



Scientific Background to the Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel 2024

The Committee for the Prize in Economic Sciences in Memory of Alfred Nobel



To Daron Acemoglu, Massachusetts Institute of Technology, Simon Johnson, Massachusetts Institute of Technology, and James A. Robinson, University of Chicago

*for studies of how institutions are formed and affect prosperity*

# 1. Introduction

The poorest 50 percent of the global population earns less than a tenth of total income and owns just 2 percent of total net wealth. This inequality is primarily driven by disparities between countries, which contribute to approximately two-thirds of global income inequality.<sup>1</sup> Such large and sustained cross-country income differences are inconsistent with the basic neoclassical growth model, which predicts that, all else being equal, poor countries should catch up to rich countries over time. Yet we do not observe such a convergence in income per capita across countries.

In reality, all else is not equal. Poor countries differ from rich countries when it comes to the proximate drivers of income and growth, such as investment, population growth, human capital accumulation, and productivity. Moreover, they differ in the nature of institutions – the humanly devised constraints, both formal and informal, that shape interactions in economic and political spheres – that have been highlighted as fundamental drivers of prosperity (see, e.g., Douglass North, the 1993 Economic Prize Laureate).

So why don't poor countries simply copy what rich countries have done and catch up over time? This year's prize is awarded to three scholars – Daron Acemoglu, Simon Johnson, and James Robinson – whose research has helped answer this essential question. At a general level, the central tenet of their research is that the wealth of nations is fundamentally shaped by political institutions. That is, there is a hierarchy of institutions, with political institutions influencing economic institutions, and economic institutions then affecting economic outcomes.

More specifically, the Laureates' work has improved our understanding of why some countries, but not others, adopt institutions favorable for economic growth. They have thus

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<sup>1</sup> See Development Initiative (2023).

significantly enhanced our understanding of why convergence in income between countries is not taking place.

Broadly, their contributions are twofold. First, Acemoglu, Johnson, and Robinson have made significant progress in the methodologically complex and empirically difficult task of quantitatively assessing the importance of institutions for prosperity. Second, their theoretical work has also significantly advanced the study of why and when political institutions change. Their contributions thus entail substantive answers as well as novel methods of analysis.

### Institutions and prosperity

Establishing a causal relationship between economic institutions and prosperity is fraught with challenges. After all, while the structure of institutions at any given time and place is shaped by complex historical developments, it also reflects deliberate choices by those in power to achieve certain economic outcomes. In other words, institutions are endogenous. There is also no commonly accepted view of how economic institutions should be conceptualized and, therefore, of how they should be measured. Systematically measuring their historical evolution is even harder, given the limitations in the data.

In two seminal papers, Acemoglu, Johnson, and Robinson (2001, 2002) greatly enhanced the study of the impact of economic institutions on economic prosperity. In particular, they employed a design-based – or quasi-experimental – approach using the experience of European colonialism as a “natural experiment”.

In so doing, Acemoglu, Johnson, and Robinson empirically traced the importance and persistence of colonial strategies for subsequent economic development. Their research design centered around the hypothesis that the institutions set up or selectively maintained by colonial powers have had persistent effects on political and economic institutions until today. That is, the type of institutions – inclusive or extractive – observed in many low-income countries today can be partly explained by the fact that colonizers, in some places beginning hundreds of years ago, shaped domestic institutions in a way that was beneficial to themselves. Moreover, what was beneficial to the colonizers, in turn, depended on initial conditions in the colonized areas. Importantly, the initial conditions governing the type of institutions were predetermined and provided quasi-experimental variation to study the impact of institutions on economic prosperity, even for countries under the same colonizer.

Acemoglu, Johnson, and Robinson (2001, 2002) showed that the colonial experience had a major impact on long-run prosperity. Their evidence also suggests that the type of institutions implemented by the colonizers is the key mechanism, although the exact impact of institutional quality on income is difficult to quantify.

### Institutional persistence and institutional change

Institutions are almost by definition persistent. Yet institutions within a country do sometimes change and institutions differ across countries. For example, private property rights – an economic institution – are well defined and enforced for all in some countries but not others. The constraints on politicians – a political institution – differ widely over time and countries, with some societies having their leaders constrained by free and representative elections, while others are ruled by unconstrained and repressive authoritarian regimes.

Through a series of papers (Acemoglu, 2003, 2006; Acemoglu, Johnson, and Robinson, 2005a; Acemoglu and Robinson, 2000, 2001, 2006b, 2008), the Laureates have helped us understand theoretically why growth-promoting institutions are (or are not) adopted. A key implication of their general model is that inefficient institutions, from a social welfare point of view, are sometimes chosen by political rulers as a way to extract resources from the populace. And once implemented, these inefficient institutions often persist because of an underlying commitment problem. That is, a promise by the “elite” (or an autocrat) to implement a welfare-improving reform of economic institutions is often not credible because the elite have an incentive to ex-post renege on their promise. Similarly, promises by those who argue for institutional reform are also not credible: even if they are willing to compensate the current elite for peacefully agreeing to reform, there are no incentives to compensate the former elite once they have relinquished power. Politically powerful groups may also refrain from institutional change, even if it may be welfare improving, because of concerns about subsequent institutional dynamics, i.e., the risk of losing power.

The Laureates’ work has not only built a theoretical foundation that helps us understand why extractive economic institutions and dictatorships tend to persist, they have also identified conditions under which reforms are likely to occur. These theoretical insights, in turn, have spurred a flourishing empirical literature in economics and, especially, political science on the structures of the economy that are more conducive to democratization. For example, a growing body of evidence suggests that “distributional conflict” – a core assumption in the Laureates’ modeling framework – is indeed a common feature in episodes

of transitions to democracy. Moreover, there is strong evidence that democratic reforms follow from transitory negative output shocks and are more likely to occur after instances of large-scale popular mobilization, again consistent with their general theoretical model. Finally, their work has also played an important role in weakening the theoretical and empirical foundation of “modernization theory” – the hypothesis that socioeconomic development will (eventually) promote democratization.<sup>2</sup>

## Impact on research and policy

The Laureates’ contributions have had an enormous impact on research in economics, political science, and beyond. The growing literature on historical persistence – a literature characterized by its emphasis on a research strategy designed to investigate how the past affects current outcomes – dates back to the seminal publications by Acemoglu, Johnson, and Robinson (2001, 2002).

More generally, the Laureates’ approach of using historical data in conjunction with a framework for causal identification have opened up new research avenues for quantitative work in the study of historical processes. Furthermore, Acemoglu and Robinson’s (2000a, 2001, 2006a) theoretical approach to institutional change and persistence has become the standard framework for studying the nexus between political and economic development in both political science and economics.

The research recognized here is positive in nature. Yet its findings have significant policy implications. For instance, the Laureates’ core principle that economic prosperity, or its absence, is fundamentally influenced by political institutions suggests that a strategy emphasizing democracy and inclusive institutions aligns well with the goals of combating poverty and promoting economic development.<sup>3</sup>

Moreover, the research questions raised by Acemoglu and Robinson and co-authors address a particularly pressing issue concerning the current and future state of free and open

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<sup>2</sup> Modernization theory is attributed to Lipset (1959, 1960). Dahlum (2018) reviewed the empirical support for this hypothesis.

<sup>3</sup> While it is not possible to prove that the Laureates’ work has impacted actual policy, it is worth noting that, for instance, the World Bank’s *World Development Report 2017* laid out a development agenda focused on strengthening governance and institutions. Central to this report are ideas established by the Laureates, such as the importance of institutions that facilitate “credible commitments” (World Bank, 2017, pp. 5-7). The World Bank’s recent initiative, the Global Governance Program, similarly emphasizes “capable, accountable, and inclusive institutions” as a key objective (World Bank, 2021). Another example of the international development community’s focus on institutions is the United Nations’ Sustainable Development Goals 2030, which includes goals such as, “Develop effective, accountable, and transparent institutions at all levels” and “Ensure responsive, inclusive participatory, and representative decision-making at all levels”.

societies. By advancing our understanding of the determinants and outcomes of democratic versus autocratic regimes, their work helps us comprehend the drivers and potential consequences of attacks on democracy.

## Document roadmap

The remainder of this document is organized as follows. Section 2 sets out to describe the Laureates' quasi-experimental work on the importance of the colonial experience and institutions for long-run economic prosperity. We also give a brief account of the subsequent literature on institutions and historical persistence that closely followed in their footsteps. The core findings presented in this section raise a critical follow-up question: if economic institutions are so vital, why do countries not attempt to reform them? In Section 3, we explore insights from Acemoglu and Robinson's theoretical research on political institutions and institutional change, which provide answers to this fundamental question. In addition to presenting a simple model on inefficient institutions and institutional change, Section 3 also briefly reviews the flourishing research agenda that, on the one hand, expands the theory and, on the other hand, empirically investigates the mechanisms implied by their theoretical framework. Section 4 concludes.

## 2. The impact of institutions on prosperity

In two seminal papers from the early 2000s, Acemoglu, Johnson, and Robinson provided compelling evidence on the crucial impact of conditions during colonization on long-run prosperity. They also showed that these conditions shaped the type of institutions established by European colonizers, and that the impact on long-run prosperity can plausibly be tied to the type of institutions chosen by the colonizers.

To provide such evidence, they had to address a number of empirical challenges. First, they had to show that the impact of conditions during colonization goes beyond explanations relating to geography (say, climate) or culture (say, trust). Second, they had to deal with the fact that institutions are endogenous and, thus, purposefully chosen to achieve certain economic outcomes. Countries are different along a variety of dimensions, and these dimensions – some of which are unobserved – may matter for institutions as well as income per capita.<sup>4</sup> Third, they had to conceptualize different types of institutions.

To overcome the first two empirical challenges, Acemoglu, Johnson, and Robinson (2001, 2002) developed a research design that leveraged the differential impact of the colonization experience across the countries colonized by European countries. European colonizers maintained and created different institutions across their colonies. Their choice of institutions depended on what they could plausibly gain, weighing the costs and benefits associated with various approaches. The possible gains depended partly on how attractive it was for Europeans themselves to settle in the colonies, and partly on whether there were large indigenous populations that could be exploited. The initial conditions governing the choice of institutions were predetermined and provide quasi-experimental variation, even across countries under the same colonizer; compare, for example, the set of economic institutions implemented in the northeast of America to the plantation societies in the Caribbean islands. Acemoglu, Johnson, and Robinson (2001, 2002) showed that these initial conditions had lasting and substantial impacts on institutions and prosperity today.

These two papers shaped the subsequent empirical research agenda along a number of dimensions. First, they moved the literature from examining the proximate correlates of growth – for example, savings rates, productivity, and human capital – to examining the fundamental determinants of growth, such as institutions. Second, they introduced a new

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<sup>4</sup> One may also argue that there is reverse causality, i.e., that increases in GDP may cause countries to choose different institutions. Indeed, the thrust of modernization theory (Lipset, 1959) is that countries transition to democracy as they become richer.



standard by illustrating the power of an explicit empirical research design for identifying a causal relationship pertaining to a broad macroeconomic question. Third, they pioneered a new literature on the historical determinants of contemporary institutional quality, productivity, innovation, and growth, using quasi-experimental research designs.

The remainder of this section briefly describes the literature on institutions and comparative development prior to the work by the Laureates. Sections 2.2 through 2.4 then provide the gist of the first two seminal papers by Acemoglu, Johnson, and Robinson (2001, 2002), and Section 2.5 gives a brief account of the subsequent empirical literature.

## 2.1 Institutions and prior work on comparative development

Acemoglu, Johnson, and Robinson were not the first to emphasize and study the key role of institutions. The idea that prosperity depends on economic institutions can be traced back to Adam Smith and John Stuart Mill. The importance of institutions for economic growth was the central tenet in the work from the 1970s and 1980s by 1993 Economics Laureate Douglass North. North had a broad view of institutions – they are the “rules of the game in a society ... , which structure incentives in human exchange, whether political, social or economic” (North, 1990, p. 3). Differences in institutional quality are *fundamental determinants* of prosperity (North and Thomas, 1973). The view that institutions were a key determinant of economic development received some support from cross-country correlations between measures of property rights and growth (e.g., Knack and Keefer, 1995).

### Conceptualizing institutions

Like North, the Laureates have adopted a broad view of what constitutes good and bad economic and political institutions. Their conception of institutions not only concerns formal rules, but also norms about how these rules should be interpreted in practice and the effectiveness of government in enforcing them.

Acemoglu, Johnson and Robinson (2005a) defined good economic institutions as those that enforce property rights for broad segments of the population. Such institutions provide incentives for investment and allow the participation in economic relations for wide cross-sections of society.<sup>5</sup> Good political institutions allow the majority of the population to

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<sup>5</sup> Acemoglu, Johnson and Robinson (2001) referred to “institutions of private property.” This term encompasses elements including the enforcement of property rights for a broad cross-section of society, as well as some degree of equality of opportunity in society, including equality before the law.

have a say in governance such that the interests of the majority of the population are taken into consideration. They feature democracy, rather than dictatorship, as well as constraints on politicians and political elites.

A central tenet of the theoretical work described in Section 3 is that good political institutions are a prerequisite for good economic institutions. Acemoglu and Robinson (2012) subsequently defined the combination of economic and political institutions having these features as “inclusive institutions.”

To designate bad institutions, Acemoglu, Johnson and Robinson (2001) used the term “extractive institutions,” where the rule of law and property rights are absent for the large majority of the population. Extractive institutions are more likely to occur when political power resides in the hands of a narrowly defined elite.

### Prior work on long-run comparative development

The literature on the fundamental causes of long-run (cross-country) differences in prosperity is large. Some researchers – for example, 1974 Economics Laureate Gunnar Myrdal (see Myrdal, 1968) – have emphasized fixed factors tied to geography, climate, or disease burden as key drivers of income differences. Others have pointed to the importance of religion or culture. Examples of the latter type of argument include Weber (1930), who argued that roots of the industrial revolution can be found in the Protestant Reformation, and Banfield (1958), who tied the poverty of southern Italy (relative to northern Italy) to the lack of trust in other members of society beyond immediate family members.

Friedrich von Hayek – 1974 Economics Laureate – argued that British common law was superior to French civil law (von Hayek 1960). Relatedly, La Porta et al. (1997, 1998) highlighted how financial market institutions are determined by their legal (and hence colonial) origins. Other important precursors to Acemoglu, Johnson, and Robinson (2001, 2002) are Hall and Jones’ (1999) econometric analysis of institutions and output per capita and, especially, Engerman and Sokoloff (1997), whose historical narrative illustrated how factor endowments and colonial rule shaped subsequent developments in American colonies.

As we demonstrate below, the results reported by Acemoglu, Johnson, and Robinson (2001, 2002) are robust to the factors considered in the previous literature. For example, they are invariant to controlling for geography (say, distance to the equator), the contemporary disease environment, religion, and colonizing country. The Laureates argued that the types of

institutions established by the colonizers are among the fundamental drivers of long-run prosperity.

## 2.2 The colonial period as a quasi-experiment – the argument in a nutshell

The European colonization of vast swathes of the world led to significant transformations in the institutions of many regions and countries under their control.<sup>6</sup> Across their global empires, European countries implemented different institutions depending partly on how attractive it was for their citizens to settle in the colonies in large numbers. When initial conditions were such that migrants entered in large numbers, the colonial powers established institutions that were consistent with the interests of their nationals who settled in the new colonies. When the conditions deterred European settlements, the colonial powers instead maintained or introduced institutions that protected the interests of a small European elite and allowed Europeans to extract as much resources as possible.

What were these initial conditions? One component emphasized by the Laureates was the disease environment. In tropical areas, mortality among the settlers due to diseases such as malaria and yellow fever was high. Therefore, Europeans did not enter in large numbers, and, consequently, they had strong incentives to embark on an extractive colonization strategy. By contrast, in temperate areas – such as Canada and the United States – these diseases were not prevalent. Mortality was thus lower among the settlers, Europeans entered the colonies in larger numbers, and inclusive institutions, favoring the interests of the majority of the population, were more likely to be implemented. Acemoglu, Johnson, and Robinson (2001) argued that the disease environment at the time of colonization provides quasi-experimental variation since the direct impact on contemporary GDP is negligible primarily because of immunity in the local population.

Another component determining the colonization strategy was the size of the local population. It had two implications. First, in places with larger local populations, colonizers faced greater opposition; because of conflict, mortality among the settlers was high, and

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<sup>6</sup> The era of modern colonialism began around 1500, following the European discoveries of a sea route around Africa's southern coast in 1488 and the discovery of America in 1492. There is significant regional variation in the timing and duration of colonization (for data, see Becker, 2019). In Latin America and the Caribbean, most countries were colonized before 1600 and gained independence between 1800 and 1900. In south Asia, east Asia, and the Pacific, colonization typically began in the 17th century, with most countries achieving independence between 1945 and the early 1960s. In the Middle East and North Africa, colonization started in the mid-19th century, with the majority of colonized nations in these regions gaining independence between 1930 and 1960. In sub-Saharan Africa, colonization generally began in the late 19th century, with most countries gaining independence between 1950 and 1970.

Europeans entered to a lesser extent. Second, where the local populations were large, the areas were prosperous. This meant there were plenty of resources for the colonizers to extract, and they designed institutions allowing them to exploit the indigenous population and capture as much of the resources – e.g., gold, silver, and sugar – as possible.

This reasoning has a striking implication: if institutions are important, colonized countries that were prosperous pre-colonization should be poorer today because they were more likely to be subject to bad institutions, featuring, e.g., little protection of property rights.

## 2.3 Reversal of fortune

Acemoglu and Robinson's theory of the colonial origin of institutions thus intriguingly predicts a "reversal of fortune." In regions that were prosperous before colonization, i.e., regions that were densely populated and advanced, it was in the interest of Europeans to establish extractive economic institutions, with declining relative prosperity as a result. In comparatively poor and less densely populated regions, where Europeans could easily settle, it was in the colonizers' interest to introduce inclusive economic institutions that helped to boost prosperity for the majority in the long run.

Figure 1 reproduces the main result of Acemoglu, Johnson, and Robinson (2002). It shows how GDP per capita towards the end of the 20th century relates to two proxies of economic prosperity – urbanization and population density – circa 1500, among the countries colonized by European powers.<sup>7</sup> The predicted reversal of fortune is indeed consistent with the data. Countries that were relatively rich in 1500 are now relatively poor.<sup>8</sup> In other words, regions that exhibited greater prosperity before colonial rule now have lower levels of relative prosperity.

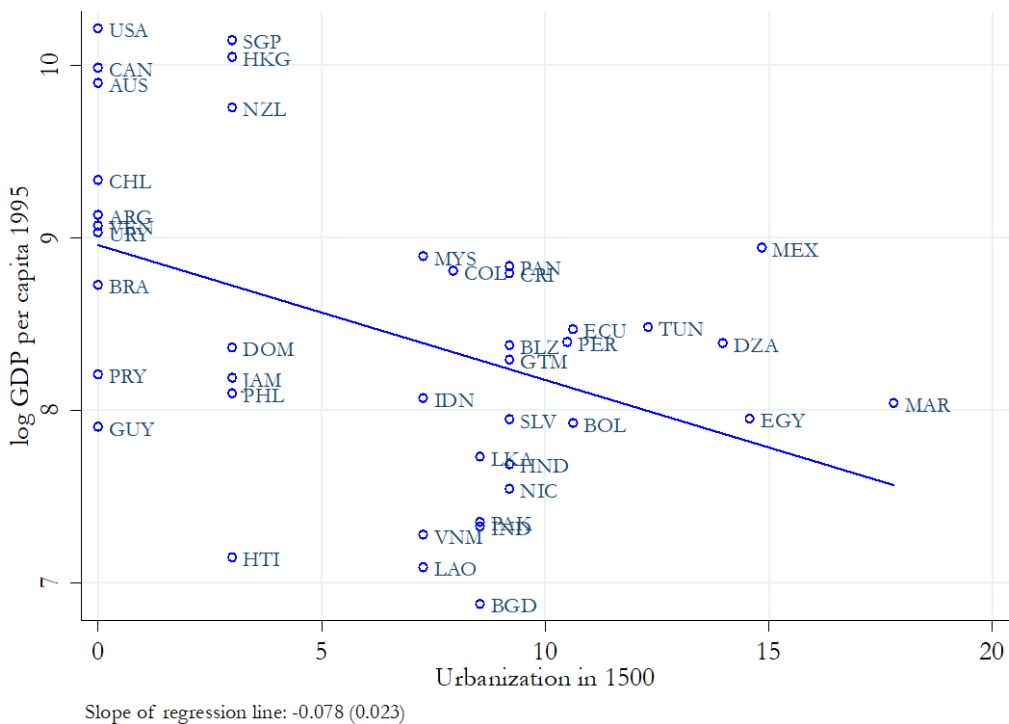
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<sup>7</sup> Since comparable income per capita measures for the 16th century did not exist for many countries, Acemoglu, Johnson and Robinson (2002) relied on de Vries (1976) and Bairoch (1988), who argued that only areas with high agricultural productivity and a developed transportation network could support large urban populations. They thus used urbanization and population density as measures of economic prosperity in 1500; these proxies were also used by, e.g., Nunn and Qian (2011). Acemoglu, Johnson, and Robinson (2002) provided evidence indicating a strong correlation between urbanization and income per capita, both in the time series and in the cross section. Nunn and Qian (2011) showed that this result extends to a panel data setting with country fixed effects.

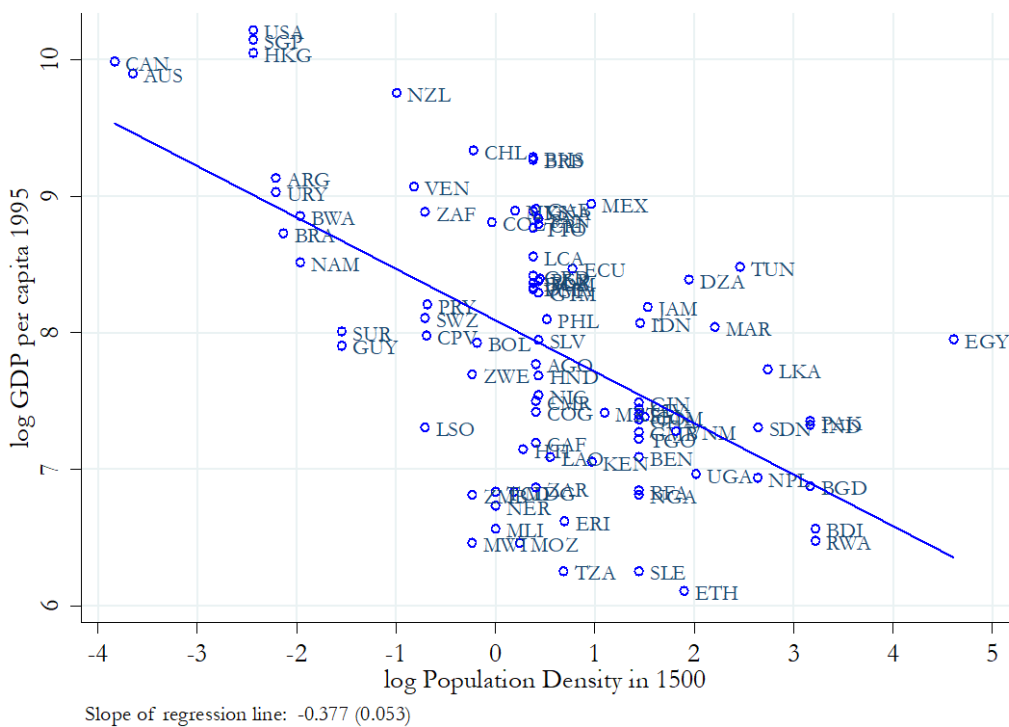
<sup>8</sup> In this context, "reversal" pertains to shifts in relative incomes among various regions and doesn't suggest that the original residents of sparsely populated areas became prosperous. Instead, a notable portion of the native population in these regions did not endure the era of European colonialism (see Acemoglu, Johnson, and Robinson 2002).

**Figure 1. Reversal of Fortune**

**Panel A**



**Panel B**



**Notes.** Panel A: Urbanization in 1500 and log GDP per capita in 1995 (purchasing power adjusted) among former European colonies. Panel B: Log GDP per capita (purchasing power adjusted) and log population density in 1500 among former European colonies. Panels A and B reproduce Figures 1 and 2 in Acemoglu, Johnson, and Robinson (2002).

The extent of the reversal is substantial. The estimated slope coefficient ( $-0.078$ ) derived from the regression depicting the linear relationship between income per capita and urbanization in Panel A suggests that a 5 percentage-point increase in urbanization in 1500 (a move in the distribution of urbanization by one standard deviation) is linked with a reduction of GDP per capita five centuries later by a third (i.e.,  $e^{-0.078 \times 5} = 0.677$ , or a 32.3 percent reduction). Similarly, a one standard deviation increase in log population density in 1500 is associated with a decline of long-run GDP per capita by 44 percent; see Panel B.

Acemoglu, Johnson, and Robinson (2002) also put forward two pieces of evidence strongly suggesting that the reversal is closely linked to European colonization. First, reversal was not a general pattern in the world after 1500; in particular, there is no evidence of a reversal in non-colonized countries. Second, there is no evidence of a reversal during the 500 years prior to the advent of colonialism: the regions that were rich around 1000 also tended to be rich in 1500, and vice versa. This is also true for the countries that were subsequently colonized.

Moreover, the authors provided several pieces of additional evidence, to bolster the argument that the reversal is tied to the colonial experience. For example, the relationships depicted in Figure 1 remain even after controlling for various factors that have been put forward as direct, or indirect, drivers of disparities in long-run development across countries, including religion, distance from the equator, temperature, humidity, availability of resources, whether the country is landlocked, and the identity of the colonial power. Moreover, they are robust to excluding the “neo-European” countries (Australia, Canada, New Zealand, and the United States) from the regressions, which is important if one believes that these countries are special cases.

They also presented evidence strongly suggesting that the type of institutions implemented by the colonizers is a key mechanism causing the reversal of fortune. First, they show that institutional quality – as measured by the average protection against the risk of expropriation, 1985–1995 (see Coplin et al., 1991) – is worse in colonized countries that were rich around 1500, as measured by urbanization and population density.

Second, they examined the timing of the reversal. They argued that economic institutions should become increasingly important with the emergence of new technologies and opportunities. This indeed appears to be the case: formerly poor colonies began to outpace the previously more prosperous colonies starting in the late 18th and early 19th centuries, coinciding with the onset of the British industrial revolution. The timing of the reversal undermines another potential mechanism – namely that the reversal is due to direct

exploitation of resources by Europeans, despite the undeniable occurrence of such plunder. It also challenges another more sophisticated geography hypothesis, emphasizing that early advancements in agricultural technologies favored countries in temperate regions.<sup>9</sup>

## 2.4 Settler mortality: main results and subsequent discussion

### Main results

Acemoglu, Johnson, and Robinson (2001) highlighted that initial conditions in areas colonized by Europeans differed not only by population densities and urbanization rates, but also by disease environments, in particular for the settlers themselves. They hypothesized that Europeans settled to a greater extent in places where their mortality rates were relatively low; they brought along their values as well as beliefs and developed home-like institutions, in particular economic and political institutions benefitting themselves. In areas where mortality was high due to diseases such as malaria and yellow fever, Europeans did not settle in large numbers. In these places, therefore, the colonizers instead established or maintained institutions designed to extract resources from native populations as much and as quickly as possible. A premise of their work is that many characteristics of the colonial state and institutions persisted even after independence, and that such persistence influences contemporary economic performance.

Schematically, they thus proposed the causal chain, illustrated in Figure 2.

**Figure 2:** Proposed causal chain in Acemoglu, Johnson, and Robinson (2001)

<p>1. Living conditions during colonization (settler mortality) <math>\Rightarrow</math> 2. Size of European settlements during colonization <math>\Rightarrow</math> 3. Colonial institutions <math>\Rightarrow</math> 4. Institutions at independence <math>\Rightarrow</math> 5. Contemporary institutions <math>\Rightarrow</math> 6. Contemporary economic prosperity</p>
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To provide evidence on their hypothesis, the researchers constructed a metric for early settler mortality across European colonies, drawing largely on data compiled by Curtin (1989, 1998) and Gutierrez (1986).<sup>10</sup> Figure 3 illustrates their main results.

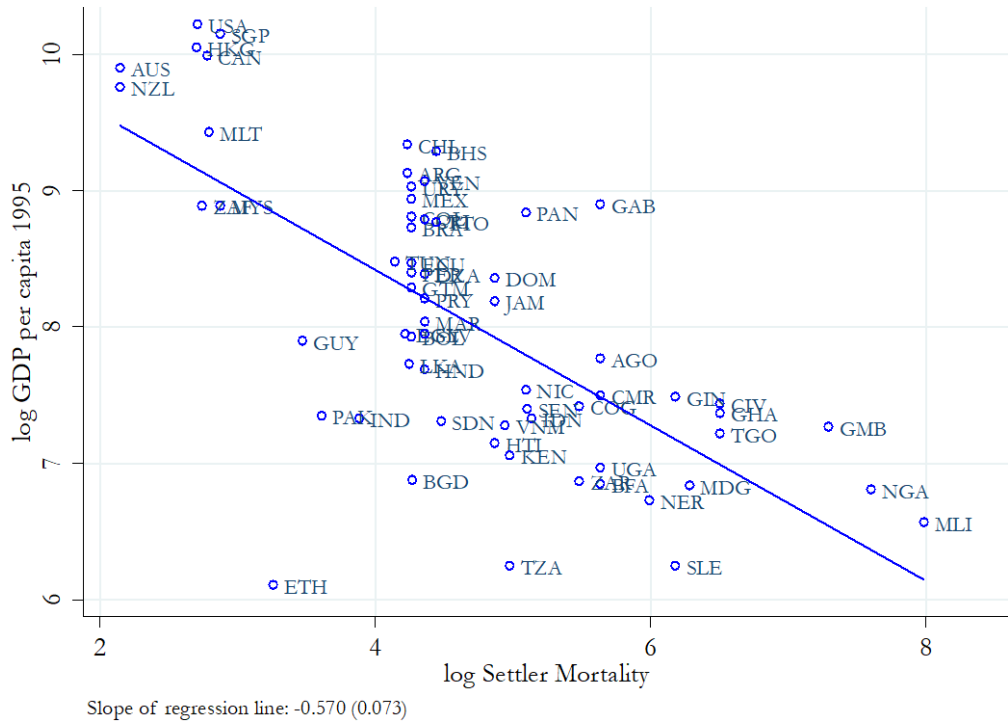
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<sup>9</sup> Much of the variation in urbanization and population density in 1500 was not at the level of countries, but at the level of “civilizations.” However, as shown by Acemoglu, Johnson, and Robinson (2002), the results are robust to using variation in urbanization and population density only among civilizations.

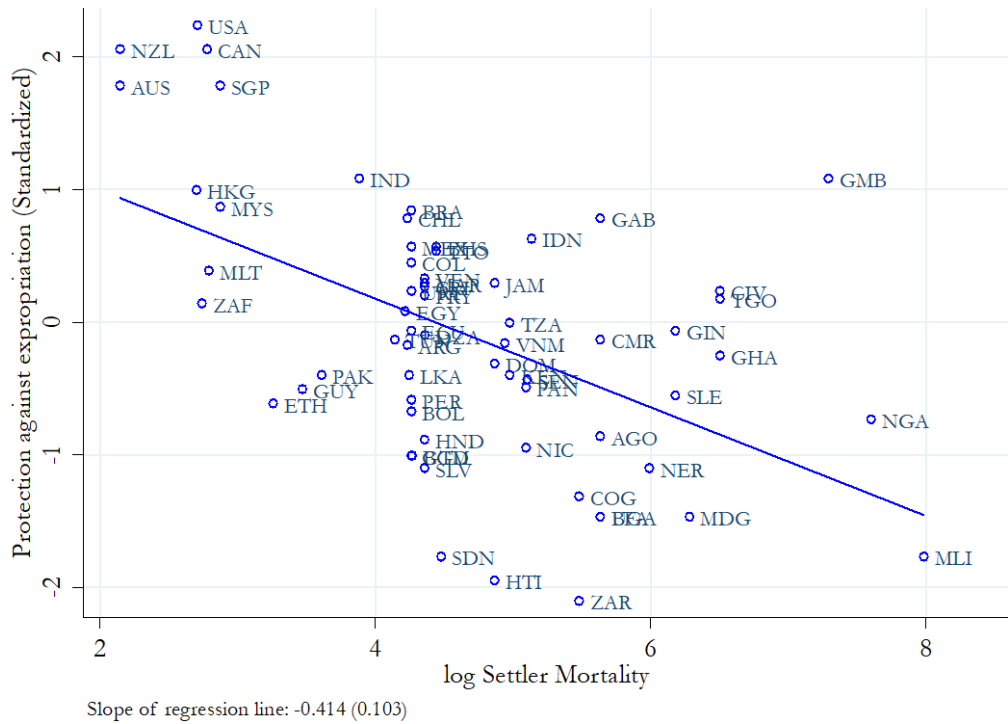
<sup>10</sup> The settler mortality data are constructed so that they measure deaths per annum per 1000. During extreme episodes, mortality can exceed 1000, as those who died during a year were replaced by new arrivals.

**Figure 3. Settler mortality, institutions, and prosperity**

**Panel A**



**Panel B**



**Notes.** Panel A: Relationship between log GDP per capita in 1995 (purchasing power adjusted) and log of settler mortality and. Panel B: Relationship between average protection against expropriation risk 1985-95 and log of settler mortality. Panels A and B are analogous to Figures 1 and 3 in Acemoglu, Johnson, and Robinson (2001). They have been reproduced using data from Acemoglu, Johnson, and Robinson (2012).



As depicted in Figure 3, Panel A, there is a strong negative long-run relationship between settler mortality and contemporary economic prosperity. That is, regions where European colonists faced higher mortality rates at the time of colonization are today substantially poorer than regions that were healthier for Europeans. The slope of the regression line implies that an increase in the log of settler mortality by a standard deviation reduces contemporary GDP per capita by 47 percent.

As their main proxy for the quality of economic institutions, they use the index quantifying protection against expropriation developed by Coplin et al. (1991).<sup>11</sup> Panel B of Figure 3 shows the connection between this measure of institutional quality and settler mortality. It illustrates that in the former colonies where Europeans experienced higher mortality rates, institutional quality is significantly worse today. The regression line implies that contemporary institutional quality falls by 0.36 of a standard deviation in response to an increase in the log of settler mortality by a standard deviation.

This statistical relationship is bolstered by historical narratives, as outlined in Acemoglu, Johnson, and Robinson (2001). They thus presented support for the notion that there is large variety in types of colonization, that mortality rates were an important determinant of European settlements, and that the presence or absence of European settlers was a key driver of the form colonialism took.<sup>12</sup>

Moreover, the authors presented statistical evidence on the impact of settler mortality on some of the steps of the causal chain illustrated in Figure 2. For example, they found that an increase in settler mortality by a standard deviation reduced the number of European settlers in the population in 1900 by 12 percentage points and decreased the number of constraints on the executive in 1900 by 39 percent relative to the mean.<sup>13</sup>

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<sup>11</sup> The index runs from 0 to 10, with 0 corresponding to the lowest protection against expropriation. We have standardized this index for ease of interpretation. In the working version of their paper, the authors showed that their results are robust to other conceivable measures of institutional quality. Note also that different proxies of institutional quality are likely correlated with one another.

<sup>12</sup> According to, e.g., Crosby (1986), there was awareness of the disease environment among the Pilgrims who chose to move to the United States rather than Guyana. Robinson and Gallagher (1961), for example, documented the development of “settler colonies”, where the Europeans settled in large numbers, and Denoon (1983) emphasized that these settler colonies had institutions providing for the interests of the settlers. In non-settler colonies, extractive practices were common. Davis and Huttenback (1987), for example, concluded that the British government favored business interests more than anything else, and Manning (1982) documented that 50 percent of GDP in Dahomey was extracted by the French.

<sup>13</sup> The reduction in the number of European settlers is very large, considering that on average 16 percent of the population consisted of people of European descent in the former colonies in 1900. The data on constraints on the executive come from the Polity data set (version III), a data collection initiated by political scientist Ted Robert Gurr (<https://www.systemicpeace.org/polityproject.html>). The Polity data set only includes independent countries. Acemoglu, Johnson, and Robinson (2001) assigned the lowest possible score on non-independent countries.

Further, Acemoglu, Johnson, and Robinson (2001) documented that their core findings are robust to controlling for latitude, continent, the identity of the colonial power, legal origin, and religion; that is, the results are robust to many of the alternative hypotheses put forward in the prior literature (see Section 2.1). Acemoglu, Johnson, and Robinson (2001) also showed that the estimates remain statistically significant when excluding Africa or excluding neo-European countries (Australia, Canada, New Zealand, and the United States).<sup>14</sup>

### Subsequent discussion

Acemoglu, Johnson, and Robinson (2001) thus showed that the colonial experience had a major impact on long-run prosperity. Their premise was that the institutions established during colonial times influence institutions observed today. To support this assumption, they used historical evidence reported by, e.g., Young (1994); moreover, they showed that an index of democracy in 1900, for example, correlates positively with the better economic institutions observed some 90 years later.<sup>15</sup> Their evidence thus strongly suggests that the type of institutions implemented by the colonizers is a key mechanism driving the relationship between contemporary GDP and settler mortality rates at colonization.

But exactly how important were the colonial institutions? What is the magnitude of the causal relationship between institutions and prosperity? To answer this question, the authors combined the two-equation model illustrated in Figure 3 to provide an instrumental-variables (IV) estimate of the impact of contemporary institutions on contemporary prosperity. However, ascribing causality to such an IV-estimate requires strong assumptions. In short, it requires an “exclusion restriction,” i.e., that the only reason why the mortality rates among European settlers centuries ago affect GDP per capita today is because of their effect on contemporary institutional quality.

While the authors can dispense with some obvious worries – for example, the estimates are robust to controlling for time-invariant factors (as noted above) and the

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<sup>14</sup> In fact, the relationship between GDP and settler mortality, shown in Panel A of Figure 3, is robust also quantitatively. For example, excluding African countries yields an estimate of  $-0.70$ , and using variation within the British colonies gives an estimate of  $-0.63$ . The relationship between institutional quality and settler mortality is also broadly robust across specifications. However, it is considerably weaker within Africa than in the full sample.

<sup>15</sup> Using data from the Varieties of Democracy (V-Dem) dataset (<https://v-dem.net>) – a data source that was unavailable to the Laureates when they wrote their seminal papers – one can correlate institutions for the countries examined by Acemoglu, Johnson, and Robinson (2001) that were still colonies in 1900 and are observed in the V-Dem dataset (29 countries). The correlation for an index of democracy in 1900 and 1990 is 0.54. The correlation between an index of property rights in 1900 and 1990 is 0.67.

contemporary disease environment – there are additional issues with the exclusion restriction. Glaeser et al. (2004), for example, pointed out that the migrants not only brought institutions; they also brought themselves. Along with the settlers thus came their beliefs (culture) and values regarding freedom, liberty, equality, and the appropriate role of government. In itself, this is not necessarily a serious concern: the values and beliefs among the settlers were crucial factors that determined the nature of the initial institutions that were established, as depicted by the causal chain in Figure 2.

A more serious concern for the validity of the exclusion restriction is if the settlers also brought with them their know-how and human capital, and if these factors have had a direct effect on long-term prosperity for a given set of colonial institutions. In a rebuttal to Glaeser et al. (2004), Acemoglu, Gallego, and Robinson (2014) concluded that there is more support for the argument that where the Europeans settled, they also established institutions that supported the education for large portions of the population. Ultimately, however, human capital and institutions are both determinants of growth, and it is very hard to distinguish Acemoglu, Gallego, and Robinson’s argument from the fact that human capital has an independent effect on growth.<sup>16</sup>

The actual IV-estimate should thus be taken with a grain of salt. Nevertheless, the evidence presented by Acemoglu, Johnson, and Robinson strongly suggests that the type of institutions implemented by the colonizers is a key mechanism driving the relationship between contemporary GDP and the conditions at colonization. Moreover, it is difficult to imagine that we would observe a reversal of fortune, where once prosperous regions became less so, had it not been for the extractive institutions established by the colonizers in the areas that were prosperous prior to colonization.

Another point of discussion involves the reliability of the data on settler mortality from the 18th century, which are sometimes sketchy and provide rough estimates on initial settler mortality (see Albouy, 2012, for criticism). However, the core results hold up when the authors exclude African nations, which were the subject of much of the dispute. Moreover, the results are robust to capping settler mortality from above, to ensure that identification does not come from extremely high estimates of the settler mortality rates.<sup>17</sup>

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<sup>16</sup> Ideally, one would have liked to observe and instrument institutions at colonization. If colonial institutions have an independent effect on growth, the estimate on contemporary institutions is likely biased upwards; see Casey and Kemp (2021) and Acemoglu, Johnson, and Robinson (2001). The problem is that the effect of colonial institutions is ascribed to contemporary institutions, which likely yields an upward bias in the IV-estimate on contemporary institutions.

<sup>17</sup> With mortality rates capped at 250 per 1000, the regression estimate corresponding to Panel A in Figure 3 becomes  $-0.765$  (standard error 0.099) and the estimate corresponding to Panel B is  $-0.625$  (0.110). Albouy

## 2.5 Subsequent empirical research

Acemoglu, Johnson, and Robinson (2001, 2002) started a vibrant literature on the importance of institutions, as well as on the historical determinants of contemporary economic prosperity more generally (see Cirone and Pepinsky, 2022). Specifically, the Laureates' two papers showcased the power of an explicitly formulated framework for causal identification to answer questions about how the past influences current economic conditions. Below we give some examples from the subsequent literature to give a sense of the range of questions that have been analyzed.

A key feature of Acemoglu, Johnson, and Robinson's work is that the conditions during colonization predict of institutional quality, broadly construed. The follow-up literature has focused more on how particular institutions have affected economic development, often using within-country or within-region variation.

Banerjee and Iyer (2005) examined the legacy of British land institutions in India that gave cultivators in certain regions proprietary rights, concluding that productivity was higher in these regions post-independence. Gennaioli and Rainer (2007) and Michalopoulos and Papaioannou (2013) studied the impact of differences in political centralization across ethnic groups during precolonial times. Nunn (2008) documented the long-run negative impacts of the slave trade.

Dell (2010) investigated the long-run effects the so-called *Mita* – a system (in operation between 1573 and 1812 in Bolivia and Peru) where men were forced to work in mines. Within the boundaries of *Mita*, household consumption was 25 percent lower in 2021 than just outside the boundaries.

Acemoglu, Cantoni, Johnson, and Robinson (2011) examined the impact of the institutional reform created by the French Revolution on subsequent economic growth within Germany.<sup>18</sup> They concluded that this radical set of reforms was conducive to growth.

Acemoglu, Reed, and Robinson (2014) found that more competition among political leaders (local chiefs in colonial-era Sierra Leone) led to beneficial long-run outcomes, for example, improvements in health and literacy.

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(2012) also raised a number of other concerns regarding, e.g., the calculation of standard errors. Acemoglu, Johnson, and Robinson (2012) responded to Albouy's critique.

<sup>18</sup> These reforms were the result of French armies occupying subsets of German territory. The French implemented a radical set of reforms – involving, e.g., equality before the law and the abolition of guilds and the remnants of feudalism – in the occupied territories.

The literature on the impact of the colonial experience on economic prosperity, more generally, has grown rapidly over the past two decades. For example, there are studies examining: the investments in education during colonial times (e.g., Valencia-Caciedo, 2019), the building of roads and railroads in India (Donaldson, 2018), the legacy of the artificial border design during the “Scramble for Africa” (Michalopoulos and Papaioannou, 2016), and the long-run impact of production sites introduced by colonizers (Dell and Olken, 2020). By now, there are several surveys of this literature: see Nunn (2014), Voth (2021), and Acharya et al. (2023).

The new literature on the historical determinants of contemporary economic prosperity, often labeled historical persistence studies, has offered new and valuable evidence and has opened up a new arena for interchange between economists and economic historians.<sup>19</sup>

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<sup>19</sup> This literature is sometimes criticized for not paying enough attention to important historical details and contexts; see Bisin and Federico (2021) for an extended discussion and further references.

### 3. Institutional persistence and institutional reform

Chapter 2 reviewed the Laureates' work that established a causal link between institutions and economic prosperity. Their empirical findings raise a critical follow-up question: if economic institutions are crucial, why do some countries maintain structures that hinder economic progress? Indeed, while the configuration of economic and political institutions at any given time is shaped by complex historical developments, it also reflects deliberate decisions made by individuals in positions of political authority. Therefore, to understand why economic institutions that, for example, enforce property rights by restricting state predation may not serve the interests of the political authorities (or rulers for simplicity), we need to examine the choices and incentives of these rulers.

This insight is central to the theoretical research program that Acemoglu and Robinson initiated in a series of seminal publications from the early 2000s. Their research revolved around the idea that the wealth of nations is fundamentally shaped by political institutions. Ultimately, who holds power determines the extent to which both political and property rights are broadly extended and whether essential public infrastructure is provided. But why might those in power resist measures such as restricting state predation? In a static context, the answer is simple: state predation can be a significant source of income for self-interested rulers, so restricting it would reduce their rents. However, in a dynamic context, this explanation falls short, as inclusive institutions lead to higher prosperity over time, which should also benefit self-interested rulers. So why might inefficient institutions be chosen and persist over time?

Acemoglu and Johnson's core explanation rests on two building blocks. First, there is a social conflict which limits or even prevents Pareto-improving reforms. Second, there is an inherent commitment problem. A promise by the elite or an autocrat to implement welfare-improving reforms today that will benefit the populace tomorrow is typically not credible because the elite have an incentive to renege on their promise later and act in their short-term interest.<sup>20</sup> Similarly, promises by those advocating for political reform, who are willing to compensate the current elite for agreeing to it peacefully, are not credible because the incentives to compensate the former elite once they are no longer in power are also not

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<sup>20</sup> Acemoglu and Robinson (2005, pp. 132–144) provided detailed historical examples from Colombia, Russia, South Africa, the United Kingdom, and other countries.

credible. Social conflict combined with the credibility problem can even cause the elite to block technological innovation and change, if such changes are perceived as threatening their hold on power.

In this section, we present a simple static version building on a suite of papers by the Laureates (Acemoglu and Robinson, 2000a, Acemoglu, 2003, Acemoglu, Johnson and Robinson, 2005a, Acemoglu, 2006). Acemoglu and Robinson (2000a) laid the foundation for a pioneering research program, offering several key insights which the Laureates later expanded and refined. This research program addressed three fundamental questions:

- (1) Why is it sometimes rational for ruling elites to block socially efficient technological and institutional change? (Acemoglu and Robinson, 2000b, 2001, 2006b)
- (2) What causes political institutions, which play a significant role in shaping economic institutions, to undergo change? (Acemoglu and Robinson, 2000a, 2001)
- (3) Why are inefficient economic institutions sustained over long time periods, even if all involved parties could be made to benefit from institutional change? (Acemoglu, 2003; Acemoglu and Robinson, 2001, 2008; Acemoglu, Johnson and Robinson, 2005)

Before turning to the formal model, it is instructive to put the contribution of Acemoglu and Robinson in perspective and relate it to the literature that already existed in the late 1990s. The Laureates' theoretical framework contributed to the existing literature in two important ways: it integrated existing traditions into one coherent model, and it introduced the commitment problem in a dynamic "window-of-opportunity" model in which a ruling elite faces periodic threats.

To understand the first major theoretical contribution, recall that the standard answer to why elites gave up the control of economic and political institutions was embodied in modernization theory and related explanations (Lipset, 1959, 1960). According to these theories, the process of socioeconomic development would eventually bring about democratization, essentially as a by-product of economic progress. As societies become richer, this wealth brings about rising education, a more plentiful middle class, and gradually milder conflict over income inequality, factors which all favor democratization. A second approach, which challenged modernization (and other structural) theories, argued that democratization is instead the by-product of patterns of strategic interaction among political elites. Personal skills, luck, or strategic mistakes are, according to this approach, part and

parcel of what democratization is about. The process is characterized by indeterminacy of short-term dynamics (O'Donnell and Schmitter, 1986).

While the second view thus holds that democracy is usually granted or undermined from above, a third approach to explaining democratization, by contrast, points to the importance of social forces in society, most importantly different class actors (Moore, 1966). The key assertion in this tradition is that democracy is imposed from below by the people through popular mobilization (Rueschemeyer et al., 1992). According to this view, incumbent authoritarian elites would not care to enact reforms or bargain with the democratic opposition if they did not fear the masses or an imminent threat of revolution.

Acemoglu and Robinson integrated these three traditions by providing structural conditions (such as economic crises), relating these to preferences over institutions and social forces (such as the threat of revolution), and by providing the conditions under which strategic elites chose to reform (such as extending the electoral franchise). This is one of the reasons why their approach has become so influential.

Their second major theoretical contribution was to model institutional choice in dynamic models with social conflict, periodic threats, and commitment problems. While Acemoglu and Robinson were not the first to analyze commitment problems, they did so in a novel setting.<sup>21</sup> Ideas about how political institutions may resolve commitment problems had previously been presented in relation to, for example, the Glorious Revolution (North and Weingast, 1989), contractual settings in medieval trade (Greif, 1989, 1993), and self-enforcing democracy (Weingast, 1999). Fearon (1995, 1998) demonstrated that the inability of a central government to commit to power-sharing agreements can lead to the outbreak or prolongation of wars.<sup>22</sup> The work on political economy by, for example, Alesina and Tabellini (1990) and Persson and Svensson (1989) showed that political parties create inefficient levels of public debt because they cannot commit to future spending levels.<sup>23</sup>

The seminal contributions by Acemoglu and Robinson pioneered this literature, not only because they put social conflict and commitment problems at center stage, but also because they showed the importance of modeling periodic threats through windows of

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<sup>21</sup> Commitment problems were analyzed by the 2004 Laureates, Finn Kydland and Edward Prescott. They were awarded the Economics Prize in part for an influential application that prompted positive and normative research on institutional arrangements to sustain political commitment, e.g., independent central banks as a commitment to stable inflation (Rogoff, 1985).

<sup>22</sup> See also Grossman (1991, 1995) and Roemer (1985).

<sup>23</sup> See also Alesina and Rodrik (1994), Meltzer and Richard (1981), Persson and Tabellini (1994, 1999, 2000), Persson et al. (1997, 1998), and Powell (2024).



opportunities. These three components are key in their theoretical contribution, and they enabled the Laureates to identify new mechanisms and explanations (see Section 3.2).

In their subsequent research, they extended their basic theoretical framework and could then provide novel answers to the three core questions formulated above. For example, before Acemoglu and Robinson initiated their theoretical research program, standard explanations to why ruling elites implement inefficient policies, say, by blocking socially efficient technologies, relied on asymmetric information and bargaining (see, e.g., Powell, 2004)<sup>24</sup>, whereas Acemoglu and Robinson built their arguments on opportunity costs, windows of opportunities, commitment problems, and the desire to maintain political power.

The theoretical research program that was initiated by Acemoglu and Robinson also created a large new body of theoretical and empirical literature, discussed in Sections 3.3. and 3.4.

### 3.1 A simple static model

Consider a population of size 1. A fraction  $\lambda \in (1/2, 1)$  of the population constitutes the masses (superscripted by  $m$ ), and a fraction  $1 - \lambda$  constitutes the elite (superscripted by  $e$ ). Initially, political power is concentrated in the hands of the elite. If there is a transition to democracy, the median voter will be an agent from the masses since they are in majority.

There is one consumption good with price normalized to one. Each agent has an asset  $h$  that can be used for production either in one of two markets or sectors, generating pre-tax income  $Ah$  and  $Bh$ , respectively.<sup>25</sup> We can broadly think of the two sectors as the formal and informal sector. It is assumed that the return in the formal sector is higher, that is,  $A > B$ . Taxes are restricted to be proportional (a non-negative rate that is at most one) and can only be raised on income from the formal sector accruing to the masses, or on a fraction  $\theta$  of income to the masses from the informal sector. That is, the elite can hide all their income, but the masses can only hide a fraction  $1 - \theta$  of their income generated in the informal sector. Transfers  $T$  are non-negative lump sums, and they can be directed toward a specific group.

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<sup>24</sup> In the bargaining literature, there are many games in which the inefficient equilibria are Pareto-dominated by efficient ones. Similar situations can occur, for example, in models of strikes (Fernandez and Glazer, 1991) or, more generally, in bargaining models in which the bargainers can impose costs on each other between offers (see, e.g., Busch and Wen, 1995; Muthoo, 1999).

<sup>25</sup> Here, the asset is treated as a composite of, e.g., capital, labor, and land, as in Acemoglu and Robinson (2000a). It is straightforward to treat each type of asset separately, as Acemoglu (2003). The assumption that each agent possesses the same asset,  $h$ , is made for simplicity, and it does not affect the core results.

The group in power operates under a balanced budget constraint, so the sum of tax revenues and transfers must cancel out.

Agents care only about their own consumption and consume their income net of taxes and transfers minus potential voluntary transfers to others. The voluntary transfers can be decided on at the level of the entire group. Note also that taxes exemplify various methods for transferring resources from the masses to the elite. These methods can take many forms, including land expropriation and other forms of property rights violations, entry barriers that favor less efficient producers, and policies such as marketing boards that depress producer prices. Following Acemoglu (2006), taxes can be interpreted as an economic institution (although, strictly, the tax rate is a tool to redistribute resources to a powerful elite).<sup>26</sup>

The masses, though initially excluded from political power, can overthrow the elite. As in Acemoglu and Robinson (2000a), the probability that the revolution succeeds is one. However, a revolution is costly, and a fraction  $1 - \mu$  of the economy's assets gets destroyed. The parameter  $\mu \in (0,1)$  captures "revolution costs" for the masses: the lower  $\mu$ , the more costly to stage a revolution. This static model will be analyzed in the cases without and with commitment.

### The case without commitment

We start by analyzing the model for the situation when it is not possible for the masses or the elite to commit on future taxes and transfers. The timing of the events in game is as follows:

1. The elite decides if democracy should be installed ( $D$ ) or not ( $ND$ ).
2. The masses decide whether to stage a revolution ( $R$ ) or not ( $NR$ ).
3. Assets are (irreversibly) allocated to a sector.
4. The group in power determines the policy  $(\tau, T)$ .

Agents consume their net income and give no private transfers. Note also that the elite always invests their assets in the formal sector. The game is solved by working backwards.

Consider first the last two stages of the game. If there is non-democracy ( $ND$ ), the elite is in power. Clearly, once agents have made their investment decisions, the elite would want to extract as much as possible from the masses (since the game ends after stage 4 and

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<sup>26</sup> See Acemoglu and Robinson (2005) for a discussion of endogenizing the choice of institutions in a model with (targeted) redistribution.

agents care only about their own consumption). Correctly anticipating this decision, the masses channel their assets exclusively to the informal sector. Consequently, the elite will not obtain any tax income from the formal sector, independently of their selected tax rate. But because they still can obtain tax income from the informal sector, the elite sets the maximal tax rate  $\tau^e = 1$ . Thus, payoffs under non-democracy are  $v^m(ND) = (1 - \theta)Bh$  and  $v^e(ND) = Ah + \theta Bh\lambda/(1 - \lambda)$ . That is, the masses generate income from the share shielded from taxation, while the elite derives income from their assets and the income expropriated from the masses,  $\theta Bh\lambda$ , which is shared among the fraction  $1 - \lambda$  of agents belonging to the elite. If there is democracy ( $D$ ), the masses are in power. As they have no reason to tax themselves, they will set the tax rate  $\tau^m = 0$ .<sup>27</sup> Expecting taxes to be zero, all agents invest in the formal sector. Payoffs are therefore  $v^m(D) = Ah$  and  $v^e(D) = Ah$ .

Consider next the masses' revolution decision. If they decide not to stage a revolution ( $NR$ ), the elite remains in power and  $v^m(NR) = v^m(ND) = (1 - \theta)Bh$ . If the masses decide to oust the elite in a revolution ( $R$ ), the payoffs are given by  $v^m(R) = v^e(R) = \mu Ah$  since a fraction  $1 - \mu$  of the economy's assets gets destroyed.

By comparing  $v^m(R)$  and  $v^m(ND)$ , the "revolution constraint," i.e., the condition for when the masses will revolt, can be derived. This constraint has played a key role in much of the theoretical work by Acemoglu and Robinson (discussed later in this chapter). Formally, the revolution constraint is given by  $v^m(R) > v^m(ND)$ , which can be simplified to  $\mu > (1 - \theta)(B/A)$ . Because  $B/A \in (0,1)$  and  $\theta \in (0,1)$ , there exists a  $\mu^* \in (0,1)$  such that the revolution constraint holds with equality. Thus, if  $\mu > \mu^*$ , the masses will revolt, and if  $\mu \leq \mu^*$ , they will not.

Consider, finally, the decision for the elite whether to extend the (electoral) franchise or not. If  $\mu \leq \mu^*$ , there is no revolutionary threat. If the elite then chooses to democratize ( $D$ ), the masses will choose to minimize redistribution to the elite by setting  $\tau^m = 0$ , implying that each agent of the elite receives payoff  $v^e(D) = Ah$ . If the elite instead decides not to democratize ( $ND$ ), they will set the maximal tax rate, implying  $v^e(ND) = Ah + \theta Bh\lambda/(1 - \lambda)$ . Given that  $v^e(ND) > v^e(D)$ , then if  $\mu \leq \mu^*$ , the elite will maintain their political power and set the maximal tax rate  $\tau^e = 1$ . If  $\mu > \mu^*$ , a decision not to extend the franchise will be followed by a revolution. Since  $v^e(D) > v^e(R)$ , the elite will extend the franchise.

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<sup>27</sup> The masses could tax themselves and transfer all of the tax revenues back to themselves, with the same utility outcome, but if these taxes would be too large, they would distort the investment in the earlier stage.

To summarize, depending on the value of  $\mu$ , or the cost of revolution, the outcomes will be qualitatively different. If  $\mu > \mu^*$ , the elite will choose to extend the franchise, there will be no transfer from the masses to the elite, and the total income is  $Ah$ . In other words, the elite will not be able to expropriate the masses. If, on the other hand,  $\mu \leq \mu^*$ , the masses' revolutionary threat is not credible. The elite will thus maintain power and set the maximal tax rate. Because the masses then invest all their assets in the informal sector, the total income is  $\lambda Bh + (1 - \lambda)Ah$ . Consequently, the tax rate distorts assets from the productive formal sector to the less productive informal sector, generating a total income loss of  $\lambda h(A - B)$ .

### The case with commitment

The elite's decision to democratize when  $\mu > \mu^*$  stems from their inability to commit to an economic policy. That is, any announcement of a future economic policy in the early stages of the game is non-credible. Suppose now that the masses and the elite can enter a bargaining session, that commitments are credible, and that private transfers between the masses and the elite are feasible. To analyze this situation, consider the following (slightly modified) timing of events in the game.

1. The elite decides if democracy should be installed ( $D$ ) or not ( $ND$ ).
2. Regardless of the outcome in stage 1, the masses and the elite can enter a bargaining session where they can decide on whether there will be a revolution or not and, in each case, on government taxes and transfers as well as on private transfers. If an agreement is reached, the game continues to stage 3. Otherwise, the game continues from stage 2 in the previously considered game without commitment.<sup>28</sup>
3. Assets are (irreversibly) allocated to a sector.
4. Taxes and transfers are implemented according to the agreement in stage 2.
5. Private transfers are made according to the (potential) agreement in stage 2 and consumption takes place.

If the masses and the elite agree on a bargaining solution in stage 2 of the game, they commit to it and the solution can be enforced. If they don't agree on a solution, there is no

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<sup>28</sup> Note that private transfers (or gifts), while available also in the no-commitment case, are not used in that scenario. Moreover, if private transfers are not allowed, the commitment solution still involves Pareto-improving outcomes relative to the case without commitment.

commitment. Thus, commitment involves an agreement between the masses and the elite on tax rates and transfers and on the decision of whether a revolution should be staged or not, but otherwise not on individual decisions (so agents invest where it is privately most profitable). The key elements of the bargaining are the so-called inside and outside options, i.e., the outcomes for what is agreed on and committed to (inside) and outcomes when no agreement is reached and there is no commitment (outside).

Before detailing these types of options, it needs to be known what the elite and the masses bargain about, that is, the size of the resources. Since there are no restrictions on private transfers and because these can be decided upon in the bargaining process, any shares of the total resources can be split arbitrarily.

Suppose first that the masses and the elite agree on the no-revolution outcome. In this case, the masses will invest their assets in the formal sector if the taxes are “sufficiently low” and, more precisely, if  $(1 - \tau)A \geq (1 - \tau)\theta B + (1 - \theta)B$ . If they agree on taxes such that this inequality holds, the total income is  $Ah$ . If not, the total income is  $(1 - \lambda)Ah + \lambda Bh$  because the masses then invest all their assets in the informal sector. Because the total income can be split arbitrarily between the groups, they will agree on tax rate zero<sup>29</sup>, generating total income  $Ah$ . Using similar arguments, it is also straightforward to realize that if an agreement is reached, the masses and the elite agree on the no-revolution outcome (simply because  $Ah > \mu Ah$ ).

Let  $T$  represent the (per-capita) transfer from the masses to the elite. Thus, each member of the elite obtains a transfer of  $T\lambda/(1 - \lambda)$  from the masses.<sup>30</sup> The net income of each member of the masses under commitment is therefore  $Ah - T$ , and the net income of each member of the elite under commitment is  $Ah + T\lambda/(1 - \lambda)$ . These are the inside values.

When the masses and the elite do not reach an agreement, i.e., when there is no commitment, the payoffs to the masses and the elite are the same as in the no-commitment case analyzed previously in this section (since the game continues from stage 2 in the game

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<sup>29</sup> For simplicity, it is assumed that the masses and the elite agree on tax rate zero, but the results do not require this. It suffices that the tax rate is “sufficiently low” in the sense that the masses only invest in the formal sector, so that total income is  $Ah$ . In other words, there is an indeterminacy in the equilibrium values for  $\tau$  and  $T$ , but they are not payoff-relevant as various combinations of taxes and transfers give the same payoffs to the masses and the elite.

<sup>30</sup> The value of  $T$  is allowed to be negative, in which case it would be a voluntary transfer from the elite to the masses.

without commitment according to the timing of the events). These are the outside values. Consequently, the masses will stage a revolution only if  $\mu > \mu^*$ .

To understand the outcome of the bargaining session, we start by deriving the value of commitment for the masses and the elite, i.e., their potential gains from reaching an agreement. This gain is represented by the difference between the aggregate inside and outside values. The total gain for the masses is given by  $\lambda Ah - \lambda T - \lambda(1 - \theta)Bh$  if  $\mu \leq \mu^*$ , and  $\lambda Ah - \lambda T - \lambda\mu Ah$  if  $\mu > \mu^*$ . For the elite, the gain is given by  $(1 - \lambda)Ah + \lambda T - (\lambda\theta Bh + (1 - \lambda)Ah)$  if  $\mu \leq \mu^*$ , and  $(1 - \lambda)Ah + \lambda T - (1 - \lambda)\mu Ah$  if  $\mu > \mu^*$ . Intuitively, the sum of these values, for a given value of  $\mu$ , coincides with the aggregate “income loss” that occurs when the masses and the elite are unable to reach an agreement. So, if no agreement can be reached and  $\mu \leq \mu^*$ , the elite decides to keep non-democracy and the masses decide not to stage a revolution. Then the aggregate value of commitment is given by  $\lambda h(A - B)$ , that is, the aggregate income loss that follows when a fraction  $\lambda$  of the agents (i.e., the masses) invests all their assets in the informal sector with return  $B$  instead of in the formal sector with return  $A$ .<sup>31</sup> If  $\mu > \mu^*$ , and the masses stage a revolution in case no agreement can be reached, then the aggregate value of commitment equals  $Ah(1 - \mu)$ , that is, the aggregate income loss when the masses stage a revolution.

Consider now the bargaining process. Here, it will, for simplicity, be assumed that that the masses and the elite equally split the surplus that exceeds the aggregate outside values (Acemoglu, 2003, analyses more sophisticated Nash bargaining solutions). This solution can be identified by using the above derived values of commitment and by setting  $\lambda T$  such that:

$$\begin{aligned}\lambda Ah - \lambda T - \lambda(1 - \theta)Bh &= (1 - \lambda)Ah + \lambda T - (\lambda\theta Bh + (1 - \lambda)Ah) \text{ if } \mu \leq \mu^*, \\ \lambda Ah - \lambda T - \lambda\mu Ah &= (1 - \lambda)Ah + \lambda T - (1 - \lambda)\mu Ah \text{ if } \mu > \mu^*.\end{aligned}$$

Solving for  $\lambda T$  yields:

$$\begin{aligned}\lambda T &= (\lambda(A - B)h)/2 + \lambda\theta Bh \text{ if } \mu \leq \mu^*, \\ \lambda T &= (2\lambda - 1)(1 - \mu)Ah/2 \text{ if } \mu > \mu^*.\end{aligned}$$

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<sup>31</sup> This can also be formally demonstrated by adding the values of commitment for the masses and the elite for the cases when  $\mu \leq \mu^*$  and  $\mu > \mu^*$ .

Given the assumptions on the parameter values, it follows that  $\lambda T > 0$  independently of the value of  $\mu$ . Thus, with commitment, the elite always gets income  $Ah$  plus a transfer that guarantees that they always receive a higher income than their outside value. Therefore, the elite gains from the bargaining solution, for all values of  $\mu$ , compared to the case without commitment. Hence, they will never democratize (in the limit as  $\mu$  goes to 1, the elite receives the same payoff as under democracy). Using the same arguments, it follows that the masses gain by commitment relative to the no-commitment outcome.

## Takeaways and insights

The purpose of introducing the simple static model considered in this section was to illustrate how the commitment problem may affect the transition from non-democracy to democracy and how it may cause inefficient economic policies. By comparing the findings for the cases with and without commitment, several important conclusions can be drawn.

First, as emphasized by Acemoglu and Robinson (2000a), the lack of commitment provides an explanation for democratization. As is clear from the analysis, democratization occurs if  $\mu > \mu^*$  when it is not possible to commit, but democratization will not occur for any value of  $\mu$  when it is possible to commit. If it is impossible to commit to future tax rates and transfers, an extension of the franchise acts as the only credible commitment to future redistribution. Without a commitment device, promises by the elite to redistribute in the future, while maintaining political power today, are simply not credible. Second, as discussed by Acemoglu (2003), and discussed further in Acemoglu, Johnson, and Robinson (2005a), lack of commitment explains the persistence of inefficient economic institutions. If  $\mu \leq \mu^*$ , the outcome is inefficient, as there exist Pareto improvements, whereas commitment would eliminate this inefficiency for any  $\mu$ . Third, when commitment is possible, efficient economic institutions do not require democracy.<sup>32</sup>

Finally, we note that the game considered in this section is static, so it only lasts for one round. The theoretical program that Acemoglu and Robinson initiated mainly centers around dynamic models and games, where the polity (democracy or non-democracy) in the beginning of each period is a state variable that is determined by the history of the game.

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<sup>32</sup> If the timing of events is changed so the game starts with the masses and the elite entering bargaining, the two groups could also agree on the elite extending the franchise in exchange for compensating transfers from the masses. In this scenario, democracy with private transfers to the elite is “payoff equivalent” to non-democracy with private transfers to the elite and an agreement that the elite set the tax rate to zero.

Since  $\mu$  is stochastic in a dynamic game, it captures the idea that the masses may have a window of opportunity in some periods but not in others. Because both the masses and the elite know that  $\mu$  takes a “high” value with a given probability, they will, in each period of the game, base their actions on their discounted expected future payoffs. This dynamic feature cannot be captured in the model considered in this section. Note, however, that the timing of events in any given period in a dynamic game may be identical to the timing of events in the considered one-period game.

## 3.2. Theoretical contributions

The static model presented in the previous section introduced some of the main ingredients in this year’s awarded work. For example, social conflicts, windows of opportunities, and commitment problems. All these (and additional) aspects are captured in the research program that the Laureates initiated in the early 2000s. The purpose of this section is to give an informal introduction to this research program and, ultimately, to explain how this program has provided answers to the three questions, posed earlier in this section.

### Inefficient institutions

In the static model discussed in the previous section, expropriation (or taxation) occurs post-investment (see Acemoglu, 2006). With such *ex-post* expropriation there is a “holdup” problem which introduces Pareto inefficiency. Inefficiencies would also occur in a dynamic model, even if the government could commit to a level of taxation, when capital accumulation is endogenous. Proportional taxes then introduce distortions by reducing incentives to work or exert effort and by discouraging investment (see Acemoglu, 2006). The inefficiency in this type of model stems from the limited set of policy tools available – specifically, the lack of non-distortionary taxes. This limitation prevents the separation of resource distribution from efficient production. Therefore, a higher  $\tau$  translates into lower growth and income.

In short, extending the simple model could lead to the long-term persistence of inefficient (and potentially also Pareto-inefficient) institutions. This follows from the observation that if the elite control political institutions in a setting where  $\mu$  is low – for example because the elite can respond with strong force if the masses stage a revolution or because the masses are unorganized, and it is costly to organize a revolt –  $\tau$  would be high and the masses would invest little in the market sector. As further explored below, even if  $\mu$



is high, the elite may still maintain power by implementing temporary policy adjustments to prevent mass revolts. For both of these reasons, inefficient institutions could endure over time.

### Why did the Western societies extend the electoral franchise?

Acemoglu and Robinson (2000a) started with the observation that many Western societies extended their voting rights in the early 20th century – reforms that in many cases were followed by the introduction of unprecedented welfare programs. But why did the ruling elites in these societies agree to redistribute their resources and to give up control of formal political institutions? Acemoglu and Robinson argued that this type of economic and political reforms can be viewed as strategic decisions by the elite to prevent social unrest and revolution that ultimately would damage them even more.

To formally convey these arguments, they considered a more realistic and sophisticated model than the one introduced in the previous section. In the model, the game is dynamic, there are no group-specific transfers, but members of the elite are wealthier than members of the (poor) masses. As in the model above, democratic reform is binding, so if democracy is installed, there will be democracy in all future periods of game.<sup>33</sup> Moreover, a revolution is costly.

A key insight made by Acemoglu and Robinson (2000a) was that political transition (to democracy) occurs instead of redistribution under existing institutions (autocracy) because current transfers fail to guarantee future ones, due to the commitment problem. However, extending the franchise alters future political equilibria, serving as a commitment to ongoing redistribution.

The model not only formalized the strategic decisions by the political elite in response to widespread social unrest and revolution, but also helped to explain the varying order of institutional reforms and the introduction of welfare programs across countries. Specifically, the elite can respond to revolutionary threats in two different ways. First, they can expand the electoral franchise and give the political power to the masses. This happened in many

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<sup>33</sup> This can be motivated by the observation that it is costly to overthrow democracy once created, so democracies have a strong tendency to persist. For example, all 27 countries classified as democracies in 1920 by Boix, Miller and Rosato (2022) remain democracies in 2020. This is mostly because people make specific investments in them. For instance, once democracy has been created, political parties form and organizations, such as trade unions, arise to take advantage of the new political circumstances. The investments of all these organizations will be lost if democracy is overthrown, giving citizens an incentive to struggle to maintain democracy. Moreover, once democracy has been created, the masses have better control over the military than they had under the non-democratic regime.

Northern European, Latin American, and (later) Asian countries. Second, the elite can decide to keep non-democracy but redistribute through taxation to eliminate the threat. This was the case in Germany in the 1880s, where a basic welfare state without an electoral franchise extension was instituted. Intuitively, in an economy in which the poor are well organized, so they frequently pose a revolutionary threat, future redistribution without franchise becomes credible.

## Revolutions and coups

Whereas Acemoglu and Robinson (2000a) investigated a framework with at most one single transfer of institutional control, Acemoglu and Robinson (2001) asked a complementary question: why do some countries fail to make a permanent transition to democracy and instead flip back and forth between non-democracy and shorter episodes of democracy? Their interest in the research question was grounded in developments in, for example, Latin America in the 20th century, where the polity often reverted to non-democracy. The follow-up paper thus aimed to shed light on factors that might drive societies into shifting control over the economic and political institutions. As in their earlier work, Acemoglu and Robinson (2001) investigated and provided answers to what causes economic and political institutions to undergo change.

Exactly as in their earlier piece, Acemoglu and Robinson (2001) considered a model with masses and an elite, economic policies, and a group with political power that decides about democracy or non-democracy. But now the range of possible political transitions is not confined to the elite extending the franchise to avoid the costs of realized social unrest and revolutionary threats. The elite can also instigate a coup against a newly installed democratic regime to regain political power.

In their extended theoretical framework, there are other equilibria than a single transition to democracy. In particular, an equilibrium may be unstable in the sense that even if democracy is installed in a given period, the masses may be unable to find a policy in later periods that prevents the elite from staging a coup. Again, the reason is a lack of commitment to future policies. That is, the masses would like to commit to, say, low levels of future taxation to prevent coups. However, because such commitments are not always credible, the elite may prefer to retake power, even though coups are socially wasteful.

## The political replacement effect

Acemoglu and Robinson (2006b) investigated the so-called political replacement effect. The general idea is that innovations and technological change can erode advantages that elites in power may have.<sup>34</sup> Because this undermines their position, they fear replacement and may therefore be unwilling to initiate change. Acemoglu and Robinson (2006b) demonstrated that such “threats” may even make it rational for ruling elites to block beneficial economic and institutional change. In other words, the elite can obstruct the adoption of a new technology to maintain control of economic and political institutions (see also Acemoglu and Robinson, 2000b, 2001).

To understand the intuition behind the result, suppose that a new technology significantly boosts income but requires an effective institutional framework for full implementation. Then the cost for the masses of not being in power increases when the technology becomes available. This incentivizes them to initiate a revolution. Since a revolution may result in a change of power, the elite may prefer to block the new technology, even if it would benefit society and increase overall income. Acemoglu and Robinson (2006b) demonstrated that this outcome is more likely when the political competition is limited and the political stakes are higher, e.g., because of land rents enjoyed by the elite.

Acemoglu and Robinson (2006b) used concrete examples and historical narratives to back up their story, such as the industrialization of the 19th century. Between 1830 and 1913, global manufacturing output surged by a factor of five (Bairoch, 1982). However, this transformation unfolded unevenly across regions and nations. Manufacturing output in developed countries, i.e., Europe and North America, increased by a factor exceeding 10, while it dwindled in many developing regions. Even among developed nations, there were striking differences: while Britain and the United States swiftly embraced new technologies and industrialized, Russia and Austria-Hungary, for example, lagged. Why did these countries hesitate to adopt innovations that could have bolstered their economic fortunes? Acemoglu and Robinson (2006b) argued that entrenched political elites are inclined to obstruct beneficial economic and institutional change when they fear that such changes might destabilize the existing order, potentially jeopardizing their grip on political power and future privileges.

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<sup>34</sup> Mokyr (1990) highlighted the possibility that interest groups may obstruct the adoption of new technologies to safeguard their economic rents, a concept later formalized by Krusell and Ríos-Rull (1996). Here the mechanism at play is similar but different. New technologies may be blocked because they could undermine the political power of the elites.

## Political power and captured democracy

In the previous discussions in this section, we have referred to political power without being very specific. Acemoglu and Robinson (2005, 2008) and Acemoglu, Johnson, and Robinson, (2005) distinguished between two components of political power: *de jure* and *de facto*.

*De jure* political power originates from formal political institutions within society, such as those determining the form of government (e.g., democracy vs. dictatorship). But political power encompasses more than just institutional allocation. A group of individuals, regardless of formal institutional authority, can wield significant *de facto* political influence, which shapes economic institutions. Implicitly, the distinction between *de jure* and *de facto* political power was already a feature of the earlier work by Acemoglu and Robinson (2000a), where the elite initially controlled the political institutions (*de jure* political power), but the masses had the *de facto* political power through the revolutionary threat.

This partitioning of political powers is key according to Acemoglu and Robinson (2008). The idea is that changes in institutions can affect the distribution of the power that originates from the political institutions in society (*de jure* political power), creating incentives for groups in the society to invest in their *de facto* political power. The latter type of power is seen as equilibrium investments and organizations. Acemoglu and Robinson (2008) argued that there are reasons to expect that changes in the distribution of *de facto* political power partially offsets changes in *de jure* power, i.e., reforms and changes in formal political institutions.

To make this point, they identified equilibria in an infinite-horizon game consisting of two groups, the elite and the citizens. Here, the citizens need not be “poor” as they are, for example, in the model by Acemoglu and Robinson (2000a, 2001). The game also differs from their original papers in that each period is modelled as a formal contest between the elite and the citizens, and the polity (democracy or non-democracy) determines the level of the playing field. Those with greater political power decide on the economic institutions today and political institutions tomorrow.

Acemoglu and Robinson (2008) demonstrated that the equilibrium may feature situations where a democratic regime endures but adopts economic institutions that favor an elite minority. The model thus explains the phenomenon of “captured democracy,” i.e., that a small elite controls the economic institutions in democracies. The mechanisms provide yet another explanation for why economic institutions can be persistent.

Acemoglu and Robinson (2008) used the historical example of the South in the United States, to illustrate the core concept of the model. Despite the enfranchisement of former slaves and the abolition of slavery after the Civil War, the South largely retained its pre-war agricultural system, characterized by large plantations, low-wage unskilled labor, and labor repression, which contributed to its relative poverty until the mid-20th century. The continuation of labor repression in the South reflects a dynamic process where changes in political institutions are countered by the exercise of *de facto* political power. That is, slavery was replaced by monopsonistic arrangements, policies hindering labor mobility, political disenfranchisement, and acts of intimidation and violence.

### Economic origins of dictatorship and democracy

In their 2006 book, Acemoglu and Robinson made an ambitious attempt to provide “the first systematic formal analysis of the creation and consolidation of democracy” (Acemoglu and Robinson, 2006a, p. 80). The book builds partly on their own work and partly on concepts from other research in economics and political science. As in many of their previous papers, the modeling is largely based on dynamic games, which enables them to obtain several new insights and predictions.

Many aspects of their models are also refined in comparison to their earlier work. For example, the role of the elite is more carefully modelled than in their original papers (Acemoglu and Robinson, 2000a, 2001). In the earlier models, the probability that the masses are successful when they stage a revolution is always one, but this is a strong assumption that does not reflect real-world events very well. An important tool for a ruling elite is that they can choose to repress the masses, for example, by military force. But exactly as the masses face a cost of revolution (represented by the parameter  $\mu$  in Acemoglu and Robinson, 2000a, 2001), the elite face a cost of repression. Taking such costs into account results in what Acemoglu and Robinson (2006a) referred to as a “threshold level for the cost of repression,” which plays the same role for the elite as the revolution constraint (see Section 3.1). It essentially captures the idea that the elite will not repress the people or masses if the payoff of giving up political power without a fight is larger than the expected payoff at the optimal repression rate. That the elite can use the military or some other domestic oppressive organization to repress the masses is again motivated by real-world events, for example, the response to the revolution attempts in the United Kingdom (1848) and France (1830). In this

richer model, the elite now have three options at hand: democratize, redistributive politics, and repression.

Throughout their book, Acemoglu and Robinson (2006a) derived a rich set of comparative statics, which highlight how different economic, social, and political drivers alter the probability that a society ends up with one of the three main histories of political institutions that we observe in the world, namely stable democracy, unstable democracy, or stable non-democracy. Furthermore, it allows them to analyze political change, inefficiency of economic institutions, persistence, commitment problems, collective action problems, and many other topics.

## General insights

Acemoglu and Robinson's framework helps us understand why institutions can be inefficient even in the longer run, and why those in power may even actively hinder development. The fundamental reason is that efficiency may diverge from the goals of influential actors, and the political process may entail frictions, notably a lack of commitment.

The framework also identifies key factors that help explain political institutional change. These include, for example, the value of being in power for the masses and the elite, the costs to stage and repress revolutions, lack of commitment, and the likelihood that staged revolutions are successful.

Acemoglu and Robinson's framework not only integrates the core previous theoretical traditions of institutional reforms into a coherent model where rational actors make strategic decision, but also gives rich auxiliary predictions that can be taken to data. Before discussing some of these predictions, we briefly discuss how Acemoglu and Robinson's contributions have influenced subsequent theoretical research.

## 3.3 Empirical evidence

Acemoglu and Robinson's theory, when interpreting the policy variable more broadly, implies that inclusive political institutions generate better economic institutions and thus in the end higher national income. What evidence is there on this question? One large body of literature that at least indirectly addresses it investigates the relationship between democracy and growth.

Obviously, this is a very difficult causal relationship to disentangle. In particular, to determine whether democracy causes growth, we must be able to control for the observed and

unobserved determinants of both. And modernization theory, for example, suggests the opposite causal relationship, i.e., that prosperity leads to democracy.

Nevertheless, the evidence is mounting that certain political institutions – say, constraints on the executive and democracy – generate economic reform, more public good provision, and, ultimately, growth (see, e.g., Gerring et al., 2022). Here, we review the evidence on this question.

Acemoglu, Naidu, Restrepo, and Robinson (2019) examined whether democracy promotes growth. The authors start the paper by showing that democratic transitions are preceded by falls in GDP per capita. This finding is important for several reasons. Perhaps most importantly, it provides evidence against modernization theory (see also Acemoglu, Johnson, Robinson, and Yared, 2008, 2009). But it also implies that countries that introduce democratic reform have a different GDP process than countries that do not; i.e., to study the causal effect of democracy on growth, one must come up with a research design that deals with this selection process.

Using data on 175 countries observed during 1960–2010, Acemoglu, Naidu, Restrepo, and Robinson (2019) presented evidence from several research designs: a panel data approach controlling for the prior GDP process, an approach where they match on the prior GDP process, and an instrumental variables approach (using the fact that democratic transitions tend to spill over onto neighboring countries). While each empirical approach to this question is not new, they have not been combined before.<sup>35</sup> Moreover, the researchers also presented evidence on the channels mediating the impact of democracy on growth.

The different research designs have yielded the same broad conclusion. The impact of democratization is not immediate. Rather it takes some time – around 20 years – before the full impact is realized. Overall, the authors showed that long-run GDP per capita increases by 20 to 25 percent following democratization.<sup>36</sup>

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<sup>35</sup> For standard panel data approaches, see, e.g., Rodrik and Warczarg (2005), Persson and Tabellini (2006), and Papaioannou and Siourounis (2008). For previous research using matching, see Persson and Tabellini (2008). The instrumental variables approach builds on Persson and Tabellini (2010). Spillover from democratization events to other countries was documented by Huntington (1991). Compared to these precursors, Acemoglu et al. (2019) paid closer attention to the dynamic process preceding democratization, and they made sure that their coding of democratization events (and the reverse, autocracy events) was consistent and did not condition on the future (some authors have considered permanent democratic transition – but in defining permanent events, there is conditioning on the future). With these improvements, they documented the important fact that the results are not particularly sensitive to research design.

<sup>36</sup> Turning to mediating channels, the authors documented that democratization leads to: (i) economic reform; (ii) higher educational attainment; and (iii) reductions in child mortality. Again, these conclusions are robust across research designs. Previous research has examined these mediators in isolation. See, e.g., Giuliano et al. (2013) on economic reform, Ansell (2010) on educational spending precursors, and Besley and Kudamatsu (2006) on health and infant mortality.

There have also been other tests of some core assumptions and implications of the Laureates' theoretical framework. Acemoglu and Robinson (2000a, 2001, 2006a) included multiple historical anecdotes, mostly from Europe and Latin America, to support their claims about the relationship between, among other things, threats of revolution and transitions to democracy. But a more systematic “anecdotal” test was provided by Haggard and Kaufman (2012), who sifted through qualitative evidence pertaining to around 60 transitions to democracy occurring globally during the so-called “third wave of democratization,” between 1980 and 2000, to check whether they were preceded by a “distributional conflict” of the type modelled by Acemoglu and Robinson.

Although the third wave of democratization included several transitions to democracy in Soviet-style command economies (for which Acemoglu and Robinson's model has less bearing), distributional conflict of the type modelled by Acemoglu and Robinson was present in more than half of the transitions to democracy. Equally important, no other theory or theoretical framework in Haggard and Kaufman's (2012) study outperformed the Laureates' model of distributional conflict as a way to understand these transitions.

A large number of studies have followed from Acemoglu and Robinson's models on the role of the “revolutionary threat”. One of the most direct tests was provided by Aidt and Jensen (2014), who quantified the degree of revolutionary threat by recording 42 revolutionary events in Europe in 1820–1938. Their analysis was based on the idea that regime contention and information on revolutionary events diffuse internationally, and they thus estimated the effect of a temporal-spatial lag to these events on the decision to extend the franchise. The effect was substantially large and significant. Along similar lines, Aidt and Leon (2016) found that the intensity of riots, induced by changes in the pattern of droughts, led to moves toward democracy in sub-Saharan Africa over the period 1990–2007 (see also Bratton and van de Walle, 1997).

Two more results support the theory. The first is that democracy seems to follow from transitory economic shocks, such as output contractions (Burke and Leigh, 2010) or negative rainfall shocks (Brückner and Ciccone, 2011).<sup>37</sup> The second is a series of results showing that democratization is more likely to occur after instances of large-scale popular mobilization (e.g., Teorell, 2010; Aleman and Yang, 2011). Based on precise coding of mobilization events going back to 1900, Celestino and Gleditsch (2013), Kim and Kreuger (2019), Marino

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<sup>37</sup> See also Papaioannou and Siourounis (2008) and Acemoglu, Naidu, Restrepo, and Robinson (2019).



et al. (2020), and Rød et al. (2020) uncovered the same basic result: peaceful popular protest mobilization is a robust and statistically significant predictor of democratization.

Both statistical findings are also supported by case study evidence from a range of transitions to democracy in Europe, Asia, and Latin America (Haggard and Kaufman, 1995; Collier, 1999). Treisman (2020) reported that 75 to 84 percent of 270 “episodes of democratization” occurring in 1800–2015 were preceded by “popular mobilization.”<sup>38</sup> These findings are in line with the window-of-opportunity aspect of the Laureates’ theoretical model.

In sum, while there is not unequivocal empirical support for Acemoglu and Robinson’s model of institutional change, several of its core tenets align very well with the data.

### 3.4 Influence on subsequent research

Because many other scholars have followed Acemoglu and Robinson’s game-theoretic approach, we now have a more sophisticated way of thinking about democracy and redistribution, as well as a theory of endogenous institutions. This research has unfolded in the fields of economics as well as political science. This section discusses some of that research.

A large body of literature now addresses the commitment problem in dynamic infinite horizon games. As concluded by Powell (2004), these models often have a common mechanism at work: namely, that large, rapid shifts in relative bargaining power, for example, due to fluctuating revolt opportunities or varying growth rates, can lead to bargaining breakdowns (even in complete information settings). The elite choose how much to invest in undermining the masses, and the weaker the underlying institutional environment, the higher the marginal return on the investment.

As noted by Powell (2004, 2006, 2024), this mechanism is at work in a wide range of recent work, which he referred to as models “à la Acemoglu and Robinson” (Powell, 2024, p.

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<sup>38</sup> Treisman (2020) drew on qualitative “causal process” methods and argued that only one-third of the cases in his sample fit what he called “deliberate democratization,” which he argued is a necessary condition for Acemoglu and Robinson’s model to apply. The bulk, or more than two-thirds of his cases, instead happened through one or more “mistakes” made by the authoritarian elite. However, Treisman’s setup was based on an extremely wide concept of “mistakes,” including cases in which he (retroactively) argued that these elites could have been better informed. Moreover, he intentionally coded cases where one authoritarian elite was replaced by another before transition as, by definition, a rejection of “deliberate democratization.” Since such elite transfers occurred in 49 percent of his cases, where we never learn what motivated the newly installed elites to democratize, one can argue that there are missing data on the “fit” to models such as that of Acemoglu and Robinson for that 49 percent of Treisman’s sample.

188). The basic mechanism proposed by Acemoglu and Robinson (2000a, 2001) has been used to study a wide range of dynamic games with commitment problems, for example, in work on civil wars (by Fearon, 1998, 2004; Powell, 2006, 2012) and political parties and programs (de Figueiredo, 2002). Micro-founded models of franchise extension have been provided by, for example, Jack and Lagunoff (2006) and Gieczewski (2021). Lizzeri and Persico (2004) analyzed additional rationales for why an elite may want to extend the electoral franchise.

Further extensions of the basic framework include, among other things, endogenizing the degree of political liberalization (Castañeda et al., 2018, 2020) and the degree of democratization (Fearon and François, 2021). In a highly influential game-theoretic model that was also empirical, Boix (2003) expanded on endogenous democratization by pointing to other drivers of democracy, like the specificity (mobility) of the ruling group's assets. Other research has expanded the analysis of the two-sided interactions between economic growth and political reform (Persson and Tabellini, 2009), and integrated insights from the literatures on democratic values and democratic institutions (Besley and Persson, 2019).

Another comprehensive research agenda that the work by the Laureates has helped spur is on the interrelationship between democracy and income inequality. By now, there are many studies that have investigated whether income inequality, proxied by, e.g., Gini coefficients, affect the prospects for democracy. For overviews, see, e.g., Gassebner et al. (2013), Knutsen (2015), Rød et al. (2020), Dorsch and Maarek (2020), Knutsen and Dahlum (2022), and Dorsch and Maarek (2020). A large body of literature also addresses the opposite direction of causality, that is, whether and how democracy affects inequality. See, for example, Ansell and Samuels (2014), Knutsen (2015), Acemoglu et al. (2015), and Dorsch and Maarek (2019).

The Laurates' approach to modeling reform as an outcome of purposeful decisions by rational incumbents has also been applied to other forms of institutions. One example is the expanding literature on state capacity (e.g., Acemoglu, 2005; Besley and Persson, 2009, 2011; Acemoglu, Garcia-Jimeno and Robinson, 2015; Acemoglu and Robinson, 2023). More specifically, as noted above, the Laurates' notion of political institutions originally included both formal rules and the effectiveness of government in enforcing them. This research agenda builds on a separation between the two and opens up questions about, for example, the relationship between democracy and state capacity.

## 4. Concluding remarks

Today, the richest 20 percent of countries are around 30 times wealthier than the poorest 20 percent of countries. The income gaps across countries have been highly persistent over the past 75 years.<sup>39</sup> The available data also show that between-country disparities in income have grown over the past 200 years. Why are the income differences across countries so large and so persistent?

This year's Laureates have pioneered a new approach to providing credible, quantitative answers to this crucial question for humanity. By empirically examining the impact and persistence of colonial strategies on subsequent economic development, they have identified historical roots for the extractive institutional environments that characterize many low-income countries. Their emphasis on using natural experiments and historical data has initiated a new research tradition that continues to help uncover the historical drivers of prosperity, or lack thereof.

Their research centers on the idea that political institutions fundamentally shape the wealth of nations. But what shapes these institutions? By integrating existing political science theories on democratic reform into a game-theoretic framework, Acemoglu and Robinson developed a dynamic model in which the ruling elite make strategic decisions about political institutions – particularly whether to extend the electoral franchise – in response to periodic threats. This framework is now standard for analyzing political institutional reform and has significantly impacted the research literature. And evidence is mounting in support of one of the model's core implications: more inclusive governments promote economic development.

In sum, Acemoglu, Johnson, and Robinson have not only shaped our understanding of the root causes behind why countries fail, but they have also pioneered new methodologies for studying these issues. While their contributions have not provided a definitive answer to why some countries remain trapped in poverty, their work represents a major leap forward.

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<sup>39</sup> These facts are based on GDP per capita from the Maddison project database; see Bolt and Van Zanden (2024). A regression of log GDP per capita in 2022 on log GDP per capita in 1950 yields an estimated coefficient of 0.93 with a standard error of 0.07.

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