahead of even the most democratic countries of South America (namely, Uruguay, Argentina, and Costa Rica, which have generally been regarded as among the most egalitarian of Latin American societies and whose initial factor endowments most closely resembled those of the United States and Canada).

It is remarkable that as late as 1900, none of the countries in Latin America had the secret ballot or more than a miniscule fraction of the population casting votes.[15] 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 other countries in the western hemisphere, and the proportions of the populations voting in the former were always higher, often four to five times higher, than those in the latter. Although many factors may have contributed to the low levels of participation in South America and the Caribbean, wealth and literacy requirements were serious binding constraints. Some societies, such as Barbados, maintained wealth-based suffrage restrictions until the mid-20th century, while most joined the United States and Canada in moving away from economic requirements in the 19th century. However, whereas the states in the United States frequently adopted explicit racial limitations when they abandoned economic requirements, Latin American countries typically chose to screen by literacy.

The contrast between the United States and Canada, on the one hand, and the Latin American countries, on the other, was not so evident at the outset. 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 19th century. By 1815, only four states had adopted universal white male suffrage, but as the movement to do away with political inequality gained strength, the rest of the country followed suit: virtually all new entrants to the Union extended voting rights to all white men (with explicit racial restrictions and very favorable definitions for white immigrants of residence generally introduced in the same state constitutions that did away with economic requirements), and older states revised their laws in the wake of protracted political debates. The rapid extension of access to the franchise in the frontier states, which were distinguished both by more equal distributions of wealth and labor scarcity, not coincidentally paralleled liberal policies toward public

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[15] There is some controversy about whether Argentina had wealth and literacy requirements for suffrage. Whatever the case, the proportions of the population voting were very low in that country (1.8 percent in 1896) until the electoral reform law of 1912. Those who point to the absence of such electoral restrictions at the level of the national government suggest that the low voter participation was due to a failure of immigrants to change their citizenship and vote, as well as to the lack of a secret ballot. Others believe that restrictions on the franchise had, in fact, been enacted and were enforced at the provincial level until 1912. See the discussion in Engerman and Sokoloff 2005.

schools and access to land, as well as other policies that were expected to be attractive to potential migrants.[16] It is hard to avoid the conclusion that political equality was the result of economic equality, rooted in labor scarcity, rather than the reverse. It is striking that pioneers in extending suffrage, such as new states to the United States, Argentina, and Uruguay, did so during periods in which they hoped to attract migrants, such that the rights to suffrage formed part of a package of policies thought to be potentially attractive to those contemplating relocation.[17] When elites—such as land or other asset holders—desire common men to locate in the polity, they thus may choose to extend access to privileges and opportunities even in the absence of threats of civil disorder; indeed, a polity (or one set of elites) may find itself competing with another to attract the labor or other resources.[18] Alternative explanations, such as the importance of national heritage, are not very useful in identifying why Argentina, Uruguay, and Costa Rica pulled so far ahead of their Latin American neighbors, or why other British colonies in the New World lagged behind Canada.

Schooling institutions provide yet another appropriate and important test of whether societies that began with extreme inequality exhibited different patterns of investment in public goods and of access to economic opportunities. Increases in a society's levels of schooling and literacy have been related both theoretically and empirically to many socioeconomic changes conducive to growth, including higher labor productivity, more rapid technological change, and higher rates of commercial and political participation.[19] Although many New World societies arising out of European colonization were so prosperous that they clearly had the material resources to attain high rates of literacy by establishing a widespread network of primary schools, only a few made such investments on a scale sufficient to serve the general population before the 20th century. The exceptional societies, in terms of

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[16] See the extended treatment of these and related issue in Engeman and Sokoloff 2005.

[17] For the concern with attracting migrants in the U.S. and Argentina for example, see Engerman and Sokoloff 2005; Castro 1971; Solberg 1970; and Adelman 1994.

18. See Acemoglu and Robinson 2000 for the argument that in many western European countries, the franchise was extended under threat.

leadership in investing in institutions of primary education, were the United States and Canada (see Table 2). Virtually from the time of settlement, the populations of these countries seem generally to have been convinced of the value of providing their children (females as well as males) with a basic education, including the ability to read and write. It was common for schools to be organized and funded at the village or town level, especially in New England. The United States probably had the most literate population in the world by the beginning of the 19th century, but the common school movement, which got under way in the 1820s (following closely after the movement to extend the franchise), put the country on an accelerated 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.[20] Schools were also widespread in early 19th century Canada, and although this northern-most English colony lagged behind the U.S. by several decades in establishing tax-supported schools with universal access, its literacy rates were nearly as high.[21]

The rest of the hemisphere trailed far behind the United States and Canada in primary schooling and in literacy. Despite enormous wealth, the other societies of British colonial origin were very slow to organize schooling institutions that would serve broad segments of the population.[22] 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 this regard. These societies began to boost their investments in public schooling at roughly the same time that they intensified their efforts to attract migrants from Europe, well before they implemented a general liberalization of the franchise. While this association might be interpreted as providing for the socialization of foreign immigrants, it also suggests

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19. See the discussion in Easterlin 1981.
20. Cubberley 1920.
21. See, for example, Phillips 1957; and Wilson, Stamp, and Audet 1970.
22. Indeed, significant steps were not taken in this direction until the British Colonial Office began promoting schooling in the 1870s.The increased concern for promoting education in the colonies may have been related to developments in Great Britain itself. Several important expansions of the public provision of elementary education occurred during the 1870s,

that the elites may have been inclined to extend access to opportunities as part of an effort to attract the scarce labor for which they were directly or indirectly competing. The latter perspective is supported by the observation that major investments in primary schooling did not generally occur in any Latin American country until the national governments provided the funds; in contrast to the pattern in North America, local and state governments in Latin America were not willing or able to take on this responsibility on their own. Most of these societies did not achieve high levels of literacy until well into the 20th century. Fairly generous support was made available, however, for universities and other institutions of higher learning that were more geared toward children of the elite.

Two mechanisms help explain why extreme levels of inequality depressed investments in schooling. First, in settings 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 likely exacerbated the collective-action problems associated with the establishment and funding of universal public schools, either because the distribution of benefits across the population was quite different from the incidence of taxes and other costs or simply because population heterogeneity made it more difficult for communities to reach consensus on public projects. Where the wealthy enjoyed disproportionate political power, they were able to procure schooling services for their own children and to resist being taxed to underwrite or subsidize services to others.

Indeed, this sort of interpretation is supported by examination of the structures of public finance employed across the Americas over time. At the national government level, taxes on international trade were the principal source of tax revenue throughout the hemisphere after the wave of independence movements of the late-18th and early 19th centuries. In the United States, a 1789 law establishing the tariff was one of the first laws enacted by the federal government. Although the federal government had

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including the 1870 Education Act and the 1876 passage of a law calling for compulsory schooling through the age of ten.

other sources of revenues, customs duties provided by far the dominant share of national government revenue up through the Civil War. In rough terms, these revenues amounted to 1 to 2 percent of GNP (except for spurts during wartime), and were primarily (over 80 percent) directed to defense, interest on debt, general government expenses, and other miscellaneous expenditures. The patterns were roughly the same in Latin America. In Mexico, for example, port taxes, income from the tobacco monopoly, and excise taxes yielded 75 to 85 percent of national government revenue over the latter half of the 19th century. In Colombia, customs duties and income from state monopolies on commodities such as tobacco and salt brought in nearly 80 percent of national revenues by the 1840s. Overall, although wars and other threats to the social order (such as the War of 1812, the U.S. Civil War, the war between Mexico and the U.S., and various internal uprisings) sometimes stimulated the imposition of direct taxes that extended the reach of national governments in progressive directions (the income tax in the US during the Civil War, and the property tax in Mexico that was introduced because of the war between that country and the U.S.), the general pattern throughout the hemisphere well into the 20th century was reliance by national governments on tax structures that targeted commodities or trade rather than income or wealth.[23]

Stark differences existed across the societies of the Americas, however, in the size and revenue sources of state/provincial and local governments. Local governments were much smaller in Latin American nations than in the United States and Canada (see Table 3). They accounted for only about 10 percent of total government revenue in Brazil, Colombia, and Mexico throughout the 19th century (and in Chile, between 10 and 20 percent during the second decade of the 20th century, despite the absence of state/provincial governments). The contrast with the neighboring societies in North America is dramatic. In both the U.S. and Canada, the local governments collected more than half of overall

[23] The income tax introduced during the Civil War was ultimately ruled unconstitutional, and thus it was not until a constitutional amendment that such a tax could be reinstituted.

government revenue from the middle of the 19th century onward. Even as late as the 1930s, the share of local government revenue was nearly 40 percent in both the US and Canada.

This predisposition of the North American populations to organize and support local governments was evident as early as the 17th century, despite the absence during that era of distinctively (as compared to other societies in the Americas) high per capita incomes. It is not entirely clear how substantial local governments were at the establishment of the United States, but local governments certainly grew very rapidly during the early decades of the 19th century as the common school movement progressed, and as local governments were increasingly engaged in helping to organize new investments in roads and other infrastructure required as the economy was beginning to industrialize. What is apparent is that, with a few brief exceptions during and after major wars, local governments were the largest component of the overall government sector throughout the 19th century. This is especially striking in that the aggregate pattern of expenditures by local governments was quite progressive in that the main priorities of local governments were (well into the 19th century) schools, roads, and other infrastructure that generate broadly distributed social returns.[24] Moreover, their heavy reliance on the property tax, together with their large share of the government sector, made for a rather progressive tax structure at both the local and national (all levels of government together) levels.[25] This pattern, characterized by the predominance of property and inheritance taxes accounting for the bulk of the revenue collected by governments at all levels, endured into the early decades of the 20th century (a similar pattern holds in Canada).[26] In contrast, although the local governments in Latin America raised

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[24] At 1900, local governments seem to have obtained well over 90 percent of revenue from property taxes. For further discussion of how the importance of the property tax as a source of state revenue varied over the 19th century, see Wallis 2001.

[25] Any conclusions about just how progressive or regressive any particular tax structures are must, of course, take into account the ultimate incidence of the taxes assessed. An analysis of incidence is beyond the scope of this paper. Nevertheless, we feel rather confident, especially for the 19th century, of following the convention of presuming that property taxes are more progressive in incidence than levies consisting of tariffs on imported goods and the revenues obtained from state monopolies on consumer commodities such as liquors and tobacco.

[26] At 1902, property, death, and gift taxes accounted for more than 60 percent of total tax revenue to all levels of government in the U.S. combined. See Table 7.1 in Sokoloff and Zolt 2004.

relatively more of their revenue from taxes on property and income than did the respective national or state/provincial governments, they relied much less on these sources than did their North American counterparts. This, together with the markedly smaller size of local governments in Latin American nations resulted in radically different, and much less progressive, aggregate tax structures overall than in the U.S. or Canada.

Although there may be other explanations for these patterns in the evolution of tax institutions, the evidence is consistent with the hypothesis that initial differences in the extent of inequality across these societies contributed to the different decisions they made regarding how much revenue to raise, the relative use of different tax instruments, the nature and size of state and local governments, and the types and size of government expenditure programs. In general, the countries that began with more inequality developed structures of public finance that relied relatively more on indirect taxes and placed less of a tax burden on those with higher levels of wealth. This alone should have encouraged the persistence of extreme inequality, but the stunted local governments, which are the same authorities most concerned with public schooling, transportation, water/sewer projects, and other types of investment projects that generate benefits for a broad spectrum of the population, also worked in the same direction. An explanation for this pattern is readily available. With a radically unequal distribution of resources, elites would bear most of any tax burden, especially one levied on wealth or income, and realize a smaller than proportionate benefit, especially since they could procure for themselves and their families many of the same services privately. It was only in the 20th century, when returns to schooling grew, when suffrage came to be extended, and when import-substitution policies sharply reduced the revenues that could be captured from imports, that the structures of public finance in Latin America began to change in more progressive directions.

Land policy comprises a final example of the ways in which institutions may have contributed to the persistence of inequality over the long run. Virtually all the economies in the Americas had ample supplies of public lands well into the 19th century and beyond. Since the respective governments of each colony, province, or nation were regarded as the owners of this resource, they were able to influence the distribution of wealth, as well as the pace of settlement for effective production, by implementing policies to control the availability of land, set prices, establish minimum or maximum acreages, provide credit for such purposes, and design tax systems. Because agriculture was the dominant sector throughout the Americas, questions of how best to employ this public resource for the national interest, and how to make the land available for private use, were widely recognized as highly important and often became the subject of protracted political debates and struggles. Land policy was also used as a policy instrument to influence the labor force, either by encouraging immigration through making land readily available or by influencing the regional distribution of labor (or supply of wage labor) through limiting access and raising land prices.

The United States never experienced major obstacles in this regard, and the terms of land acquisition became easier over the course of the 19th century.[27] The well-known Homestead Act of 1862, which essentially made land free in plots suitable for family farms to all those who settled and worked the land for a specified period, was perhaps the culmination of this policy of promoting broad access to land. Canada pursued similar policies: the Dominion Lands Act of 1872 closely resembled the Homestead Act in both spirit and substance. Argentina and Brazil instituted similar changes in the second half of the 19th century as a means to encourage immigration, but these efforts were much less directed and thus less successful at getting land to smallholders than the programs in the United States and Canada.[28] In Argentina, for example, a number of factors explain the contrast in outcomes. First, the elites of Buenos Aires, whose interests favored keeping scarce labor in the province if not the capital city, were much more effective at weakening or blocking programs than were their urban counterparts in

27. See Gates 1968 for a comprehensive overview of U.S. land policy. Discussions of Canadian land policy include Solberg 1987; Pomfret 1981, pp. 111–19; and Adelman 1994, chap. 2.

28. See Viotti da Costa 1985, chap. 4; Solberg 1987; Solberg's essay in Platt and di Tella 1985; and the excellent discussions

North America. Second, even those policies nominally intended to broaden access tended to involve large grants to land developers (with the logic that allocative efficiency could best be achieved through exchanges between private agents) or transfers to occupants who were already using the land (including those who were grazing livestock). They thus generally conveyed public lands to private owners in much larger and concentrated holdings than did the policies in the United States and Canada. Third, the processes by which large landholdings might have broken up in the absence of scale economies may have operated very slowly in Argentina: once the land was in private hands, the potential value of land in raising or harvesting livestock may have set too high a floor on land prices for immigrants and other ordinary would-be farmers to manage. Such constraints were exacerbated by the underdevelopment of mortgage and financial institutions more generally.[29]

Argentina, Canada, and the United States all had an extraordinary abundance of virtually uninhabited public lands to transfer to private hands in the interest of bringing this public resource into production and serving other general interests. In societies such as Mexico, however, the issues at stake in land policy were very different. Good land was relatively scarce, and labor was relatively abundant. Here the lands in question had long been controlled by Native Americans, but without individual private property rights. Mexico was not unique in pursuing policies, especially near the end of the 19th and the first decade of the 20th centuries, that had the effect of conferring ownership of much of this land to large non-Native American landholders.[30] The 1856 Ley Lerdo and the 1857 Constitution had set down methods of privatizing these public lands in a manner that could originally have been intended to help Native American farmers enter a national land market and commercial economy. Under the regime of

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in Adelman 1994.

29. It is generally thought that the introduction of livestock to Argentina, when the Spanish first arrived in the 16th century, was the basis for widespread herds of feral cattle that were present during the 19th century and could virtually be harvested. Such production of animal products (hides and beef) was associated with scale economies and did not require much in the way of labor. These conditions may have increased the economic viability of large estates where labor was scarce and land abundant. In contrast, because the major crops produced in the expansion of the northern United States and Canada were grains, whose production was relatively labor intensive and characterized by quite limited scale economies, the policy of encouraging smallholding was effective. See Adelman 1994 and Engerman and Sokoloff 2002 for more discussion.

Porfirio Díaz, however, these laws became the basis for a series of new statutes and policies that effected a massive transfer of such lands (over 10.7 percent of the national territory) between 1878 and 1908 to large holders such as survey and land development companies, either in the form of outright grants for services rendered by the companies or for prices set by decree.

In Table 4, we present estimates for these four countries of the fractions of household heads, or a near equivalent, that owned land in agricultural areas in the late 19th and early 20th centuries. The figures indicate enormous differences across the countries in the prevalence of land ownership among the adult male population in rural areas. On the eve of the Mexican Revolution, the figures from the 1910 census suggest that only 2.4 percent of household heads in rural Mexico owned land. The number is astoundingly low. The dramatic land policy measures in Mexico at the end of the 19th century may have succeeded in privatizing most of the public lands, but they left the vast majority of the rural population without any land at all. The evidence obviously conforms well with the idea that in societies that began with extreme inequality, such as Mexico, institutions evolved so as to greatly advantage the elite in access to economic opportunities, and they thus contributed to the persistence of that extreme inequality.

In contrast, the proportion of adult males that owned land in rural areas was quite high in the United States, at just below 75 percent in 1900. Although the prevalence of land ownership was markedly lower in the South, where blacks were disproportionately concentrated, the overall picture is one of a series of liberal land policies, leading up to the Homestead Act of 1862, providing broad access to this fundamental type of economic opportunity. Canada had an even better record, with nearly 90 percent of household heads owning the agricultural lands they occupied in 1901. The estimates of landholding in these two countries support the notion that land policies made a difference, especially when compared to Argentina. The rural regions of Argentina constitute a set of frontier provinces, where

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30. For further discussion of Mexico, see McBride 1923; Tannebaum 1929; and Holden 1994.

one would expect higher rates of ownership than in Buenos Aires. The numbers, however, suggest a much lower prevalence of land ownership than in the two North American economies.[31] Nevertheless, all of these countries were far more effective than Mexico in making land ownership available to the general population. The contrast between the United States and Canada, with their practices of offering easy access to small units of land, and the rest of the Americas (as well as the contrast between Argentina and Mexico) is consistent with the hypothesis that the initial extent of inequality influenced the way in which institutions evolved and in so doing helped foster persistence in the degree of inequality over time.

IV

There has long been debate over the impact of the European establishment of colonies around the world that took place over centuries, beginning in the 1400s. Much of the controversy has been concerned with issues such as how the long-term performance of the colonized areas and the colonizing economies were affected by the exchange of resources and terms of trade between them and the imbalance of military power. As we have argued here, however, one of the most fundamental consequences of European colonization may have been in altering the composition of the populations in the societies colonized. Because the efforts of the Europeans generally meant implanting communities who were greatly advantaged over natives in terms of human capital and legal status, and because the trajectories of institutional development were sensitive to the incidence of extreme inequality that often followed, their activity had long lingering effects. Although more study is needed to identify all of the mechanisms at work, it seems clear that colonies in the Americas with extreme inequality, as compared to those with relative equality, were systematically more likely to evolve institutions that restricted

31. Our work with the data from the 1914 census yields the same qualitative results. It is worth noting that the proportions of families that owned land are exaggerated by the 1895 census figures. A close examination of the manuscripts indicates that double counting, in which both the husband and wife were listed as landowners, was prevalent in many parts of Argentina.

access to economic opportunities and to generate lower rates of public investment in schools and other infrastructure considered conducive to growth. These patterns of institutional development, which tend to yield persistence over time, may help to explain why a great many former European colonies that began with extreme inequality have suffered poor economic outcomes.

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TABLE 1

LAWS GOVERNING THE FRANCHISE AND THE EXTENT OF VOTING IN SELECTED COUNTRIES, 1840-1940

		Lack of Secrecy In Balloting	Wealth Requirement	Literacy Requirement	Proportion of the Population Voting
	1840-80				
					--
Chile	1869	N	Y	Y	1.6%
	1878	N	N	N[32]	--
Costa Rica	1890	Y	Y	Y	--
Ecuador	1848	Y	Y	Y	0.0
	1856	Y	Y	Y	0.1
Mexico	1840	Y	Y	Y	--
Peru	1875	Y	Y	Y	--
Uruguay	1840	Y	Y	Y	--
	1880	Y	Y	Y	--
Venezuela	1840	Y	Y	Y	--
	1880	Y	Y	Y	--
Canada	1867	Y	Y	N	7.7
	1878	N	Y	N	12.9
United States	1850[33]	N	N	N	12.9
	1880	N	N	N	18.3

32 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 who were registered to vote.

33 Three states, Connecticut, Louisiana, and New Jersey, still maintained wealth requirements at 1840, but eliminated them soon afterwards. All states except for Illinois and Virginia had implemented the secret ballot by the end of the 1840s.

	1881-1920				
Argentina	1896	Y	Y	Y	1.8%[34]
	1916	N	N	N	9.0
Brazil	1894	Y	Y	Y	2.2
	1914	Y	Y	Y	2.4
Chile	1881	N	N	N	3.1
	1920	N	N	Y	4.4
Colombia	1918[35]	N	N	N	6.9
Costa Rica	1912	Y	Y	Y	--
	1919	Y	N	N	10.6
Ecuador	1888	N	Y	Y	2.8
	1894	N	N	Y	3.3
Mexico	1920	N	N	N	8.6
Peru	1920	Y	Y	Y	--
Uruguay	1900	Y	Y	Y	--
	1920	N	N	N	13.8
Venezuela	1920	Y	Y	Y	--
Canada	1911	N	N	N	18.1
	1917	N	N	N	20.5
United States	1900	N	N	Y[36]	18.4
	1920	N	N	Y	25.1

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

35 The information on restrictions refers to national laws. The 1863 Constitution empowered provincial state governments to regulate electoral affairs. Afterwards, 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 U.S. and Canada to a lesser extent.

36 Eighteen states, 7 southern and 11 non-southern, introduced literacy requirements between 1890 and 1926. These restrictions were directed primarily at Blacks and immigrants.

	1921-40				
Argentina	1928	N	N	N	12.8%
	1937	N	N	N	15.0
Bolivia	1951	?	Y	Y	4.1
Brazil	1930	Y	Y	Y	5.7
Colombia	1930	N	N	N	11.1
	1936	N	N	N	5.9
Chile	1920	N	N	Y	4.4
	1931	N	N	Y	6.5
	1938	N	N	Y	9.4
Costa Rica	1940	N	N	N	17.6
Ecuador	1940	N	N	Y	3.3
Mexico	1940	N	N	N	11.8
Peru	1940	N	N	Y	--
Uruguay	1940	N	N	N	19.7
Venezuela	1940	N	Y	Y	--
Canada	1940	N	N	N	41.1
United States	1940	N	N	Y	37.8

Notes and Sources: Engerman, Haber, and Sokoloff 2000.

TABLE 2

LITERACY RATES IN THE AMERICAS, 1850-1950

	Year	Ages	Rate
Argentina	1869	+6	23.8%
	1895	+6	45.6
	1900	+10	52.0
	1925	+10	73.0
Bolivia	1900	+10	17.0
Brazil	1872	+7	15.8
	1890	+7	14.8
	1900	+7	25.6
	1920	+10	30.0
British Honduras	1911	+10	59.6
(Belize)	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
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

Guatemala	1893	+7	11.3
	1925	+10	15.0
Honduras	1887	+7	15.2
	1925	+10	29.0
Jamaica	1871	+5	16.3
	1891	+5	32.0
	1911	+5	47.2
Mexico	1900	+10	22.2
	1925	+10	36.0
Paraguay	1886	+7	19.3
	1900	+10	30.0
Peru	1925	+10	38.0
Uruguay	1900	+10	54.0
	1925	+10	70.0
Venezuela	1925	+10	34.0
Canada	1861	All	82.5
Eng-majority counties	1861	All	93.0
Fr- majority counties	1861	All	81.2
United States			
North Whites	1850	+10	96.9
South Whites	1850	+10	91.5
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)*

*The figures for Whites and Non-Whites are reported respectively within parentheses.

Sources: Engerman, Haber, and Sokoloff 2000.

TABLE 3

DISTRIBUTION OF TAX REVENUES ACROSS LEVELS OF GOVERNMENT DURING THE 19th AND 20th CENTURIES: BRAZIL, CHILE COLOMBIA, MEXICO, CANADA, AND THE UNITED STATES

	National Government (%)	**Provincial Governments** (%)	**Municipalities or other Local** (%)
Brazil			
1826	30.8	69.2	0
1856	79.5	17.1	3.3
1860	78.2	18.2	3.5
1885/86	76.3	18.5	5.2
Chile			
1913	85.8	--	14.2
1915	82.7	--	17.3
1920	85.3	--	14.7
Colombia			
1839	88.4	2.9	8.7
1842	91.8	1.6	6.7
1850	85.4	8.7	5.8
1870	46.6	30.8	22.6
1894	60	32	8
1898	66.7	28.6	4.8
Mexico			
1882	69.1	19.5	11.5
1890	74.7	16.3	9
1900	67.3	19.8	12.9
1908	70.6	17.1	12.3
Canada			
1933	42.5	17.9	39.6
1950	68.7	18.7	12.6
1960	62.8	20.7	16.4
United States			
1855	25.5	17.4	57.1
1875	39.6	16.4	44.0
1895	36	14	50
1913	29.1	13.2	57.6
1927	35.5	18	46.5
1950	68.3	17.3	14.4

Sources and Notes: Sokoloff and Zolt 2004.

TABLE 4

LANDHOLDING IN RURAL REGIONS OF MEXICO, THE UNITED STATES, CANADA, AND ARGENTINA DURING THE EARLY 1900s

Country, year, and region	Proportion of household heads who own land[a]
Mexico, 1910	
North Pacific	5.6
North	3.4
Central	2.0
Gulf	2.1
South Pacific	1.5
Total rural Mexico	2.4
United States, 1900	
North Atlantic	79.2
South Atlantic	55.8
North Central	72.1
South Central	51.4
Western	83.4
Alaska/Hawaii	42.1
Total United States	74.5
Canada, 1901	
British Columbia	87.1
Alberta	95.8
Saskatchewan	96.2
Manitoba	88.9
Ontario	80.2
Quebec	90.1
Maritime[b]	95.0
Total Canada	87.1
Argentina, 1895	
Chaco	27.8
Formosa	18.5
Missiones	26.7
La Pampa	9.7
Neuquén	12.3
Río Negro	15.4
Chubut	35.2
Santa Cruz	20.2
Tierra del Fuego	6.6

Notes and Sources: Engerman and Sokoloff 2002.

a. Landownership is defined as follows: in Mexico, household heads who own land; in the US, farms that are owner operated; in Canada, total occupiers of farm lands who are owners; and in Argentina, the ratio of landowners to the number of males between the ages of 18 and 50.

b. The Maritime region includes Nova Scotia, New Brunswick, and Prince Edward Island.