Paths of Development and Institutional Barriers to Economic Opportunities

*Background paper for the WDR 2003*

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__Acknowledgements.__ I thank Gunnar Eskeland and Ken Sokoloff for very helpful suggestions.
Economists have for some time recognized that institutions, because they shape incentives, are a key determinant of the wealth and poverty of nations.¹ But this raises another question: Where do good institutions come from? Following recent research on this question by economic historians,² consider two facts. First, many former European colonies that were viewed by European migrants of the time as offering the best prospects for wealth are among the poorest areas in the world today. Second, the point in time when these colonies fell behind was the outset of the Industrial Revolution.

Table 1 presents the incomes in 1700, 1800 and 1900 relative to the US for some of the economies in the Americas for which such data have been constructed. In 1700, Mexico and the colonies that were to become the US had a very similar per capita income (given the approximate nature of the estimates), and the sugar-producing islands of Barbados and Cuba were far richer. In fact, in the 16th, 17th, and 18th centuries, the North American mainland was widely considered to offer relatively poor economic prospects when compared with the vast opportunities available in the Caribbean and Latin American. Canada, which Voltaire once famously characterized as “a few acres of snow,” was considered by the colonial powers to be of comparable value to the small sugar-producing island of Guadeloupe. But the US and Canada ultimately proved far richer than other economies of the hemisphere. Once industrialization began in North America

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¹ See North 1981 and 1990 and Hall and Jones 1997 and the references therein, and WDR 2000/2001 and WDR 2002. Neoclassical models of growth emphasized aggregate investment, not individual behavior. By assuming that all individuals had effective access to market opportunities and protection against expropriation, they abstracted from the obstacles to development that have become the focus of recent work, which we review in this paper.

in the 19th century, the US and Canadian economies sharply diverged from those of the rest of the hemisphere.

**Table 1 : The Record of Gross Domestic Product per Capita in Selected Economies of the Americas, 1700-1997**

<table>
<thead>
<tr>
<th>GDP per capita relative to the U.S.</th>
<th>1700</th>
<th>1800</th>
<th>1900</th>
<th>1997</th>
</tr>
</thead>
<tbody>
<tr>
<td>Argentina</td>
<td>—</td>
<td>102%</td>
<td>52%</td>
<td>35%</td>
</tr>
<tr>
<td>Barbados</td>
<td>150%</td>
<td>—</td>
<td>—</td>
<td>51%</td>
</tr>
<tr>
<td>Brazil</td>
<td>—</td>
<td>50%</td>
<td>10%</td>
<td>22%</td>
</tr>
<tr>
<td>Chile</td>
<td>—</td>
<td>46%</td>
<td>38%</td>
<td>42%</td>
</tr>
<tr>
<td>Cuba</td>
<td>167%</td>
<td>112%</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>México</td>
<td>89%</td>
<td>50%</td>
<td>35%</td>
<td>28%</td>
</tr>
<tr>
<td>Peru</td>
<td>—</td>
<td>41%</td>
<td>20%</td>
<td>15%</td>
</tr>
<tr>
<td>Canada</td>
<td>—</td>
<td>—</td>
<td>67%</td>
<td>76%</td>
</tr>
<tr>
<td>United States (GDP p.c. in 1985$)</td>
<td>$550</td>
<td>$807</td>
<td>$3,859</td>
<td>$20,230</td>
</tr>
</tbody>
</table>

Source: Sokoloff and Engerman 2000

Figure 13 presents data on urbanization from 1750 to 1980 for four colonies in the Americas. At least in the modern period, few variables are as strongly correlated with a country’s level of development as its level of urbanization. Taking urbanization as a proxy for development, Acemoglu et al (2001a) show that divergence appeared just as the US began to industrialize in the mid-19th century.

Why did the areas favored by the forecasters of the 1700s fall behind? Clearly, development is not just about *having* productive opportunities. If that were the case then the Latin American colonies, which were generally richer in 1700 than the areas to the north, would not have diverged in income levels from the US and Canada. More than

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3 Source: Acemoglu et al. 2001a, Figure 6C.
4 See, for example, Glaeser 2000, Figure 1.
Figure 1. Urbanization rates in four New World Economies, 1750 - 1930

Just the Americas (1750-1930)
(Mitchell Series)
having productive opportunities, most economists would agree that development depends on being able to create a never-ending supply of new opportunities in the future.\textsuperscript{5} Economic historians Stanley Engerman and Kenneth Sokoloff have argued that the reason for the divergence of incomes in the US and Canada from those of the rest of the hemisphere was that a key to early industrialization was the breadth of the population that was able to invest, to accumulate human capital, and to participate in commercial activity. Among the colonies of the Americas, only the US and Canada provided the “social infrastructure”\textsuperscript{6}—the collection of laws, institutions, and government policies—that made such investment and participation possible. While per capita incomes throughout the Americas have greatly increased since 1900, the magnitude of the gap between the US and Latin America, as shown in Table 1, has changed little in proportional terms since 1900.

This background paper describes some recent advances in economists’ understanding of where good institutions come from. The question of interest is: What factors explain why some societies develop growth-promoting social infrastructure, while others do not? Increasing our understanding of these factors will deepen understanding about policies that can promote growth.

This paper begins by reviewing recent work on the paths of development of the colonies of the Americas (the “New World”). We then explore three very different kinds of

\textsuperscript{5} For example, Klenow and Rodriguez-Clare (1997) attribute only 3 percent of the variation of growth per worker across countries to variations in the growth of capital per worker, while variations in technical progress accounted for 91 percent.

\textsuperscript{6} We follow Hall and Jones, 1997, in our use of this term.
institutions. First, we discuss agrarian institutions in developing countries. We next discuss patent institutions in the West at the outset of the Industrial Revolution. Then we discuss housing tenure and its consequences. In each case, we attempt to show how those institutions affect the breadth of the population with opportunities for economic advancement, and how the institutions themselves may reflect the pre-existing inequalities in the society.

1. Paths of development in the New World

The most systematic studies to date of paths of institutional development have focused on the New World economies. This work is still on-going and the conclusions that it draws are necessarily tentative. However, the patterns that this work discerns in the broad historical development of the Americas over the last four hundred years point to two conclusions:7

- In the New World colonies, factor endowments, broadly defined, determined the level of inequality of income, wealth, and human capital at the beginning of colonization. In turn, the level of inequality had a great influence on the evolution of institutions.

- In highly unequal colonies, institutions emerged that blocked effective access by a broad cross-section of the population to opportunities for economic and social advancement. This inhibited the accumulation of capital, the spread of entrepreneurship, and the creation of mass market—factors that are viewed as important in industrial development.

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A) Three kinds of factor endowments

The New World colonies can be put into three broad classes in terms of their factor endowments at the outset of colonization (1500-1650).

(i) Dense populations of natives and rich supplies of minerals. In many parts of Spanish America, e.g. Peru and Mexico, there were valuable minerals and large concentrations of populations of Native American descent that survived contact with the colonizers. Spain adopted a policy throughout Spanish America of distributing vast grants of land, including claims on native labor in the vicinity. Spain also limited the immigration of European settlers, which contributed to the persistence of elites and the maintenance of vast landholdings even when the production activities (as in Argentina) were not characterized by economies of scale.

(ii) Climate and soils well-suited to the production of sugar and other highly valued crops cultivated with slave labor. In the Caribbean, factor endowments were suitable for large plantations based on slave labor. The large slave population and the very unequal ownership of land among free men made the distribution of wealth, income, and human capital extremely unequal, both among the population as a whole and among the population of free men.
Thus, for different reasons, colonies in categories (i) and (ii) were characterized almost from the outset of colonization by extreme inequality and an abundance of labor with limited amounts of human capital. The contrast with the third category was great.

(iii) *Climate and soils suited for grains and livestock and dispersed indigenous people.* In North America, there was no preexisting dense population of Native American descent. Except for the South, the colonies had soils and climates that did not give them a comparative advantage in the production of crops using slave labor. The result was that development relied on laborers of European descent. Such labor was scarce, as the colonies of North America were not viewed as particularly attractive places to settle. Given the technology of the time, grains could be profitably produced on very small farms.

The approach to colonization of the British on the North American mainland was not very different from its approach in the Caribbean. Nor was it very different from that adopted by the Portuguese in Brazil or the Spanish in Spanish America. In general, at the outset of colonization, the British in North America established large estates and oligarchic governing bodies. But because of the labor scarcity, the situation of large estates and oligarchy *did not take hold.* A representative account by one historian is that

The extreme labor shortage…allowed many early settlers to gain their economic independence from the manorial lords, and establish separate farms…Although the establishment of large estates to be worked by tenants and landless laborers was the initial model on which these proprietary colonies [Maryland, Jamestown, Carolina, New Jersey, and New York] were usually based, the greater economic power conferred on settlers by the New World’s labor scarcity prevented these English tenures
and practices from effectively taking hold, and proprietors were often forced to adapt by simply selling their land outright to settlers.8

In the southern colonies of what became the United States, conditions were somewhat different. Rice, tobacco, and cotton exhibited scale economies, but even here the slave population and the degree of inequality were much smaller than in Latin America.

In summary, although all the economies established in the Americas had abundant land relative to labor, their climates, soils, and minerals differed in ways that meant that most were characterized at the outset by extreme inequality, whereas the colonies that were to become the US and Canada did not.

**B) Paths of institutional development**

Why should inequality hundreds of years ago matter for development today? Recent and ongoing research9 finds that societies that began with high inequality at the outset tended to place greater restrictions on a wide variety of institutions that determine individuals’ opportunities for economic advancement. There are systematic patterns across New World economies whereby institutions in societies with greater initial inequality tended to evolve in such a way as to restrict access to opportunities, favoring elite groups. Economic historians Engerman and Sokoloff have discerned such a pattern in a wide range of public polices: policies towards access to land and other natural resources, the right to vote and to vote in secret, access to primary schooling, and patent law. The close correspondence between initial inequality and institutional evolution suggests that high

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inequality at the outset of colonization, through its effects on institutions, may provide an important part of the explanation for the divergence among New World economies in growth. This hypothesis is summarized in figure 2 and in the following passage:

The factor endowment and the degree of inequality may influence the directions in which institutions evolve, but these institutions in turn affect the evolution of the factor endowment and of the distributions of wealth, human capital, and political power. It is our contention that the initial conditions had long lingering effects, not only because certain fundamental characteristics of the New World economies and their factor endowments were difficult to change, but also because government policies and other institutions tended generally to reproduce the sorts of conditions that gave rise to them (Engerman, Haber, and Sokoloff, 1999, p. 10).

Engerman, Marsical, and Sokoloff emphasize that patterns cannot establish causation. We will consider in the next section two settings in developing countries today where data are available to disentangle causal links between inequality, institutions, and outcomes. In the remainder of this section, we briefly describe the systematic patterns across New World economies with respect to public policies towards suffrage, primary education, and land.

(i) Suffrage

A central reason that government policies tended to reproduce the kind of factor endowments that gave rise to them, is through limitations on who had the right to vote and who had the right to vote in secret. Most societies in the Americas were democracies by the middle of the 19th century, but there were sharp differences among countries in the breadth of the respective populations having effective access to the vote.10 Until early in the 19th century, all countries, including the US, limited the right to vote to white men

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10 This pattern also occurs within countries, as seen for example in the case of the US South, which used a wide variety of means, including literacy tests and few and relatively inaccessible voting locations, in order to limit the access of the poor to the ballot.
Figure 2. A schematic representation of Engerman-Sokoloff’s theory of paths of development

Factor endowments → inequality of political and economic power → evolution of institutions → breadth of the population with opportunities for economic advancement → level of per capita income today

- Land policy
- Suffrage
- Public support for education
- Banking laws
- Patent laws
- Agrarian institutions
with significant property. By the mid-19th century, however, the US and Canada had a proportion voting that was an order of magnitude greater than that in Argentina, Brazil, Ecuador, and Chile. See Table 2.

Table 2. The Extent of Voting and the Literacy Rate in the Americas, 1850-1925

<table>
<thead>
<tr>
<th></th>
<th>Proportion of the Population Voting</th>
<th>Literacy</th>
<th>Literacy rate</th>
<th>Ages</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1850-1900</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Argentina, 1896, 1869*</td>
<td>1.8%</td>
<td>23.8%</td>
<td>(+7)</td>
<td></td>
</tr>
<tr>
<td>Brazil 1894, 1872</td>
<td>2.2</td>
<td>15.8</td>
<td>(+7)</td>
<td></td>
</tr>
<tr>
<td>Chile 1869, 1865</td>
<td>1.6</td>
<td>18.0</td>
<td>(+7)</td>
<td></td>
</tr>
<tr>
<td>Ecuador 1856</td>
<td>0.1</td>
<td>-------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Canada 1867, 1861</td>
<td>7.7</td>
<td>82.5</td>
<td>(all)</td>
<td></td>
</tr>
<tr>
<td>US 1850, 1870</td>
<td>12.9</td>
<td>80.0</td>
<td>(+10)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1900-1925</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Argentina, 1916, 1925</td>
<td>9.0</td>
<td>73.0</td>
<td>(+10)</td>
<td></td>
</tr>
<tr>
<td>Brazil 1914, 1920</td>
<td>2.2</td>
<td>30.0</td>
<td>(+10)</td>
<td></td>
</tr>
<tr>
<td>Chile 1920, 1925</td>
<td>4.4</td>
<td>66.0</td>
<td>(+10)</td>
<td></td>
</tr>
<tr>
<td>Colombia, -,1918</td>
<td>--</td>
<td>32.0</td>
<td>(+10)</td>
<td></td>
</tr>
<tr>
<td>Mexico 1920?, 1925</td>
<td>8.6</td>
<td>36.0</td>
<td>(+10)</td>
<td></td>
</tr>
<tr>
<td>Canada 1911, -</td>
<td>18.1</td>
<td>92.3</td>
<td>(+10)</td>
<td></td>
</tr>
<tr>
<td>US 1900, 1910</td>
<td>18.4</td>
<td>92.3</td>
<td>(+10)</td>
<td></td>
</tr>
</tbody>
</table>


*The first date in each row is for the proportion of the population voting, and the second date is for the literacy rate.

In 1910-11, the US and Canada had a proportion voting that was more than double the rate in Argentina, one of the most progressive Latin American countries at that time. In the Western states of the US, labor scarcity played a role in the evolution of rules
regarding suffrage, as the pioneers in extending the franchise were states that were competing for migrants.\textsuperscript{11}

\textit{(ii) Access to Primary Education}

Most Latin American countries did not publicly provide primary schooling on a scale sufficient so serve the general population until the 20\textsuperscript{th} century. In contrast, public primary schooling funded at the local level was very widespread in the early 19\textsuperscript{th} century in the US and Canada (although the Southern US, which had greater inequality and population heterogeneity, lagged). The consequence was that in 1870, literacy rates in many Latin American countries were one fourth as great as in the US and Canada; see Table 3. Differences in aggregate resources to invest in schooling, as reflected in per capita income, cannot explain this pattern, as the differences in incomes between the US and Canada and the rest of the hemisphere were small at the time that the levels of literacy in education first diverged.

An alternative explanation focuses on the role of inequality. In a highly unequal society where the vote is limited to the wealthy, the voting elite faces some trade-offs. On the one hand, providing mass education will raise the productive potential of the poor majority, which promotes growth and may also create positive spillovers for the wealthy. On the other hand, the cost of that education will be borne disproportionately by the wealthy. Further, the newly educated poor may agitate for the right to vote, which will threaten the political power of the elite and their control over government policy. Among the New World economies, empirical work shows that economies with greater inequality

\textsuperscript{11} Engerman and Sokoloff (2001).
in political power (as reflected in the proportion of the population who vote) have a lower fraction of the population enrolled in school, controlling for per capita income and time and region.\textsuperscript{12} Among all economies today, those with greater income inequality are likely to have lower expenditures on schooling, particularly on primary schooling, and are likely to be less democratic.\textsuperscript{13}

\textit{(iii) Access to Public Land and Inequality in Wealth}

The governments of each colony or nation were regarded as the owners of the public lands and set policies that influenced its distribution. In most of Spanish America, land and labor policies and restrictions on immigration led to large landholdings and thus maintained great inequality. As one example, Table 3 illustrates the extreme degree of inequality of landownership in Mexico in 1910. The data, which is from the Mexican land census, are reported by state. In rural Mexico, averaging over all states, 2.4 percent of households owned 100 percent of the land. The pattern of inequality was least extreme in the Northern states, where the proportion of the population of Native American descent was lowest.

\footnote{\textsuperscript{12} Engerman, Mariscal and Sokoloff 1998.}
\footnote{\textsuperscript{13} Benabou 2000 provides a theoretical model of the trade-off that voters face. Easterly, 1999, 2001 tests the implications empirically. Acemoglu and Robinson 1999 provide a formal analysis of political constraints that can block the adoption of policies that would increase wealth. A wide-ranging and highly accessible overview of the ways in which social polarization can hurt growth is Easterly 2001, Ch. 13.}
Table 3. LANDHOLDING IN RURAL MEXICO, 1910

<table>
<thead>
<tr>
<th>Region</th>
<th>Percentage of Household Heads Who Own Land</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>NORTH PACIFIC</strong></td>
<td></td>
</tr>
<tr>
<td>Baja California</td>
<td>11.8</td>
</tr>
<tr>
<td>Nayarit</td>
<td>6.0</td>
</tr>
<tr>
<td>Sinaloa</td>
<td>5.3</td>
</tr>
<tr>
<td>Sonora</td>
<td>4.2</td>
</tr>
<tr>
<td><strong>NORTH</strong></td>
<td></td>
</tr>
<tr>
<td>Coahuila</td>
<td>2.3</td>
</tr>
<tr>
<td>Chihuahua</td>
<td>4.5</td>
</tr>
<tr>
<td>Durango</td>
<td>3.2</td>
</tr>
<tr>
<td>Nuevo Leon</td>
<td>5.4</td>
</tr>
<tr>
<td>San Luis Potosi</td>
<td>1.8</td>
</tr>
<tr>
<td>Tamaulipas</td>
<td>7.7</td>
</tr>
<tr>
<td>Zacatecas</td>
<td>1.9</td>
</tr>
<tr>
<td><strong>CENTRAL</strong></td>
<td></td>
</tr>
<tr>
<td>Aguascalientes</td>
<td>3.6</td>
</tr>
<tr>
<td>Guanajuato</td>
<td>2.9</td>
</tr>
<tr>
<td>Hidalgo</td>
<td>1.3</td>
</tr>
<tr>
<td>Jalisco</td>
<td>3.8</td>
</tr>
<tr>
<td>Mexico</td>
<td>0.5</td>
</tr>
<tr>
<td>Michoacan</td>
<td>2.7</td>
</tr>
<tr>
<td>Morelos</td>
<td>0.5</td>
</tr>
<tr>
<td>Puebla</td>
<td>0.7</td>
</tr>
<tr>
<td>Queretaro</td>
<td>1.6</td>
</tr>
<tr>
<td>Tlaxcala</td>
<td>0.7</td>
</tr>
<tr>
<td><strong>GULF</strong></td>
<td></td>
</tr>
<tr>
<td>Campeche</td>
<td>2.3</td>
</tr>
<tr>
<td>Quintana Roo</td>
<td>1.4</td>
</tr>
<tr>
<td>Tabasco</td>
<td>4.8</td>
</tr>
<tr>
<td>Veracruz</td>
<td>1.1</td>
</tr>
<tr>
<td>Yucatán</td>
<td>3.6</td>
</tr>
<tr>
<td><strong>SOUTH PACIFIC</strong></td>
<td></td>
</tr>
<tr>
<td>Colima</td>
<td>3.1</td>
</tr>
<tr>
<td>Chiapas</td>
<td>4.0</td>
</tr>
<tr>
<td>Guerrero</td>
<td>1.5</td>
</tr>
<tr>
<td>Oaxaca</td>
<td>0.2</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>2.4</td>
</tr>
</tbody>
</table>

Source: Engerman and Sokoloff, 2002, Table 5.
In contrast, the US and Canada maintained open immigration and offered small units of land at low prices to households who farmed the land. As a result, throughout much of its history, the vast majority of all agricultural workers in the US were landowners (see Engerman and Sokoloff, 2002).

Theoretical work shows that a highly unequal wealth distribution can have a critical impact on growth.\(^\text{14}\) In general, households without land or other wealth to pledge as collateral against loans have very limited access to credit for investment purposes. Consider an economy where every individual has some talent that he can exploit more effectively as a proprietor than as a wage laborer, but that setting up a business is not possible for a poor individual because he cannot obtain credit to finance his fixed costs. When the ownership of assets is highly concentrated, only a few will be able to employ labor, while the many without assets must supply labor. Thus wage rates will be lower than in an economy with a less concentrated distribution of wealth. With low wages, incomes of those without assets will be low, and so their bequests will also be low: the initially highly skewed distribution of wealth, which blocks opportunities of the poor to participate in commercial activities as proprietors, may be self-perpetuating. Economies with the same aggregate endowments and the same technology but different initial distributions of endowments may follow very different paths of development. A sufficiently high level of initial inequality may lead to stagnation.\(^\text{15}\)

\(^\text{14}\) A survey of this literature is Aghion (2000).
\(^\text{15}\) Banerjee and Newman (1993), Galor and Zeira (1993). Static models that also emphasize that ownership of collateralizable wealth can play a *catalytic* role—e.g., by permitting an individual to become an entrepreneur—rather than a role as input that gets used up in the process of producing output, include Legros and Newman 1996, Hoff 1994, 1996, and Hoff and Lyon 1996.
To recapitulate, there were systematic differences between the northern states of the US and Canada, and the rest of the Americas, in public policies towards land, education, and suffrage. Based on this pattern, economic historians Stanley Engerman and Kenneth Sokoloff suggest that factor endowments that permitted highly unequal distributions of wealth and political power at the outset of colonization, put economies on a path of institutional development that protected the elite but lowered growth. Growth was low because the institutions restricted opportunities to the broad mass of the population to participate fully in the commercial economy, even after the abolition of slavery and even after the creation of democratic governments.

C) An Empirical Test

One “reduced-form” way to test the generality of this thesis is to ask: What is the relationship, for all ex-European colonies, between population density at the outset of colonization and income levels today? Figure 3 presents data on 41 ex-European colonies in Africa, Asia, and the Americas from Acemoglu, Johnson, and Robinson (2001a, figure 2). The figure shows a striking, negative relationship between population density (number of inhabitants per square km.) in 1500, and income per capita today. That relationship is robust. It is essentially unchanged when one considers subsamples of colonies on the same continents, with the same colonial power, at the same distance from the equator, or when the settler colonies (the US, New Zealand, Canada, and Australia) are excluded. The authors offer the following explanation:

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16 Because the data are in logarithms, the approximately linear relationship between these two variables means that there is a roughly constant relationship between a 1 percentage increase in population density in 1500 and a percentage decrease in per capita income today.
Figure 3. Population density in 1500 and per capita income in 1995 for former European colonies.
relatively poor areas were sparsely settled, and this enabled or induced Europeans to develop settler colonies with institutions encouraging investment and commerce by a broad cross-section of the society. In contrast, high population density meant a large supply of labor that the Europeans could force to work in mines or plantations, with political power concentrated in the hands of a small elite.17

Acemoglu, Johnson, and Robinson (2001a) demonstrate, not only in the case of the New World economies (recall Figure 2) but more generally for ex-European colonies, that the growth of the initially sparsely settled colonies diverged sharply from that of the initially densely settled economies at the onset of the Industrial Revolution. This evidence is consistent with a view that the interaction of institutions and industrialization opportunities during the 19th century caused divergence of incomes between the initially sparsely settled economies and the ones that were more densely populated at the outset of colonization.

The historical findings reported in this section are sharply at variance with traditional views of economic development. Economists traditionally believed that the only institutions that mattered for economic development were those that defined property rights. The distribution of those rights across the population did not matter for aggregate growth. Related to this view, there was a tendency to adopt the functionalist position that efficient institutions would “naturally” emerge over time. The most famous expression of these views is the Coase theorem, which holds that regardless of the initial allocation of property rights, individuals will make agreements that lead to efficient outcomes. But the Coase theorem requires that there be no transactions costs, commitment problems, or information costs. In fact, such “frictions” are very large, especially in developing

17 Acemoglu, Johnson and Robinson 2001a, p. 2.
countries. The research described in this section raises the question whether in a highly unequal society, it is even possible to provide effective property rights protection to a broad cross-section of the society. Acemoglu, Johnson, and Robinson (2001a, p. 16) observe that

the concentration of political and social power in the hands of a small elite implies that the majority of the population does not have secure property rights, and probably risks being held up by the powerful elite. (emphasis in original)

Their empirical work shows that economies with a high population density in 1500, and thus colonies that were likely to emerge under colonialization with a very high level of inequality in wealth and political power, have significantly less secure property rights today as measured by (i) constraints on the executive and (ii) protection against expropriation risk.

Capitalism under the rule of law can be viewed as a game in which the same rules apply to all, property rights are secure and enforced, and areas of ambiguity are resolved through predictable unbiased processes. No country has ever attained this ideal; its realization is always a matter of degree. The research discussed here suggests that it may not be possible to create the rule of law when there is an extreme level of inequality of political and social power.

2. Agrarian Institutions: Efficiency-producing vs. rent-seeking

The preceding section set out the hypothesis that high inequality at the outset of colonialization in the former colonies of Europe affected the evolution of institutions with
strategic importance for growth. Given the limited data available for periods hundreds of years ago, it would be quite difficult to subject this hypothesis to a strong test of causation. But the kinds of hypothetical causal links illustrated in figure 2 can be subjected to tests of causation in statistical studies in developing countries today. This section presents two such examples that disentangle the effects of inequality on institutions, and institutions on outcomes. They shed light on the question, Why would individuals have the incentive to act in way that retards economic growth?

A. Sugar coops in India

Recent work by Banerjee, Mookherjee, Munshi, and Ray (2001) documents a puzzle in the economic performance of sugar cooperatives in Maharashtra, India over the period 1971-93: sugar coops in the fertile eastern region of the state performed relatively less well; those in the arid, less fertile, western region performed better. The surprising resolution of the puzzle provides a novel example of the consequences that the distribution of property rights may have on efficiency.

In the eastern region of this Indian state, landholding sizes are heterogeneous. The wealthier members of the sugar cooperatives, who wield disproportionate control rights, set the prices for sugar supplied by members at a low level and divert the retained earnings to their own benefit. With low sugar prices, the farmers have low incentives to improve productivity. In contrast, in the western region of the state, landholdings are in general uniformly small. The cooperatives set the prices for sugar supplied by members...
near the world price. With high sugar prices, the farmers have high incentives to improve productivity. Growth is higher and capacity is more fully exploited.

**B. Tenancy in West Bengal, India**

The agricultural tenancy reform implemented by the Indian state of West Bengal after 1977 permits a quite different test of the consequences of the distribution of property rights on efficiency—a test of the effects of a redistribution of rights to output in favor of tenants. Before 1977, sharecropping contracts in West Bengal generally involved 50 percent output shares to the tenant for the approximately 2 million sharecroppers in the state. In 1977, a new administration was elected. One of its highest priorities was to enforce a long-dormant tenancy law that stipulated that (a) the tenant would be given the choice of registration with the government, and (b) those tenants who have registered themselves cannot be evicted from the land as long as they pay the landlord a minimum legally stipulated share-rent (namely, 25% of output). The result of the reform was to increase many tenants’ output share from 50 percent to 75 percent, and to give them permanent inheritable tenure of the land they sharecropped. In the decade following this reform, West Bengal achieved a breakthrough in agriculture growth. The table indicates the aggregate pattern for India as a whole and for the state of West Bengal\(^\text{18}\):

\[^{18}\text{Banerjee, Gertler, and Ghatak, 2002.}\]
Table 4. Annual growth of production of food grains in West Bengal and in all of India

<table>
<thead>
<tr>
<th>Period</th>
<th>West Bengal, India</th>
<th>All-India</th>
</tr>
</thead>
<tbody>
<tr>
<td>1968-81</td>
<td>0.43</td>
<td>1.94</td>
</tr>
<tr>
<td>1981-92</td>
<td>5.05</td>
<td>3.08</td>
</tr>
</tbody>
</table>

Two approaches are used to measure the effect of the land reform on productivity. The first is a quasi-experimental approach that uses Bangladesh as a control. In the second approach, the fact that the land reform was implemented more intensively in some areas than others is the key to identifying the effect of the change in tenants’ share on agricultural production. The estimates provided by these two approaches are similar: the tenancy reform is found to increase sharecropper yields by between 51 and 62 percent. These estimates imply that the tenancy reform in West Bengal explains about 28 percent of the subsequent growth of agricultural productivity there. In this period, West Bengal changed from one of the worst to one of the best states of India in terms of agricultural output.

The finding that land ownership by the cultivator yields a large efficiency improvement, which might be thought of as an additional rate of return on wealth accumulation, raises another question: Why doesn’t this create huge incentives for saving, so that over time—even if they have no access to credit—tenants would be able to purchase their land or invest in human capital and so escape from tenancy? To illustrate an obstacle that may
arise in trying to “save one’s way out of poverty,” Mookerjee and Ray (2001) consider a stark example. A tenant farmer lives forever. Every period he negotiates a contract with a landlord. The landlord has all the bargaining power in the relationship. This is a critical assumption, but it is not unrealistic in a setting such as exists in some villages in India today or historically existed in some Latin American countries.

Suppose that the landlord can observe the tenant’s assets, but cannot perfectly observe his effort. The tenant is so poor that he cannot absorb losses. In order to provide him with incentives to work, the landlord, in his own self-interest, provides him a labor contract whose terms are more generous than those of any alternative employment of the tenant. The tenant farmer receives his income, out of which he can save. Now consider the second period. The tenant farmer again negotiates a contract with the landlord. If he has saved some of his income from the preceding period, the landlord (seeing that the tenant has some savings and therefore can absorb more losses) provides a less generous contract than the tenant earned in the preceding period. As a result, savings face an implicit tax: For limited degrees of wealth accumulation by the tenant, it is the landlord, not the tenant, who benefits. Thus, the tenant has no incentive to save, and his escape route from poverty may be blocked, no matter how long the term of his productive life. But at higher levels of wealth, tenants are able to absorb losses, the tenancy contract provides no surplus, and the incentive to maintain wealth is high. In the long run, the wealth distribution may become polarized into two classes, with no middle class nor any interclass mobility (Mookherjee and Ray, p. 5).
To summarize the argument so far, in societies with a high initial level of inequality of wealth and a dense population of labor with little human capital, institutional barriers can emerge that restrict the opportunities of the poor for economic advancement, and that protect the elite. Those barriers can sometimes be understood as the outcome of political forces, and sometimes of market forces.19 In turn, these institutions affect the evolution of factor endowments and the distribution of wealth in the economy. Under some conditions, they will reproduce the conditions that gave rise to them. In this way, institutional arrangements that restrict opportunities for growth may persist.

We next examine the interplay between institutions and outcomes in a context that is particularly important for industrialization—the market for new technological information.

3. Patent institutions: Democratic vs. undemocratic

I knew that a country without a patent office and good patent laws was just a crab; it couldn’t travel anyway but sideways or backways. 20

--Mark Twain

Patent institutions provide inventors temporary property rights to their inventions and facilitate trade in the rights to inventions. Thus they make possible a market for new technological knowledge. This fosters specialization of a kind far more powerful than the specialization of tasks in Adam Smith’s pin factory: it enables talented individuals to

19 Social interactions also play an important role. We discuss one example below in connection with housing tenure and community formation. Another example is marriage and household formation. Theoretical and empirical work shows that sorting in the marriage market makes household inequality greater than individual inequality. Household inequality is the most relevant measure of inequality in the determination of investments in children’s’ education (Fernandez et al. 2001).

20 From A Connecticut Yankee in King Arthur’s Court, quoted in Kahn and Sokoloff 2001.
take up invention as full-time career. But whether these opportunities extend to a broad class of the population, or not, depends on the details of the patent institutions and the wider institutional environment. Rules that appear to be symmetric, because they apply equally to all, will not provide symmetric access if transaction costs affect different groups in the population differently. This section illustrates this principle through a case study of the US and British patent institutions in the Golden Age of Invention, the early 19th century. In this period, intellectual property rights were “democratized” in the US, whereas in Britain they were not. We focus on this comparison because of the richness of the data available. But the kinds of costs and procedures that limited the effective access of individuals who were poor, or politically unconnected, to intellectual property rights were also important in Mexico and Brazil in the 19th century (Engerman, and Sokoloff 1997).

Table 5 summarizes the differences between patent institutions in the US and UK, 1790-1860. Although the US patent system was strongly influenced by UK law, the US system made three innovations: (i) It dramatically lowered fees. (ii) It gave inventors unrestricted freedom to assign their patent rights to others, which promoted a market for new technology and encouraged invention as a specialization. (iii) It created impersonal administrative procedures for handling applications, which extended the effective protection of property rights to those who had no special influence with government, and decreased uncertainty about the value of inventive activity.

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22 Kahn and Sokoloff 1998.
Table 5. Characteristics of patent institutions in the US and UK, 1790-1860

<table>
<thead>
<tr>
<th>Characteristics of patent institutions</th>
<th>US</th>
<th>Britain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fee</td>
<td>$30 (a small fraction of per capita annual income). Patent applications could be mailed to the Patent Office free of postage.</td>
<td>Four times per capita annual income</td>
</tr>
<tr>
<td>Freedom to assign away rights to inventions</td>
<td>Unrestricted</td>
<td>The number of assignees was limited; The limit could be increased only by a private act of Parliament</td>
</tr>
<tr>
<td>Application process</td>
<td>Impersonal, routine administrative procedure.</td>
<td>Processing by 7 different offices was necessary. Many further offices were involved if patent protection was to cover other British Isles besides England. The signature of the sovereign at two distinct stages was required.</td>
</tr>
<tr>
<td>Dispute settlement</td>
<td>Relatively predictable, as many parameters were established by statute.</td>
<td>Judges had jurisdiction over the determination of the usefulness of an invention and, hence, the validity of a patent. In doing so, judges exercised broad discretion.</td>
</tr>
<tr>
<td>Access of inventors to information on patents previously granted</td>
<td>All records were centralized in one office, to which access was free.</td>
<td>A fee was required to read a patent. Process of obtaining information was sufficiently difficult that patent agents were generally used as intermediaries. They were few in number and were able to keep prices for their services high.</td>
</tr>
</tbody>
</table>

Not surprisingly, these differences in characteristics were associated with very different outcomes, as shown in Table 6. Indirect econometric evidence (not discussed here) suggests that the relationships are causal. Relative to the US patent system, the British system more tightly restricted access to intellectual property rights in ways that had the consequence of limiting the class of inventors to those with substantial wealth, political connections, or technical knowledge. One measure of the breadth of access to intellectual property rights is the fraction of patents granted to
individuals who received only a single patent over their careers. As indicated in Table 6, that fraction was 57.5% in the US, compared to 42.9% in Britain.

<table>
<thead>
<tr>
<th>Characteristics of inventive activity</th>
<th>US</th>
<th>Britain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fraction of patentees who were doctors, “gentlemen”, and merchants in 1836-1846</td>
<td>&lt; 20%</td>
<td>Nearly 40%</td>
</tr>
<tr>
<td>Fraction of patents granted in 1812-29 to individuals who received only a single patent over their career</td>
<td>57.5%</td>
<td>42.9%</td>
</tr>
<tr>
<td># of patents per capita, 1810-30</td>
<td>3.5 per capita</td>
<td>2 per capita</td>
</tr>
<tr>
<td>Average education of patentees</td>
<td>Low; even among the “great inventors” in 1790-1846, half had little or no formal schooling; less than ¼ had attended college</td>
<td>High</td>
</tr>
<tr>
<td>Composition of patent inventions</td>
<td>Balanced over sectors</td>
<td>Concentrated in capital-intensive sectors</td>
</tr>
</tbody>
</table>

Broad-based property rights to technological information in the US spurred an enormous increase in inventive activity in all sectors, in virtually all sub-regions, across a broad spectrum of the population. The overall pattern illustrated in the table holds both for a sample of all inventors, and for the sample of “great” inventors, defined as those whom histories of technology credit with at least one important invention.23

Evidence also points to important interaction effects with public infrastructure. The building of canals, such as the Erie Canal, caused patenting activity in the vicinity to boom, as detailed maps of patent awards illustrate (Sokoloff 1998). The finding suggests

23 Kahn and Sokoloff 1998.
a link between patenting and access to extensive markets, because waterways were the
only means of low-cost transportation over long hauls until the 1830s. By Sokoloff’s
estimate, the extension of the inland waterways in the northeastern US accounted for a 19
percent increase in patents per capita. Rural counties especially realized large and rapid
increases in patents per capita as they gained access to waterways. These findings suggest
that important synergies exist between extensive markets, effective property rights, and
technological change.

The acceleration of inventive activity in the period 1790-1842 was associated with a
disproportionate rise in patenting by individuals without much of a previous record in
invention. In the US “Men with relatively common skills and knowledge were pulled into
invention” (Kahn and Sokoloff, 1998 p. 377); and there was growing prominence of
patentees with only 1 or 2 patents over their career (46% 1790-1804, 61% in 1843-
1846). The indirect evidence that exists suggests that such low commitment patentees
were not responsible for low value patents only.

Even the “great inventors,” as defined above, were unexceptional in terms of schooling or
technical skills. For them as for the small inventors, the expansion of markets during
early American industrialization induced a broad segment of the population increasingly
to commit resources to inventive activity which in turn raised the rate of technological
change. Far from being exogenous, the activity of the great inventors was influenced by
much the same market-related forces as invention by ordinary patentees (contra one
popular view than inventors are disinterested geniuses). In contrast, in Great Britain, the
early rise in inventive activity tended to be more confined to a technical and wealthy elite.

To summarize, the comparison of US and UK patent institutions implies that the details of patent institutions are very important in influencing the breadth of the population that has effective access to intellectual property rights. In each country, the same rules applied to everyone. In that sense, each legal regime looked symmetric. But what looks symmetric is not symmetric because the UK system imposed what would appear to be needlessly high transaction costs, and their burden was much greater for the poor and the politically unconnected than for the rich.

Table 7 Percentage of patentees who are merchants, professionals, and “gentlemen”

<table>
<thead>
<tr>
<th></th>
<th>1790-1804</th>
<th>1805-1822</th>
<th>1823-1836</th>
<th>1836-1846</th>
</tr>
</thead>
<tbody>
<tr>
<td>US</td>
<td>50.0</td>
<td>38.7</td>
<td>24.6</td>
<td>18.6</td>
</tr>
<tr>
<td>UK</td>
<td>41.8</td>
<td>40.9</td>
<td>47.7</td>
<td>39.1</td>
</tr>
</tbody>
</table>

*The data for the US, but not the UK, are based on urban patentees only. Metropolitan patentees received 31.3 percent of all patents during 1805-11, but only 22.1 and 28.0 percent in 1830-36 and 1836-42, respectively. Details to be added to indicate that the data therefore probably understate the difference between the fraction of UK and US patentees who are merchants, etc.

We add an epilogue to this story. In 1852, one year after US technology dazzled the world at the Crystal Palace exhibition in London, Britain undertook a major change in its patent system. In particular, it radically lowered patent fees. As Figure 4 shows, after these reforms the number of patents jumped sharply, closing the gap in patents per capita between the US and Britain.
Figure 4. Patents Per Capita in England and America, 1790-1890

Change to Examination System in US

Lower Patent Fees in England

Source: Khan and Sokoloff 1998
4. Housing tenure and its consequences

Approximately half of the population of developing countries lives in urban and peri-urban areas. In many metropolitan communities, residents are directly involved in neighborhood improvement efforts such as lobbying officials, attending community meetings or providing labor for neighborhood infrastructure construction or maintenance. In their study of Indonesia, Pargal and Wheeler (1996) find that pressure from community residents is very effective in reducing pollution from industrial plants. In a study of neighborhoods in Chicago, US, Sampson et al. (1997) finds that civic actions are significantly associated with reductions in violent crime.

Participation in community improvements leads, in general, to a higher quality of life for everyone who lives or owns property in the community. But who participates? Those with the greatest stake in the neighborhood are the property owners, but absentee landlords are likely to have a higher cost than residents of information and intervention. Intimate knowledge of many threats to neighborhood quality is obtained as a byproduct of living there, and is difficult to obtain otherwise. For collective action, absentee landlords are doubly disadvantaged. It is widely recognized that there is scope for solving collective action problems when social sanctions can be applied (Gachter and Fehr 1999). But absentee landlords, if they do not interact on a regular basis with each other or with community residents, will not be in a position to implement such sanctions.

There is substantial empirical evidence that controlling for observables, home-owners expend greater civic effort than renters: they are more likely to participate in upgrading
communities, attend meetings of local organizations, and vote in local elections. The following box describes findings from an ongoing study in South Africa that suggests that home-ownership makes a difference in the ability of a community to control crime.

**Box A. Crime and home-ownership patterns in South Africa**

South Africa has one of the highest crime rates in the world, but the crime rate is highly variable across police districts. In order to explain variations in the crime rate, a recent World Bank study used a data set on crime from the Human Sciences Research Council in South Africa, and matched it with census data and a highly disaggregated poverty and inequality map covering over 1,000 police districts. The study examines the relationship between home-ownership rates and crime, controlling for a wide number of relevant variables: income level (or poverty) and inequality, education, race, occupation, residential segregation, female-headed households, and urban areas. Controlling for these variables, the study finds that crime is lower in districts where the home-ownership rate is higher. This pattern holds for crimes against property, such as burglary, as well as violent crimes, such as murder. An increase of one standard deviation in the home-ownership rate is associated with declines of 14% in the burglary rate and 18% in the murder rate. This may be because of omitted variables, but the findings are consistent with the view that home-ownership, perhaps by promoting vigilance or community solidarity, has a causal effect on reductions in social disorder. The current results are obtained using 1996 census and 1996 crime data; results using crime data for 1997-1999 will be available soon.

Source: Demombynes & Ozler (2001)

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24 References are in Hoff and Sen 2001, based on developed country experience. Studies in developing countries also show that owners participate more than renters in community upgrading (e.g. Gilbert and Ward 1984) but we are not aware of studies that control for differences between homeowners and renters. Thus it is not possible to assess whether individuals participate more because they are homeowners, or whether the characteristics of individuals that lead them to choose to be homeowners also lead them to participate more in community upgrading. Titling is one aspect of security of property rights, but in many cases titling may have only a small effect on tenure security (Gilbert 2001, Payne 2001) because there exist informal mechanisms that create tenure security. For work on squatter communities, see Jimenez (1985).
Hoff and Sen (2001) have examined the relationship between residents’ civic participation, incomes, and the choices that lead to a given structure of property rights in a community. They consider an economy with three features: (1) residents have an incentive to expend effort to improve their communities only if they are homeowners, (2) capital market imperfections make it more costly for low-income households than high-income households to own, and (3) for an individual household, the marginal returns to effort are higher when neighbors also engage in community improvement efforts. One implication of this work is that there can be multiple equilibria within a community in the fraction of homeowners and the resulting level of residents’ participation in community upgrading. If a large fraction of residents become property owners in the community, then participation in community upgrading is high, resident associations gain a political voice, and so the expected appreciation of property is high, which encourages a large fraction of residents to become homeowners. But if the fraction of homeowners is small, then participation in community upgrading is low, expected appreciation of the property is low, which discourages residents from becoming homeowners, and so this also may be an equilibrium, which is worse for everyone than the alternative state of affairs.

Computer simulations illustrate the possibilities. In the simulation illustrated in Figure 5, the community is composed of 900 households at three levels of income. To start the simulation, households are randomly assigned to contracts—home-ownership or rental. In each subsequent period, every household chooses whether or not to change its contract, taking as given the fraction of homeowners in the community in the previous period. That produces a new value of the fraction of homeowners. After many iterations,
Figure 5: Multiple equilibrium structures of property rights in a residential community

Color Code:

- **Homeowners**
  - high income
  - middle-income
  - low-income
- **Renters**

<table>
<thead>
<tr>
<th>Initial period</th>
<th>Final period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Random initial assignment—17% homeowners</td>
<td>Equilibrium — 20% homeowners</td>
</tr>
<tr>
<td>Random initial assignment—80% homeowners</td>
<td>Equilibrium — 100% homeowners</td>
</tr>
</tbody>
</table>

Simulations by Brookings Institution
an equilibrium is reached, where every household is doing the best that it can given the behavior of all other households.

The top panel of Figure 5 illustrates a random assignment of one-sixth of the 900 households to homeownership contracts. With a low fraction of homeowners, the return to civic effort is expected to be low, appreciation of the value of homes in the community is low, and it does not pay for low-income households to borrow to become homeowners. The community ultimately reaches an equilibrium with a 20 percent home-ownership, where only the high-income households are homeowners. The lower panel of the figure illustrates a random initial assignment of 80 percent of households to homeownership contracts. With this high fraction of homeowners, the return on civic effort is high, and equilibrium is reached at 100 percent homeowners. The results illustrate that the same “fundamentals” –the same individuals and technology—can sustain multiple equilibrium structures of property rights, some entailing outcomes that are better for all individuals in the economy.

In the preceding simulation, there was no mobility across communities. Consider next the case where households are mobile and each chooses to live in one of a fixed set of communities. Hoff and Sen (2001) show that the consequence of individual choices where to live, whether to rent or own, and whether or not to participate in community upgrading may lead to polarized communities—the richer households in communities with high levels of home-ownership and participation, and the poorer ones in communities with low levels of both. Households that are identical in all respects except
income self-organize into “good” and “bad” communities. This simple model shows that market forces and social interactions may create a situation where poor households are isolated in communities where no resident has a large enough stake in the community to participate in upgrading or to form the kinds of neighborhood associations that can solve problems of collective action and give the community political voice.

5. Conclusion

It has for a long time been recognized that institutions shape incentives and thus have an enormous influence on economic growth. It has only more recently been recognized that institutions are endogenous. The research results described in this background paper suggest that if at some stage in its development a society had factor endowments that led to great inequality of social and political power, institutions tended to emerge that protected the elite and limited the opportunities for economic advancement of the masses. Because they reproduced the initial distribution of power, these institutions tended to persist. We described examples of such institutions in education, the distribution of public land, agrarian contracts, and patnets. In the former European colonies that were characterized by high population density at the beginning of the colonial period, institutions that discouraged the effective participation of a broad cross-section of the population in commercial activities appear to have been important in limiting economic growth at the onset of the Industrial Revolution.

If this work suggests anything, it is that there are powerful and persistent forces that underlie institutions. There is a danger of examining any institution by itself and not as
part of a total picture of the environment that supports it. Successful institutional and policy reforms to promote development is difficult. But in the complex evolution of society, few participants can see more than a short distance ahead. “If strategic interactions are like a game of chess, then the players can see, at most, only a few moves ahead in the chess game.” 25 Small changes may sometimes be possible and help to lead to a new configuration of forces that would permit wide access to economic advancement and enhance the rule of law. Although history matters, it matters through institutions and the organization of society. The work described in this background paper suggests that it is important for poverty reduction strategies to devote attention to institutional reforms, such as land policies, legal reforms, and literacy programs, that distribute more equitably the ability of individuals to participate in economic and political life. We conclude by describing, in Boxes B and C, two such institutional reforms.

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**Box B: Crime versus Civil Offense? The Historical Treatment of Physical Assault**

In 17th century England, physical assault against the royal family was a crime, but assault against a commoner was only a civil offense. Whether assault is treated as a civil or criminal offense has important consequences for the effective protection of the poor from physical violence. If—as is true in most countries today--assault is a crime, then the state is obligated to punish the offense. If, however, assault is only a civil offense, then the victim or his family must take the offender to court to obtain redress. Poor individuals are unlikely to be able to afford the costs of legal representation and thus, effectively, they do not have legal protection from physical intimidation.

Source: Laura Edwards, Duke University, private communication based on ongoing work.

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Box C. Women’s Leadership and Policy Decisions: Evidence from a Randomized Experiment in India

Women are underrepresented in politics all over the world. Because women’s representation in the political sphere advances slowly, political reservations for women are often proposed as a way to rapidly enhance women’s ability to participate in policy making. Over 30 countries have put in place quotas for women in assemblies or on parties’ candidate lists. Do such quotas affect outcomes? And if so, is the effect due to gender or to the other incidental impacts of quotas: they remove incumbents, they restrict the pool of eligible candidates, and they put in place a set of politicians who are “lame ducks” if elected candidates have little hope of reelection outside of the quota system? The unique design of the Indian quota program permits researchers to answer these questions.

In 1992, the Indian Constitution mandated that the states of India put in place a system to reserve one-third of the leadership positions for women. In 1998, the state of West Bengal in India held its first elections under this rule. Under this policy, one-third of all leadership positions of Village Councils in West Bengal were randomly selected to be reserved for a woman: in these councils, only women could be elected to the position of head. By comparison, in the unreserved Village Councils, only 6.5 percent of the chairpersons were women. The position of head is a full-time job. Village Councils have substantial power to define and implement local development projects and maintain local infrastructure, using state funds. Each Village Council covers a rural population that typically includes 10,000 people (10-12 villages). The Village Council meets regularly in all the villages that it covers, which ensures a high level of accountability. In West Bengal, Village Councils play a political role independent of the traditional landowning class.

Using a data set they the researchers collected on all Village Councils of one district of West Bengal, the researchers compared the types of public goods provided, and the level
of participation, in reserved and unreserved Village Councils. They also compared political participation. The study found that placing women in leadership positions in Village Councils changes the types of public good investments that the village councils made. The effects were large. There was more investment in drinking water infrastructure and road construction, and less in informal schools. The change in the allocation of investments corresponded to the preferences expressed by women.

The finding that the women who were heads of Village Councils made an important difference is in some ways surprising. Twenty percent of female heads were illiterate (whereas only 2 percent of male heads were illiterate), and they came from more disadvantaged backgrounds than male heads. In the judgment of the interviewers, the women heads were also much more likely to be “shy” and to “hesitate in answering questions.” One probable explanation of the results comes from another finding of the study. Women in the villages are more likely to participate in the policy making process if the leader of their Village Council is a woman. This suggests that one channel through which the reservation of the Village Council headship for women affects outcomes is through the way preferences of villagers are aggregated.

Moreover, more trust between women and the leader means that the leader can check the truthfulness of their messages (Banerjee and Somanathan 2001). So even if the leader initially held exactly the same views as her husband, she will learn different things than he would have learned if he had been the Council Head.

By using the fact that another quota system was in place at the same time in India for members of reserved castes, the study is able to show that the results are not caused by the fact that the women in reserved positions are less experienced, that they are lame ducks, or that the quotas reduce political competition. The results indicate that a politician’s gender does influence policy decisions.

The results do not support two standard theories of political participation. In the “Downsian” theory, candidates are able to commit to a specific policy and political
decisions reflect the preferences of the electorate. In the Coasian theory, efficiency is obtained regardless of the distribution of power. Both theories require that there be neither costs of aggregation of preferences, costs of commitment, or costs of bargaining. The evidence from this study is that in fact these costs are important.

A question raised by this experiment that will be addressed in future work is, Will the increased political participation of women— in village meetings and during the office hours of the Village Council— persist after the position of Village Council Head reverts to a man? The authors of this study plan to conduct a second-round survey in 2002 to examine this question.

Source: Chattopadhyay and Duflo, 2001

References


