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Merchants and Mechanics

The History of Economic Growth



Why Nations Fail: Extractive and Inclusive Institutions

Posted in economic institutions, facts of economic growth, political institutions, property rights, technological progress

Based on Daron Acemoglu and James A. Robinson, *Why Nations Fail* (Crown Business, 2012)

Acemoglu and Robinson's goal is to explain why some nations are rich and others are poor. They present a theory based on the interaction between political and economic institutions. Casual empiricism suggests that its explanatory power is quite strong.

The Importance of Institutions

Why are some countries rich and others poor? Mancur Olson argued that there are only two possible explanations.

The first possibility is that...national borders mark differences in the scarcity of productive resources per capita: the poor countries are poor because they are short of resources. They might be short of land and natural resources, or of human capital, or of equipment that embodies the latest technology, or of other types of resources.¹

People everywhere make themselves as well off as they can possibly be, but their potential is simply higher in a resource-rich country than it is in a resource-poor country.

The second possibility is that national boundaries mark the borders of public policies and institutions that are not only different, but in some cases better and in other cases worse. Those countries with the best policies and institutions achieve most of their potential, while other countries achieve only a tiny fraction of their potential.²

Again, people everywhere make themselves as well off as possible, but the “rules of the game” differ across countries. The rules in some countries encourage productive economic activity, while the rules in other countries obstruct it. If two countries have the same resources but different rules, the citizens of the country with supportive rules will fare better than the citizens of the country with obstructive rules.

Olson defines the rules of the game to include both public policies and institutions. Policies are continually being enacted by governments, and while many are long lasting, others are short-term responses to short-term problems. The country’s institutions, on the other hand, determine its fundamental properties, such as whether the rule of law holds, property rights are enforced, and taxes are imposed in a consistent and equitable manner. They are resistant to change. A strong economy can survive the occasional bad policy, but an economy cannot be strong if it has bad institutions.

Olson’s first possibility is that potential varies from country to country. His second possibility is that countries differ in the degree to which they realize their potential. These possibilities are not mutually exclusive: countries differ both in their potentials, and in the degree to which they realize their potentials.

Olson, writing in 1996, concluded that much of the variation in per capita incomes is explained by the second possibility.³ The evidence has become stronger in the ensuing decades. Consider, for example, the figure below.³ Per capita output is measured along the horizontal axis. Total factor productivity (TFP), a measure of the efficiency with which a country utilizes its productive resources, is measured along the vertical axis. The data point for each country is indicated by its three-letter country code. The data have been normalized by dividing each country’s per capita output and TFP by the corresponding American value. The data point for Tanzania, for example, is roughly (1/64, 1/32). It indicates that the average Tanzanian consumes 1/64 as much goods and services as the average American, and that Tanzanian resource usage is 1/32 as efficient as American resource usage. The figure shows a very strong positive correlation between TFP and per capita output: the countries that are poorer are also the countries that use their productive resources less efficiently.⁴



narrow their opportunities to do so.

Political institutions are inclusive if they are both pluralistic and sufficiently centralized. Pluralism empowers most of the population:

Political institutions that distribute power broadly in society and subject it to constraints are pluralistic. Instead of being vested in a single individual or a narrow group, political power rests with a broad coalition or a plurality of groups.⁶

However, pluralism is consistent with the sectarianism or tribalism that leads groups to work against each other rather than in concert with each other. Pakistan and Afghanistan both illustrate this possibility. A sufficiently centralized government is one that has enough power to smother this kind of divisiveness and act for the common good. Political institutions are extractive if they violate either or both of the requirements for inclusiveness.

A country's economic and political institutions are deeply entwined. The political institutions determine the nature of its government, and the government is essential to the establishment and maintenance of its economic institutions. The government passes the laws, administers the court system that ensures that these laws are upheld, and provides necessary infrastructure and public services. But economic institutions also act upon political institutions. The people who benefit from the current economic institutions — be they many or few — will use their financial clout to ensure that the political institutions favour their interests.

The reciprocal determination of a country's political and economic institutions implies that there are only two stable combinations of institutions: inclusive economic institutions coupled with inclusive political institutions, and extractive economic institutions coupled with extractive political institutions. Let's consider each in turn.

The combination of inclusive economic and political institutions is the norm throughout the West. The economic institutions vary from country to country: the Scandinavian countries provide a wide range of social services, while the United States takes a much more "hands off" approach to the economy. Nevertheless, all of these countries allow their citizens a great deal of freedom in their economic activities. Their political institutions also differ in the details, but they are all rooted in democracy. Their institutions are stable because they are mutually reinforcing. The populace, recognizing the value of inclusive economic institutions, elect representatives who will protect and improve these institutions. The populace also recognizes that it exerts its influence through inclusive political institutions, so it elects representatives who will also protect the political institutions.

There are many examples of the conjunction of extractive economic and political institutions: North Korea since its formation, Zimbabwe under Mugabe, China under Mao, the Soviet Union over its entire history, the Putin regime after its collapse. Political power in each of these cases was narrowly held, and that power was used to enrich the political elite, who then deployed their wealth to further entrench their political power. One of the clearest illustrations of extractive institutions is Barbados in the late seventeenth century:

The census revealed that of the total population on the island of around 60,000, almost 39,000 were African slaves who were the property of the remaining one-third of the population. Indeed, they were mostly the property of the largest 175 sugar planters, who also owned most of the land. These large planters had secure and well-enforced property rights over their land and even over their slaves. If one planter wanted to sell slaves to another, he could do so and expect a court to enforce such a sale or any other contract he wrote. Why? Of the forty judges and justices of the peace on the island, twenty-nine of them were large planters. Also, the eight most senior military officials were all large planters.⁷

One-third of the population expropriated the labour of the other two-thirds, and the political institutions of the country were designed to perpetuate this expropriation.

The remaining combinations of institutions are unlikely to persist, because some group will work to change them. If the country has extractive economic institutions and inclusive political institutions, the majority will use their political power to end the extractive practices. If the country has inclusive economic institutions and extractive political institutions, the people who hold political power might attempt to increase their hold over the economy, or the many people who benefit from the inclusive economy might use their financial power to force the adoption of more inclusive political institutions. In either case the economy would be moving toward one of the two stable institutional configurations.

Look again at the figure above, and note that the axes are logarithmic (base 2). The countries that had per capita outputs greater than half of American per capita output in the year 2000 form a tight grouping in the upper right-hand corner of the graph. This group is a bit of a jumble, but you should be able to identify Hong Kong, Japan, Sweden, Ireland and a number of other countries. What these countries had in common was inclusive institutions. South Korea and Greece are at the lower edge of the group: both had made fairly recent transitions to democracy from military dictatorships.⁸ Farther to the left is another grouping of countries, mostly Latin American or Middle Eastern. The late twentieth century political experience of most of these countries involved communism, military rule, or a contest between the two (as in Nicaragua and Chile). Few of these countries could be said to have had inclusive institutions. Still farther to the left is a scattering of countries, mostly African, which had a history of colonialism and little experience with inclusive institutions. Zimbabwe, under the militant rule of Mugabe, is there. So is Tanzania, ruled by the altogether more avuncular Julius Nyerere: he enforced one-party rule, nationalized industries, and built an incentive-deadening bureaucracy. Lesotho, Malawi, and Ghana continue the list of troubled countries. Every one of these countries is characterized by extractive institutions. Wealth and inclusive institutions go together, and so do poverty and extractive institutions.

So, why do countries get locked into extractive institutions? The answer should already be evident: extractive institutions don't benefit the whole population — they aren't meant to — but they do benefit the elite that controls the instruments of power. Zimbabwe would have been better off with inclusive institutions, but Mugabe wouldn't have been, and he had the power to ensure that the rules of the game remained stacked in his favour. The slaves who constituted the majority of the population of seventeenth-century Barbados would have been better off with inclusive institutions, but the planters who exploited them would have been worse off. The planters held the economic, political, and military power of Barbados, so they perpetuated the institutions that best served their interests.

Institutions and Growth

There are a number of reasons why inclusive institutions lead to prosperity and extractive ones lead to poverty. At every moment in time the countries with inclusive institutions use their productive resources more wisely — in Olson's terms, they achieve more of their potential. Workers end up in the jobs that best suit them, for example. But something else happens in countries with inclusive institutions that, over time, is even more important: they grow faster.

There are three reasons for their faster growth. The first reason is that their citizens make better investment decisions because they know that their future gains will not be expropriated. They undergo more thorough education and training. They start businesses and purchase plant and equipment. They take calculated risks. All of these things can make tomorrow's economy more productive than

today's economy.

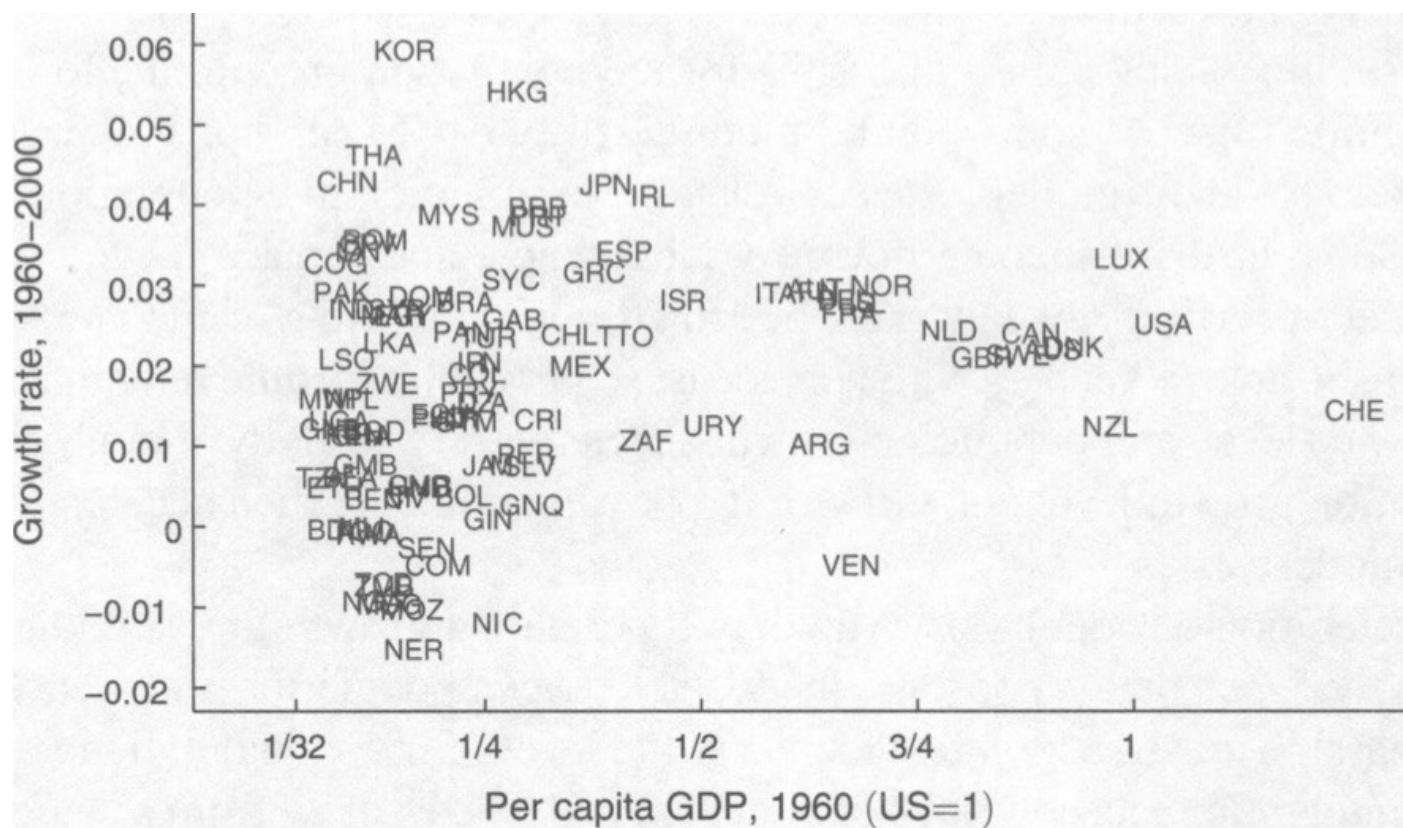
The second reason concerns a special kind of intertemporal decision: invention. The inventor expends his own time and effort, along with material resources, to develop a useful idea or device. His willingness to bear these costs depends upon his ability to profit from his invention. Invention isn't very profitable in a free-for-all economy. A would-be competitor could reverse engineer a new device, and then produce and sell a very similar device, eroding the inventor's profits. Inclusive institutions prevent this sort of predatory behaviour by protecting intellectual property, usually by issuing patents. Strong patent laws, reliably enforced by the courts, encourage invention and quicken technological progress, which is the ultimate driver of per capita incomes.⁹

The third reason is that extractive institutions might cause the government to discourage invention. There are two aspects of this problem, one economic and the other political. The economic aspect involves creative destruction. An invention gives the people who use it a competitive advantage over the people who do not. The growth of machine spinning and weaving during the Industrial Revolution created opportunities for firms, for unskilled labour, and for a new class of technician, but it also took away the livelihoods of England's hand spinners and weavers. It eventually destroyed the market for India's cotton textiles, which had once been that country's leading export, so India's spinners and weavers also lost their livelihoods. New technologies replace the good with the better, harming those who are merely good.

It is difficult to predict where these new technologies will appear because technological progress is generally a "bottom up" phenomenon: it occurs when someone with an intimate knowledge of an existing process or device recognizes new possibilities. George Stephenson built his first locomotive while working in a colliery, where he was familiar with both stationary steam engines and horse-drawn trains. Abraham Darby immersed himself in ironmaking after buying a small and marginally profitable refinery. James Watt's interest in steam began when he was asked to figure out why a model engine would not work. Such pockets of specialized knowledge exist throughout every economy, so invention can occur almost anywhere. Now consider the elite in an extractive economy. An invention might make them a little richer, but it could also make them a great deal poorer. The wealth of the Barbados planter, for example, rested on the country's climate and soil, which were well-suited to growing sugar cane. Imagine how they would have reacted to the development of the sugar beet, which thrives in cooler climates.¹⁰ In short, the elite of an extractive economy might choose to discourage innovation in order to ensure their own continued prosperity. This strategy isn't possible in an inclusive economy because economic power is spread too widely.

Discouraging invention tightens the elite's economic control, but it also tightens the elite's social and political control. Gutenberg's printing press (c. 1450), for example, was avidly adopted in Western Europe but suppressed in the Middle East. The first printing press in the Ottoman Empire began to operate in 1729 under the supervision of legal and religious censors. It printed seventeen books over the next fourteen years, and then shut down. The first printing press in Egypt arrived with Napoleon's invading soldiers in 1798. The suppression of printing in the East opened up a substantial East-West literacy gap. In 1800 the literacy rate was 2-3% in the Ottoman Empire, but it was 60% among English men and 40% among English women. Books were essential in propagating Western social movements like the Reformation, the Scientific Revolution and the Enlightenment. There is no doubt that the East's low literacy rates insulated it from the social upheaval that followed them — but at a very high cost to itself.

The modern counterpart of suppressing the printing press is China's attempt to scrub dissent from the internet, which seems like an altogether trickier maneuver. The Ottomans kept the genie in the bottle; the internet genie is already out of the bottle and the Chinese government is trying to force it back in.



These are good stories — are they borne out by the evidence? Consider the figure above.¹¹ The horizontal axis measures per capita output in 1960, normalized by American per capita output. The vertical axis measures the average rate of growth over the following four decades. The data points form a conspicuous triangle. The United States led the world in innovation over this period. Countries that were less prosperous than the United States grew either faster or slower than it did. The closer their per capita incomes were to American per capita income, the smaller was the variation in their growth rates. There's a lot going on in this figure, so it's useful to think of groups of countries.

There is a group of countries whose per capita incomes were at least 3/4 of American per capita income. This group includes Canada, the United Kingdom (GBR), Sweden and a few others. These countries grew at roughly the same rate as the United States. They were all using modern technologies, and they were both developing their own technologies and adopting technologies developed by other leading nations. Their institutions were inclusive.

The top of the triangle is formed by a group of countries which were relatively poor in 1960, but which had recently adopted inclusive institutions or were moving toward them. This group includes South Korea,¹² Hong Kong,¹³ Ireland,¹⁴ Israel,¹⁵ Spain¹⁶ and a few others. Each of these countries grew faster than the United States, not just for a year or two but for forty years, and the poorer they were in 1960, the faster they grew. They began with old technologies, and grew by replacing those technologies with modern ones. They were able to grow very quickly because they were implementing technologies that had been developed elsewhere. The technological leaders, by contrast, had to invent new technologies before they could implement them, and invention is a difficult and expensive proposition.

Finally, consider the group of countries with per capita incomes much smaller than that of the United States, and also with growth rates significantly smaller than the American growth rate. These are the countries in the lower left-hand portion of the triangle. They have extractive institutions that prevent them from effectively modernizing. The rest of the world left them behind. Almost all of the Latin American and African countries are contained in this group.

In the social sciences the evidence is seldom as clear as one would like it to be, but on the whole the

evidence seems to support Acemoglu and Robinson's argument: rapid economic growth requires inclusive institutions.

Growth under Extractive Institutions

Not so fast! China had one of the highest growth rates between 1960 and 2000. It had extractive political institutions throughout this period, and deviated from extractive economic institutions only toward the end of the period. Doesn't China disprove the claim that rapid economic growth requires inclusive institutions?

There is no clear answer to this question. China is like a good mystery story: there are lots of exciting plot twists, and no-one can predict what the next twist will be. It might be useful to approach the China question indirectly, by first considering a similar story whose ending we already know, that of the Soviet Union.

The Soviet Union came into existence in 1922, a few years after the Russian Revolution. It grew strongly up to World War II, powerfully opposed Germany during the war, and despite its wartime losses of men and material,¹⁷ resumed its growth after the war. By 1962 the Soviet Union's military power rivalled that of the United States. Its remarkable economic growth made it a role model for many underdeveloped countries, and rulers like Julius Nyerere came to believe that government management was the key to development. By 1992 — a Biblical three score and ten — the Soviet Union was gone.

What accounts for the Soviet Union's early rapid growth? The Soviet Union came into being with a large and inefficient agricultural sector, and a small industrial sector. Its growth strategy was to shift excess labour out of agriculture and into industry. This policy required large capital investments in the industrial sector, which were financed in large part by selling agricultural produce abroad. Here is Acemoglu and Robinson's description of this policy as enacted by Stalin:

Economic growth Stalin style was simple: develop industry by government command and obtain the necessary resources for this by taxing agriculture at very high rates. The communist state did not have an effective tax system, so instead Stalin "collectivized" agriculture. This process entailed the abolition of private property rights to land and the herding of all people in the countryside into giant collective farms run by the Communist Party. This made it much easier for Stalin to grab agricultural output and use it to feed all the people who were building and manning the new factories. The consequences of this for the rural folk were calamitous. The collective farms completely lacked incentives for people to work hard, so production fell sharply. So much of what was produced was extracted that there was not enough to eat. People began to starve to death. In the end, probably six million people died of famine, while hundreds of thousands of others were murdered or banished to Siberia during the forcible collectivization.¹⁸

Investment in heavy industry remained high after World War II. The military also claimed a large part of domestic production. The allocations to these sectors limited the amount of consumer goods that could be produced, so despite the Soviet Union's rapid economic growth, the standard of living of its citizens remained low.

The Soviet Union can claim some major technological breakthroughs, most notably the first orbital satellite and the first manned satellite. These breakthroughs represent "top down" invention: the government identified a problem, assembled a group of scientists and engineers to tackle it, and let them work until they succeeded. What the Soviet Union lacked was the "bottom up" innovation that

occurs when someone with very detailed knowledge imagines something new *and acts on that vision*. The knowledge was there, and the visions might well have been there, but Soviet workers had little to gain from any invention that they made, and no way to access the resources that the process of invention requires. In the West, by contrast, ceaseless “bottom up” innovation drove economic growth.

The development of computing illustrates this difference. The Soviet Union’s “top down” approach made some progress but was often reduced to reverse engineering American machines. The Americans charged ahead through the combined efforts of self-interested corporations like IBM, and an army of nerds tinkering in their basements and garages.

Economic growth without continuing technological progress ultimately burns out, and this is what happened to the Soviet Union. The Soviet Union’s extractive institutions failed while the West’s inclusive institutions carried on.

The early Chinese experience parallels the Soviet experience in many ways. China at the time of its revolution had an agrarian economy, and it attempted to industrialize by sending agricultural goods to the Soviet Union in exchange for industrial machinery. Agriculture was collectivized as it was in the Soviet Union, and so much of its output was taken for export and to support the urban economy that China had its own famine, which killed between 30 million and 40 million people.¹⁹

The Soviet Union retained its extractive institutions to the calamitous end, but in the early 1980s, China began to replace extractive economic institutions with inclusive ones. It was rewarded with a sharp increase in its rate of economic growth. Between 1980 and 2004, China attained a growth rate of 8.2% per year, which is the highest sustained rate of growth ever observed. Again, the Chinese experience would seem to suggest that continuing economic growth is consistent with extractive institutions, but there are a number of qualifiers.

First, the timing and nature of the new growth permit no doubt that the growth occurred because extractive economic institutions were replaced with inclusive ones. Whatever we make of China’s experience, it is not an endorsement of extractive institutions.

Second, the per capita output of China in 2016 was \$8,123 while the per capita output of the United States was \$57,608. China remains far behind the world’s most efficient and most technologically advanced economies. It can continue, perhaps for decades, to grow faster than those economies, simply by adopting technologies developed elsewhere and by undoing serious misallocations of resources. However, if it is able to join the group of leading economies, China will confront new challenges. It will have to become increasingly reliant on “bottom up” innovation, and it will have to accommodate creative destruction. **The former requires a strong commitment to inclusive economic institutions, and the government might not be willing to make this commitment.** The latter might be impossible under extractive political institutions. Creative destruction involves losers as well as winners, and if the losers are connected to the political elite, they might expect the government to protect them. Acemoglu and Robinson discuss one such case:

Dai Guofang recognized the coming urban boom in China early on. New highways, business centers, residences, and skyscrapers were sprawling everywhere around China in the 1990, and Dai thought this growth would only pick up speed in the next decade. He reasoned that his company, Jinagsu Tieben Iron and Steel, could capture a large market as a low-cost producer, especially compared with the inefficient state-owned steel factories. Dai planned to build a true steel giant, and with support from the local party bosses in Changzhou, he started building in 2003. By March 2004, however, the project had been stopped by order of the Chinese Communist Party in Beijing, and Dai was arrested for reasons never clearly articulated...He spent the next five years in jail and home detention, and was found guilty on a minor charge in 2009. His real crime was to start a large project that would compete with state-sponsored companies and do so without the approval of the higher-ups in the Communist party.²⁰

Third, and finally, the Chinese government is attempting to couple inclusive economic institutions with extractive political institutions, which has historically been an unstable combination. As China spins out new billionaires, will the political elite decide that more of the rewards should go to themselves, and shift the economic rules in their own favour? Will wealthy entrepreneurs begin to chafe under the dictates of their political masters, and use their economic clout to liberalize the political system? Will a well-educated and increasingly worldly middle class join them?

The Chinese have managed to grow under extractive political institutions for about forty years. This growth is a magnificent achievement, but forty years isn't a long time in the history of the world. The only system of growth that has been sustainable for centuries is the Western model that combines inclusive political institutions with inclusive economic institutions.

Conclusions

Acemoglu and Robinson present a compelling way of understanding why some countries are rich and others are poor. They classify political and economic institutions as either inclusive or extractive, and then study the interaction between political and economic institutions. They argue that countries with extractive institutions tend to be poor, while those with inclusive institutions tend to be rich. Casual empiricism supports their position.

There is a dynamic aspect to Acemoglu and Robinson's argument that I have not discussed. They argue that sustained growth occurs when countries move away from extractive political institutions and towards inclusive ones. The inclusive political institutions give rise to inclusive economic institutions, which then generate economic growth. They find evidence for this sequence wherever they look: the Industrial Revolution, the rise and fall of the Roman Empire, the rise and fall of Venice, and even the adoption of agriculture by prehistoric hunter-gatherers. They bring forward some interesting and insightful evidence, but on the whole, I remain skeptical of this schema.

Their argument with respect to the Industrial Revolution is that the Glorious Revolution dramatically altered Britain's political institutions, shifting them from extractive to inclusive. Inclusive economic institutions followed, leading directly to the Industrial Revolution. While prominent historians of the Industrial Revolution (including Robert Allen, Joel Mokyr, and Gregory Clark) acknowledge the institutional changes, they do not consider them to be a major factor in the Industrial Revolution. Furthermore, Acemoglu and Robinson's claim that inclusive political institutions preceded inclusive economic institutions is not supported by a broad review of the evidence. I discuss this issue here.

1. Mancur Olson, "Big Bills Left on the Sidewalk: Why Some Nations are Rich, and Others Poor,"

- Journal of Economic Perspectives* (Spring 1996), pp. 5-6. [↗](#)
2. Mancur Olson, "Big Bills Left on the Sidewalk: Why Some Nations are Rich, and Others Poor," *Journal of Economic Perspectives* (Spring 1996), p. 6. [↗](#)
 3. It is Figure 4 from Charles I. Jones and Paul M. Romer, "The New Kaldor Facts: Ideas, Institutions, Population, and Human Capital", *American Economic Journal: Macroeconomics* (2010). [↗](#)
 4. The poorer countries could also be, and often are, the countries with fewer productive resources; but this information cannot be directly deduced from the graph. [↗](#)
 5. Daron Acemoglu and James A. Robinson, *Why Nations Fail*, p. 750. [↗](#)
 6. Daron Acemoglu and James A. Robinson, *Why Nations Fail*, p. 80. [↗](#)
 7. Daron Acemoglu and James A. Robinson, *Why Nations Fail*, p. 75. [↗](#)
 8. Greece has a complicated modern history, but its eventual transition to democracy came about only after the overthrow of a military junta that ruled from 1967 to 1974. Democracy came to South Korea even later, although inclusive economic institutions had begun to develop under the preceding military dictatorships. [↗](#)
 9. Excessively restrictive patent laws can slow progress by locking up pivotal ideas. No-one is certain how much protection is too much, and patent laws continue to evolve. For example, the United States once issued patents to researchers who identified individual genes. However, the Supreme Court ruled in 2013 that a patent could not be awarded for merely identifying a gene. No further gene patents were issued, and the existing patents were revoked. [↗](#)
 10. In fact the sugar beet was not developed until the late nineteenth century, by which time slavery had been abolished and the whole economy of the Barbados had changed. [↗](#)
 11. It is Figure 3 from Charles I. Jones and Paul M. Romer, "The New Kaldor Facts: Ideas, Institutions, Population, and Human Capital", *American Economic Journal: Macroeconomics* (2010). [↗](#)
 12. South Korea was under military dictatorship in 1960, but had developed inclusive institutions by 2000. [↗](#)
 13. Hong Kong remained a British colony until 1997, when it was absorbed by China. It was ruled by an appointed governor, albeit one who was responsive to the colony's needs. Its economic institutions were flamboyantly free market from the beginning. [↗](#)
 14. Ireland had a troubled history during the first half of the twentieth century as it sought an end to British colonialism. Nevertheless, it has a long history of inclusive political and economic institutions. [↗](#)
 15. Israel came into existence as almost a frontier state in the aftermath of the second world war, but had inclusive institutions from the beginning. [↗](#)
 16. Spain was under dictatorship until the death of General Franco in 1975. It then began a transition to democratic institutions. [↗](#)
 17. The Soviet Union had roughly 10 million military deaths and 24 million civilian deaths during the war. Germany had roughly 5 million military deaths and 8 million civilian deaths. Both the United Kingdom and the United States had fewer than 1 million total deaths. [↗](#)
 18. Daron Acemoglu and James A. Robinson, *Why Nations Fail*, p. 125. Although this quotation is factually correct, it minimizes Stalin's culpability for the famine. The bulk of the famine victims were Ukrainians, who were generally opposed to Soviet domination. For Stalin, shifting food supplies out of the Ukraine both supported industrialization and decimated a troublesome minority. There is some debate about whether the Ukrainian famine fits the strict legal definition of genocide, but it certainly fits the common understanding of the word. The Ukrainian famine is discussed here. [↗](#)
 19. "Mao's famine" is discussed here. [↗](#)
 20. Daron Acemoglu and James A. Robinson, *Why Nations Fail*, pp. 437-8. [↗](#)

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