7

Why Did Northwestern Europe Become Rich First?

In attempting to answer the question "How did the world become rich?" we have considered the roles played by geography, institutions, demography, culture, and colonialism. Among the factors we have studied, which best explain the timing and location of the onset of modern economic growth?

To begin to grasp these issues, it helps to restate the problem. During the 19th century, Western Europe and some of its offshoots (the US, Canada, Australia) began to experience sustained economic growth. They were followed by countries like Japan and Russia and later other countries in East Asia. McCloskey (2006) calls this the Great Enrichment. How did this happen? In 1700, no economy in the world showed signs that it was capable of sustained economic growth. This typically involved structural change in the economy: a movement away from agriculture and towards industry and services. It came with much greater levels of urbanization. In the long run, it was aided by a demographic shift to lower birth and death rates. Most of all, it required a massive increase in the rate of innovation. These factors coalesced in northwestern Europe in the 18th and 19th centuries and ultimately led in the mid-19th century, to modern, sustained economic growth. Why did this happen when and where it did?

You may suspect that the answer is "the Industrial Revolution." You would not be completely wrong. It is certainly true that Britain's Industrial Revolution was a key stepping stone on the path to the modern economy. Britain industrialized first, beginning in the second half of the 18th century, and was followed in the 19th century by the US and a few European countries. Once this industrial transformation occurred, it created a new global division of labor, in which countries like Australia and Denmark could become rich by specializing in non-industrial sectors of the economy like commercial agriculture.

But industrialization is just a proximate cause. Why did industrialization and sustained innovation – and the modern economy that followed in their wake – first take place in northwestern Europe? Why not Southern Europe (which dominated Europe's economy in the medieval period)? Why not the Middle East (which was ahead of Europe for centuries following the spread of Islam)?

Why not China (which was technologically dominant until around 1500)? Why didn't the pace of innovation slow down, as occurred in prior growth spurts around the world?

So far, this book has presented a survey of some of the most well-known and meticulously researched answers to these questions. Some do a better job than others. In our view, a good answer needs to address at least three questions. First, why was Europe behind most of the rest of Eurasia for centuries following the fall of the Western Roman Empire? Most answers that assume European economic dominance was inevitable have a hard time addressing this question. Second, what happened in Europe in the two to three centuries prior to the 19th century that set the stage? The modern economy did not arise out of nowhere. By the 18th century, Britain was clearly in a comparatively favorable position to achieve sustained economic growth. Why? Third, why did modern economic growth first happen in *northwestern* Europe? Modern economic growth was not a pan-European phenomenon. Simple comparisons of "Europe vs. elsewhere" are misleading. In the 19th century, Southern and Eastern Europe were closer to the Middle East or East Asia on most economic dimensions than they were to northwestern Europe. By 1700, the center of Europe's economic geography had moved northwards away from Italy and the Mediterranean and towards economies that faced the Atlantic – especially to the Dutch Republic and the British Isles. A convincing explanation must account for this.

Hopefully we have given the reader a dispassionate view of the dominant theories of long-run growth. In this chapter, we pull together arguments from Chapters 2–6 to provide our own view of the origins of modern economic growth. Something as complex as the origins of the modern economy is not monocausal. In our view, the most convincing explanations bring together multiple arguments, considering how they interact and fill in each other's blanks.

A comprehensive explanation for the onset of sustained growth has to explain both the divergence between Europe and the rest of Eurasia and the divergence within Europe. It also has to be consistent with the timing of growth. Chronologically, many of the institutional developments that distinguished early modern Europe from elsewhere can be traced to the Middle Ages. These include the rise of representative institutions, city-states, the rediscovery of Roman law, and the development of the corporate form. They preceded the onset of modern economic growth by many centuries. But modern economic growth was dependent on these developments.

Our favored arguments draw on multiple chapters in this book. First, we view institutions as being of central importance. But institutional developments did not occur in a vacuum. For example, the possibilities for both economic growth and institutional change were constrained by geography. Europe's fractured geography and distance to the steppe frontier led to persistent political fragmentation. Political fragmentation explains several important institutional developments that were unique to medieval Europe. These include the rise of

representative institutions such as self-governing city-states and parliaments, public debt, and the notion of separation between religion and the state.

Another key interaction was between institutional development and culture. Culture should not be seen as isolated from institutional, political, and economic factors. For example, one of the lasting legacies of the Catholic Church in the High Middle Ages was in breaking down kinship groups. Catholic scholars also played a critical role in the revival of Roman law. In contrast, Islamic law constrained institutional developments, particularly the corporate form, in the Middle East (Kuran, 2011). In both cases, Catholic and Islamic legal institutions are difficult to fully disentangle from Catholic and Islamic cultural values and norms.

In this chapter, we outline why, for a host of reasons, Western Europe was on a distinctive institutional path from the late Middle Ages onwards. To be clear, we distinguish here between *institutional* and *economic* trajectories. Even the richest parts of Europe at the end of the medieval period were poor by modern standards. The continent as a whole was probably less developed than China, even if it had overtaken the Middle East by this point. The major economic divergence did not occur until later.

Several factors were important in explaining the divergence between northwestern Europe and the rest of the world. Many of these factors were also responsible for the mini-divergence between northwestern and Southern Europe. These include the rise of Atlantic trading networks as well as cultural and religious developments. Perhaps the most important religious development was the Protestant Reformation. But this was not because of a superior work ethic, as Weber famously suggested (see Chapter 4). Rather, it was the institutional consequences of the Reformation that helped ensure the rise of representative institutions in northwestern Europe.

In the final part of this chapter, we sketch the most important preconditions for the onset of sustained economic growth *as it emerged in Britain*. By this we mean those institutional features that ultimately played an important role in the structural shifts characteristic of Britain's economy in the 18th and 19th centuries. None of the preconditions were enough by themselves. In fact, the Dutch Republic shared many of these preconditions with Britain. But it did not achieve sustained economic growth until much later. We save our explanation for Great Britain's economic rise, especially its Industrial Revolution, for Chapter 8. Here, we are interested in understanding the conditions that enabled the modern economy to arise in the first place.

How Geography Shaped Institutional Development

Chapter 2 examined the importance of geography in the origins of economic growth. The arguments we reviewed suggested that geographic factors were even more important historically than today due to the limitations of pre-industrial transportation and communication technologies. Yet, geography on its own can at best explain only the *location* of economic activity. It has little to say about the *timing* of economic growth. The most important effects of geography work through economic and political institutions.

It is not always obvious that "good" geographic endowments lead to economic success. In fact, good geographic endowments can sometimes be a *detriment* to economic development. There is a large literature on what is known as the "resource curse" (Sachs and Warner, 2001; Mehlum, Moene, and Torvik, 2006; Robinson, Torvik, and Verdier, 2006; Ross, 2015; Desierto, 2018). The resource curse explains the observation that many countries that are plush with resources are still very poor. This is a particular problem in sub-Saharan Africa. Why are some countries unable to use their natural endowments as a gateway to wealth? The answer lies primarily in a society's *political institutions*. Where political institutions are extractive, to use a phrase from Chapter 3, natural resources strengthen the ruling elites' grip on power. They can use those resources to pay off friends and enrich themselves. This can lead to even more extractive institutions down the road. In short, natural resources can sometimes be a blessing, but they can also very much be a curse.

The resource curse is just one example of how geography and institutions interact with each other. Geography can also lead to institutional developments that, in the long run, promote economic growth. One such example is the "fractured land" hypothesis. Developed by Diamond (1997) and Jones (2003), this hypothesis suggests that Europe's geography explains its persistent political fragmentation. This fragmentation, in turn, had important consequences for future institutional development. The topographical structure of Europe, with "its mountain chains, coasts and major marches, formed boundaries at which states expanding from the core-areas could meet and pause. . . . [T]hese natural barriers helped to hold the ring between the varied ethnic and linguistic groups making up the European peoples" (Jones, 2003, p. 226).

In particular, the location of Europe's mountain ranges ensured that there were several distinct geographic cores of roughly equal size that could provide the nuclei for future European states (Fernández-Villaverde, Koyama, Lin, and Sng, 2020). The Alps separate the Italian Peninsula from the rest of Europe, and the Pyrenees do the same for the Iberian Peninsula. Meanwhile, China is dominated by a single large northern plain between the Yangtze and the Yellow Rivers. Fernández-Villaverde et al. find that the presence of a core region of high land productivity in China – the North China plain – and the lack thereof in Europe was crucial for the emergence of political unification in China and fragmentation in Europe.

A related geographic factor that can explain Europe's persistent fragmentation in comparison to China is the location of the Eurasian steppe. This vast highway of grassland that links Eastern Europe and East Asia (see Figure 7.1) played a key role in state development. After steppe nomads domesticated horses in the first millennium BCE, they provided a perennial and unresolvable

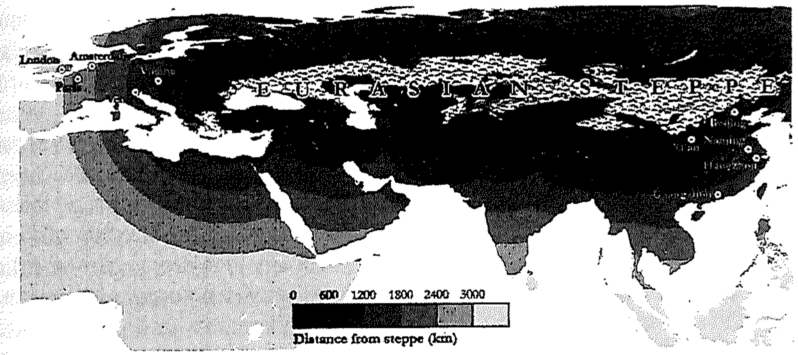

Figure 7.1 The steppe and state formation in China and Europe
Each shade represents 600 kilometers from the steppe. *Source:* Ko, Koyama, and Sng (2018).

threat to sedentary populations until the 18th century. While Genghis Khan and the Mongols may have been the most famous of these groups, they were only one in a long chain of predatory steppe nomads. The fragile ecology of the steppe meant that during periods of drought or cold weather, steppe nomads were more likely to invade neighboring populations (Bai and Kung, 2011). China's proximity to the steppe meant that a strong, northern-based, Chinese state had to arise if it were to protect its frontier. If such a state were capable of fending off the threat from the steppe, it would also be powerful enough to unify the rest of China (Ko, Koyama, and Sng, 2018).

On the other end of Eurasia, the Western European city most exposed to the steppe (Vienna) is as far from the steppe as the least exposed major city in China (Guangzhou). The "steppe threat" was therefore not nearly as potent in Western Europe. But this did not relieve Europe from invasion. On the contrary, settled people in post-Roman Europe could be invaded from multiple directions. And indeed they were: Huns, Avars, Magyars, Arabs, Moors, and Vikings invaded Europe for centuries from nearly every direction. Any prospective empire builder in Europe would thus face a multidimensional threat that would strain his resources. This is one reason why attempts to build a large centralized state in Europe failed after the fall of the Roman Empire.

Why did Europe's persistent political fragmentation matter? From the point of view of Smithian economic growth, introduced in Chapter 2, empires could be good news. The Roman Empire was able to create a fairly unified market economy that spanned the Mediterranean. It suppressed piracy, limited internal trade duties, and introduced a standardized monetary system (Temin, 2006). Similarly, the "Pax Islamica" and the "Pax Mongolica" allowed trade to thrive in the Middle East and Central Asia for centuries. Chinese dynasties also invested in transport infrastructure, as we saw in Chapter 2. From estimates for the mid-18th century, we know that levels of price integration in China were relatively high (Shiue and Keller, 2007; though it declined quite sharply in the late 18th century – see Bernhofen, Li, Eberhardt, and Morgan, 2020). In contrast, Europe's endemic fragmentation was accompanied by frequent warfare which often disrupted inter-regional trade.

But European fragmentation also had positive and unforeseeable consequences. Scholars dating back to Montesquieu (1748/1989) and Hume (1762) have argued that the most important consequences of Europe's fragmentation were institutional. As we saw in Chapter 3, Scheidel (2019) argued that the failure of European rulers to rebuild a continent-wide empire after the fall of Rome resulted in a period of economic decline and military weakness – the so-called "Dark Ages" – but it also laid the foundations for long-run economic growth.

The polities that succeeded the Roman Empire in Western Europe were weak. They lacked the ability to tax their populations or provide basic goods. As a consequence, political power became unbundled from economic and military power. Ideological power became the near-monopoly of the Catholic Church. The separation of sovereignty between rulers, the Church, and the nobility was an important precondition for the emergence of parliaments, independent cities, and other representative institutions that we discussed in Chapter 3. These dispersed pockets of power were unique to Europe in the medieval period. Ironically enough, it was the very weakness of European rulers that allowed these alternative sources of power to arise. Within states, it meant that rulers had to cede more to elites to stay in power (Blaydes and Chaney, 2013; Salter and Young, 2019). It also meant that there was more interstate competition, which gave impetus to economic, political, scientific, and technological breakthroughs (Hoffman, 2015; Mokyr, 2016; Scheidel, 2019; Kitamura and Lagerlöf, 2020). As we shall discuss below, these were important preconditions for future economic growth.

Why Was There No Medieval European Take-off?

During the 11th and 12th centuries, self-governing or independent cities emerged on the edges of what had been the Carolingian Empire – in northern Italy, the Low Countries and then later in the Rhineland and northern Germany. As we saw in Chapter 3, the absence of a single strong ruler enabled merchants to rise to political prominence. They implemented reforms that favored their own interests but also, by and large, were favorable to the overall expansion of trade. This made possible the European Commercial Revolution. The new cities were manufacturing centers and trade entrepôts. Trading networks based on the market economy emerged in the absence of a central authority. These cities were characterized by what McCloskey (2006) calls "bourgeois values."

Unlike in either the Byzantine Empire, the Islamic world, or China, Europe's political polycentricity allowed for multiple sources of power. In addition to merchants, the Catholic Church took on an unprecedented political role. This had important intellectual and cultural consequences. For instance, Fukuyama (2011) notes the role the Church played in undermining the claims of clans and extended families. Focusing on the emergence of the individual, Siedentop (2014) sees Christianity as critical to the emergence of liberal societies. The research we touched on in Chapter 4 by Schulz, Bahramni-Rad, Beauchamp, and Henrich (2019), Henrich (2020), and Schulz (2020) provides empirical support for the specific claim that the Church undermined traditional kinship networks. They link the Church's prohibition on cousin marriage to the formation of medieval communes. It was precisely in these communes that the great medieval city-states were born. These were the political units that relieved Europe of its post-Roman economic doldrums. It is difficult to see how such independent, free cities could have emerged under the thumb of the type of strong ruler who ruled over much of the rest of Eurasia.

If the preconditions for sustained economic growth emerged in the medieval period, why didn't Europe take off then? Medieval Europe did experience several centuries of growth during the Commercial Revolution. Could these developments have led to sustained economic growth in the Middle Ages? What was holding the medieval European economy back?

Answering these questions with certainty is impossible. In history, we lack controlled experiments. For example, we do not know how the European economy would have developed had Europe not been hit by the Black Death (as discussed in Chapter 5). The Black Death may have had positive institutional implications in the long run, but its immediate impact on trade and the medieval economy as a whole was devastating. In any case, it is possible that the medieval economy was already on the verge of crisis prior to the Black Death. Many medieval historians have long thought that an economic crisis was all but inevitable even before the Black Death struck (Postan, 1973).

Economic growth did occur in the Middle Ages. But it was not sustained, and it was prone to reversals. To see why, we need to consider *how* medieval economic growth occurred. Trade and the expansion of markets were an important source of economic growth during the Commercial Revolution. Van Zanden and Prak (2006) argue that medieval city-states were able to successfully create political communities based on trust and cooperation. City-states were able to overcome free-rider and other agency problems and to elicit high contributions in money and time from their populations through a concept of active citizenship. They enforced property rights and supplied market-supporting public goods.

But was this enough? Medieval city-states such as Florence, Genoa, and Venice saw rapid economic growth in the 12th and 13th centuries. But even before the Black Death, there is evidence that the economic dynamism of these cities was on the wane. These city-states may have grown, but they did not develop. Their growth was subject to reversals. Stasavage (2014) finds that autonomous city-states grew more rapidly than non-autonomous cities in the initial years of independence but more slowly thereafter. Growth was not sustained. The primary reason was that merchant oligarchs tended to put in place barriers to entry in order to consolidate their own positions and the positions and fortunes of their heirs. In other words, they did not transition to a fully open-access social order.

In this respect, medieval city-states contained the seeds of their own ruin. Florence illustrates this. Although it remained a center for international trade and banking in the 15th century, its prowess as a manufacturing center peaked a century earlier. Florence manipulated and restricted market access to maintain its regional primacy within Tuscany at the cost of impeding regional economic integration (Epstein, 1991, 2000). It also imposed large and distortionary taxes on its peasantry. The financial services offered by Florentine bankers became increasingly monopolized in the hands of a few banking families, of whom the Medici were the most powerful. In the 15th century, Florence's competitive political institutions were subverted by the Medici (Belloc, Drago, Fochesato, and Galbiati, 2021). All of these were consequences of a rent-seeking ruling elite.

Another example comes from the city-state of Venice. Venice eventually built an empire on the basis of its commercial success. From the 10th and 11th centuries onwards, the prosperity associated with trade gave rise to a new Venetian merchant class. These merchants became powerful enough to influence and shape the political system. Trade promoted social mobility. Puga and Trefler (2014) show that there was increasing movement of families into and out of the Great Council (a ruling body) before 1297, suggesting a fluid and competitive political elite. However, more open access to politics also threatened the profits the elites earned as a result of their control over Venice's foreign trade. The reaction of existing elites led to a period known as the Serrata ("closure") in the early 14th century. During the Serrata, established merchants used their power in the Council to pass laws to restrict access to trade. First was a law in 1297 restricting new entrance into the Council. Then another law in 1323 restricted entrance into long-distance trade. As a result, Council seats became fully hereditary among the nobility. The nobility then used state power to monopolize international trade by collectivizing control of the galleys, which were previously privately owned. The rights to use these ships were auctioned off among the nobles.

These accounts suggest that prosperous Italian city-states became increasingly restrictive and exclusive after around 1300. Rent-seeking among commercial elites increased. Economic growth began to decline. Incidentally, the cultural flowering of Renaissance Italy occurred perhaps a century and a half after its economic peak.

The technological base of the medieval economy was also limited. There was some innovation in the late Middle Ages, notably in clock-making, spectacles, and later printing. Navigational techniques also improved, paving the way for the voyages of discovery that would begin in Portugal and Spain in the 15th century. But the rate of innovation remained too slow to overwhelm demographic and other retarding factors (Mokyr, 1990, chs. 3, 8). An important reason

for this was that the costs of reproducing knowledge remained high prior to the invention of movable-type printing (Buringh and van Zanden, 2009).

In short, many of the preconditions for Europe's eventual economic rise emerged in the medieval period. The multiple centers of power that characterized medieval European life set the stage for the continent's eventual economic rise. But this rise was by no means pre-ordained, and it took centuries to come to fruition. Nor was it certain by the end of the medieval period that Europe would eventually take this path. History is not deterministic. Had a few things gone differently, modern economic growth might not have begun in Europe. Indeed, many of the wealthiest parts of Europe at the end of the medieval period, such as northern Italy and Spain, did not experience modern economic growth until the 20th century.

But this does not mean that the history is impossible to understand or that some events are just as likely to happen in one place as another. As we will argue below, the political conditions characterizing Europe at the end of the medieval period did indeed matter for subsequent events. Even if these events were not pre-ordained, they are difficult to imagine without the medieval heritage. But how and why did this heritage matter? What happened in the early modern period (roughly 1500–1750)? Understanding what happened in this period is probably even more important for understanding why northwestern Europe was the first part of the world to become rich. It is this period we turn to next.

Divergence within Europe Just before the Take-off

By the end of the medieval period, Europe was no longer obviously behind the rest of the world. The medieval European resurgence was led by the trading and manufacturing centers of northern Italy: Venice, Genoa, Florence, Milan, and many others. Yet, over the course of the 16th and 17th centuries, the economic center of Europe moved away from the Mediterranean. By 1800, the Italian city-states had long lost their independence and prosperity, and Italy was among the most economically backward areas in Western Europe. The reversal of fortunes became clear during the 17th century, when the Italians were driven out of textile production by the English and Dutch. Historians have debated over whether or not this decline resulted in an absolute decline in living standards or merely a relative decline (Braudel, 1949/1973; Cipolla, 1952). The real wage and per capita GDP estimates compiled by Malanima (2003, 2005, 2007) suggest that this decline was absolute.

One dramatic event was the discovery of the Americas and the Cape Route around Africa. This shaped the economies of both Europe and the Middle East. The old trade routes between Asia and Europe lost much of their value, leading to a decline in the economic fortunes of cities in Central Asia and the Middle East as well as in Italy (Blaydes and Paik, 2021). In the 16th and 17th centuries, the Atlantic economy rose to prominence. This was true relative both to Europe and to the rest of the world. It was this shift that ultimately set the stage for the modern economy. What can explain this transformation in economic fortunes?

One factor often cited in explaining this mini-divergence within Europe was demography. Chapter 5 considered the role of late and voluntary marriage – the European Marriage Pattern (EMP) – in European development. While this demographic pattern may have deep roots in European history, it appears to have become prominent after the Black Death.

The labor scarcity that resulted from that catastrophe encouraged women to enter the workforce and helped produce active markets for agricultural labor. The high wages that followed should have resulted in a rapid population recovery. But the practice of late and voluntary marriage and small, nuclear families moderated this recovery. It dampened Malthusian pressures and enabled wages to remain higher than would otherwise have been the case. Europe's particular demography is clearly part of the reason why its real wages were higher than those recorded for Asian countries like China, India, and Japan as far back as the Middle Ages.

Demographic factors help explain why real wages tended to be higher in Northern Europe, where the EMP was strongest, than in Southern Europe. But it is also evident that demographic factors were not sufficient by themselves for sustained economic growth. Otherwise, the Industrial Revolution would have happened in northern Germany, which was economically stagnant. It is also difficult to reconcile the timing of the emergence of modern economic growth with purely demography-based explanations. The EMP preceded industrialization and sustained economic growth by at least four centuries.

But this does not mean that demography was unimportant for the eventual emergence of sustained economic growth. Indeed, it may be a key reason why industrialization did not immediately lead to a rise in incomes. We will return to this issue in Chapter 8.

Many explanations for Europe's economic rise focus on the opening of the Atlantic. And with good reason. This was one of the key economic and political events of the three centuries preceding the onset of sustained economic growth. It makes sense to start with the simple fact that an entirely new world opened up to Europe, and those with access to the Atlantic had a natural advantage in accessing it. But not everyone benefited equally. Nor was the opening of the Atlantic a uniformly good thing for European economies. One of the most easily visible effects of the discovery of the Americas was on the monetary base. Inflows of gold and silver from American mines enriched the Habsburg rulers of Spain and funded wars across Europe. This is not why the Atlantic economies pulled ahead, however. These inflows of precious metals ultimately led to higher prices and not higher levels of output. Inflation reached levels not known to Europeans for at least a millennium. This so-called "price revolution" led by Spain was, if anything, detrimental to the economic fortunes of the region.

The decline of Spain is an interesting case. It tells us much about what was important for the long-run economic development of Europe. Along with Portugal, Spain was the first European nation to benefit from the opening of the Atlantic. By the dawn of the 16th century, Spain had a worldwide empire, and Ferdinand and Isabella were bestowed the prestigious titles of the "Catholic King and Queen" by Pope Alexander VI. Through inheritance and marriage, the Spanish Habsburgs would add the wealthy Low Countries to their empire. Throughout most of the 16th century, Spain was probably the most powerful nation in Europe, and among the wealthiest. Meanwhile, England was emerging from a bloody civil war (the Wars of the Roses) and was far from the European economic frontier.

Yet, it was in the 16th century that the seeds for reversal were sown. By the end of the century, England and Spain were no longer so far apart economically (even if it did take an English stroke of luck to keep the Spanish Armada out of its harbors). Within another century (by 1700 or so), Spain was clearly behind the economic leaders of Europe. England and the Dutch Republic, the latter recently liberated from Spanish rule, pulled far ahead. By the 18th century, Spain was at best a second-rate power in Europe. What happened?

Ironically enough, the decline of Spain was closely tied to the discovery of the Americas. The new trade routes opened up a new world to European manufacturing and trade. But not everyone was able to take advantage of these opportunities. How countries responded depended on their *institutions*. Acemoglu, Johnson, and Robinson (2005*b*) argue that where the profits from Atlantic trade were controlled by the crown, access to the Atlantic led to a strengthening of autocratic power. Rulers like the Spanish Habsburgs, especially Charles I (r. 1516–56) and Philip II (r. 1556–98), used Atlantic profits to fund wars and consolidate power. The "royal fifth" – 20% of all precious metals and other commodities coming in from the Americas – went straight into royal coffers. These riches strengthened the Spanish crown relative to its parliaments.

The inflows of precious metals (largely silver) were massive. Between 1500 and 1600, precious metals imported from the Americans dwarfed Europe's stock of precious metals in 1492 almost ten-fold (Palma, forthcoming). The immediate effect of the gold and silver extracted from mines in the Americas was both to enrich the Spanish crown and to give a boost to the European economy, where specie was in short supply. In the medium and long run, however, the effect was inflation.

North (1981, 1990) attributed the decline of Spain to political institutions that encouraged the Habsburg monarchs to pursue economically inefficient policies such as granting monopoly rights to guilds, failing to tax the nobility, defaulting on debts, and confiscating property. These extractive political institutions undermined the foundations of commerce: the "structure of property rights that evolved in response to the fiscal policies of the government simply discouraged individuals from undertaking many productive activities and instead encouraged socially less productive activities that were sheltered from the reach of the state" (North, 1981, pp. 151–2).

In Spain, the crown held a monopoly on colonial trade. The monopoly rents associated with colonial trading routes were enormous. For example, the cargo of the Manila galleons that took Asian goods from the Philippines to Mexico amounted to around 2% of the GDP of the entire Spanish Empire (Arteaga, Desierto, & Koyama, 2020). The costs associated with these monopolies was vast. Spanish trade was tightly restricted for the benefit of a relatively small number of elites. As Adam Smith (1776/1976) – a fierce critic of colonial empires and monopoly trading regimes – understood, this led to a severe misallocation of resources.

Recent research demonstrates that the Habsburg monarchs of Spain were hardly all-powerful. In particular, they were limited in their ability to raise taxes. But institutional explanations for the decline of Spain remain persuasive. Drelichman and Voth (2008) argue that the resource curse associated with large inflows of American silver afflicted the Spanish economy by increasing the returns to rent-seeking and undermining the institutions that limited the power of the monarch, nobility, and clerical establishment. Resources also undermined efforts to standardize or centralize a fragmented and inefficient fiscal system. This fiscal fragmentation was accompanied by institutional, legal, and economic fragmentation (Grafe, 2012).

Yet, institutional weaknesses in Spain are only part of the story of divergence. A compelling explanation must also account for why England and the Dutch Republic *pulled ahead* in the early modern period. The Dutch Republic became the world's dominant economy beginning in the late 16th century. The English economy was primed for industrialization by the 18th century. What changed in these economies? Why was the modern economy born there and not elsewhere?

Parliaments and the Rise of Limited, Representative Government

In Chapter 3, we discussed the role of institutions. One important set of institutions we discussed were *parliaments*. These assemblages of important people – nobility, clerics, and urban elite – constrained rulers and their worst whims. But parliaments were more powerful in some places than in others. As noted above, the Spanish *cortes* were relatively hapless when it came to preventing abuses by the Habsburg crown. This ended up not being the case in England and the Dutch Republic. There, parliaments grew in strength over time and ultimately were able to place significant constraints on central authorities. The period after 1600 saw the rise of representative political institutions first in the Dutch Republic and then in England. Meanwhile, in Southern Europe, monarchical power was consolidated. But why did this matter? Any why did limited governance arise in northwestern Europe but not in Southern Europe?

It is worth revisiting some of the relevant history. The most successful economy of the 17th century was the Dutch Republic. The cities of the Low Countries (modern-day Belgium and the Netherlands) became prosperous in the late Middle Ages. In the 15th century, the cities of the northern Netherlands prospered due to the wool trade and their control over Baltic trade routes. The wealth of their urban bourgeoisie is evident in the oil paintings of the era. As a result of a series of dynastic marriages and accidents, these rich cities came into the possession of the Habsburg Emperor Charles V (r. 1516–56) and they were passed down to his son Philip II, ruler of Spain (r. 1556–98). Tax revenues from these towns and cities helped to fund Habsburg expansion and warfare against the Ottomans.

The rich burghers of the Dutch cities resented paying taxes to a distant Habsburg monarch. At first, there was little they could do. The Habsburgs were powerful and had a legitimate claim on Dutch rule. But in the 1540s and 1550s, Protestant ideas began to spread throughout the Low Countries. This gave those looking to throw off the Spanish yoke an opportunity to do so. The heavy-handed Habsburg response – as many as 2,000 Protestants were burned alive as heretics – helped galvanize resistance from among the Dutch nobility and city leaders. The Reformation therefore helped kick-start a wider political rebellion. It resulted in the establishment of an independent Dutch Republic in the northern Netherlands and an eighty-year war with Spain.

This is precisely what we mean when we say that culture and institutions are often inseparable. It is difficult to imagine how the Dutch Revolt could have succeeded without the spread of Protestant (Calvinist) ideas. These motivated and legitimated the rebellion against Habsburg rule – binding the rebels together in a way that mere shared economic interests were unlikely to. Meanwhile, it is difficult to imagine how a religious movement like the Reformation could have succeeded without the political and institutional changes that secured Dutch independence from the fiercely Catholic Habsburgs.

The polity that arose as a result of the Dutch Revolt was a federal republic. William, Prince of Orange, was the most influential noble to lead the rebellion. He might have become the sovereign of an independent Netherlands, but he was assassinated. The position of sovereign was also offered to Queen Elizabeth of England. Only after these options were exhausted did the Dutch parliament (States General) assume full sovereignty. The result of the Dutch Revolt was therefore a religiously divided Republic in which merchants and commercial interests held political power (de Vries and van der Woude, 1997).

The Dutch Republic created institutions that benefited members of the economic elite. As a result, despite an ongoing war with Spain, it experienced rapid economic growth in the century following 1580. This growth was the result of structural changes to the Dutch economy. In other words, this was a period of Dutch *economic development*. Benefiting in part from the destruction of Antwerp by Spanish forces in 1576, Amsterdam became Europe's financial capital. Real wages grew faster than in the rest of Europe, despite a doubling of the Dutch population. Urbanization increased rapidly. Large-scale investments in canals and other inland transport helped ignite a trade boom. Dutch shipping dominated the Baltic. The United East India Company was founded in 1603 and soon helped win the Dutch an empire in Southeast Asia. Throughout the 17th and 18th centuries, Dutch real wages and per capita income were the highest in the world (see Figure 7.2).

Dutch economic success was a direct result of institutional change. The rise of limited, representative governance was one of the key driving forces behind the Dutch economic expansion. There was no centralized authority to extract resources, trample over property rights, or infringe on personal liberties. This is not to say the Dutch States General was perfect. It could – and did – favor some interests over others, and it wasn't exactly in favor of religious freedom once its preferred religion won the day. It was also not a modern democracy. Each of the seven provinces retained considerable power.

While the rise of limited government was an important precondition for long-run economic growth, it was not enough on its own. The Dutch ended up being relatively late to the industrialization game, although they remained among the world's leading economies. Why, then, do we place so much emphasis on limited, representative government? For one, it allowed the Dutch to

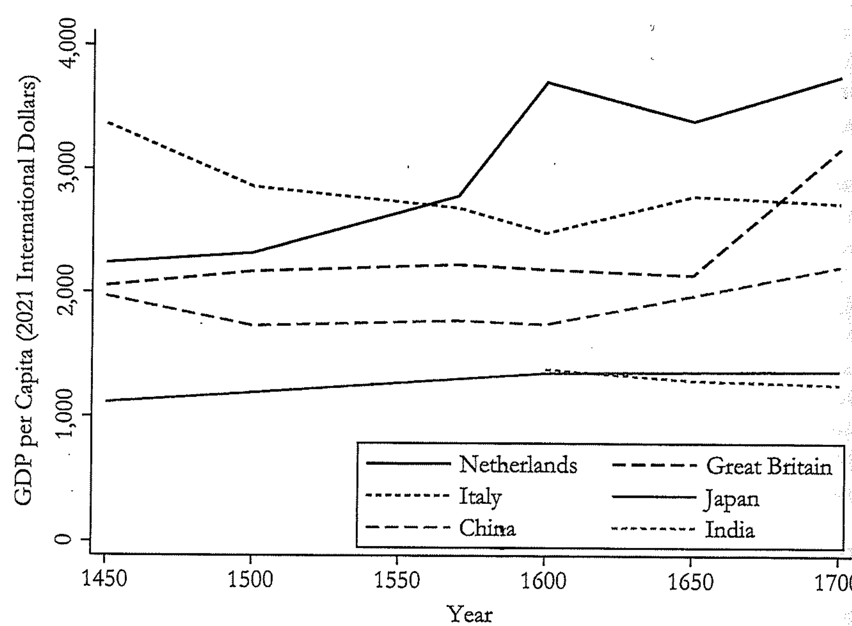

Figure 7.2 Real per capita GDP, 1450–1700, select countries

Data source: Broadberry, Guan, and Li (2018): 2021 international dollars converted from 1990 international dollars at rate of $2.03:1.

become the world's leading economy for over a century. But it was also a precondition for Britain's rise.

In the 18th century, the locus of economic growth moved from the Dutch Republic to England, or, as it became known after 1707, Great Britain. Even prior to the Industrial Revolution, Great Britain had emerged as one of the world's leading economies. Institutional change was critical in this development.

Changes in labor market institutions played a role in unleashing the domestic economy. While the medieval economy was dominated by craft and merchant guilds that regulated entry, by 1700 the power of English guilds had greatly diminished. Britain was, along with the Netherlands, quite different from much of continental Europe, where guild power remained entrenched. This hampered economic development by allowing insiders to block competition and innovation (Ogilvie, 2019).

The centuries leading up to modern economic growth saw the emergence of Parliament as the dominant legal and political force in England. Chapter 3 examined how Parliament emerged in 13th-century England following the Magna Carta. A particularly important development – one solidified in the reign of Edward I (r. 1272–1307) – was that Parliament came to represent urban interests and not just the nobility. As shown in Figure 3.8, the English Parliament met frequently during the Middle Ages. This was largely a reflection of how often the crown was at war. When the crown did not need additional revenues, it did not have to call Parliament. Strong medieval kings typically had the ability to dominate Parliament. When there were major challenges to royal authority, they usually came from the nobility, who still maintained their own private armies, rather than from Parliament.

This institutional arrangement began to change in the late 15th century. Following the Wars of the Roses (1455–85), the first Tudor, Henry VII (r. 1485–1509), came to the throne. Henry won the crown on the battlefield and had a very weak claim to the throne. Greif and Rubin (2021) argue that to bolster his legitimacy, he turned to Parliament, ruling by acts of Parliament much more than his predecessors. Henry also weakened the power of the noble families, particularly those whose blood might make them potential challengers (Penn, 2011). His son, Henry VIII (r. 1509–47), relied on Parliament even more frequently, especially after the Reformation further weakened one of the crown's key sources of legitimacy, the Catholic Church. Although the crown continued to employ religion as a source of legitimacy, the new Anglican Church was under its thumb. It therefore could not legitimate rule like the Catholic Church could. These factors were also present under Henry VIII's three Tudor successors, Edward VI (r. 1547–53), Mary I (r. 1553–8), and Elizabeth I (r. 1558–1603). They all came to the throne with low legitimacy. Mary and Elizabeth were the first two female monarchs in English history and had both been declared bastards. They therefore relied heavily on Parliament. As Parliament's power increased, so did its willingness and ability to limit the crown. This set the stage for the tumultuous events of the 17th century, in which

Parliament twice deposed a Stuart king whom they believed transgressed their rights.

As recent research confirms, it was in the 17th century that England's political institutions diverged from those of continental Europe (Henriques and Palma, 2020). The first key event of the 17th century was the English Civil Wars (1642–51). The Civil Wars pitted Parliamentarians against supporters of King Charles I (r. 1625–49). A vast body of scholarship considers the causes of these civil wars from a variety of perspectives. For our purposes, one can view the conflict as primarily over the proper institutional structure of English governance (Greif and Rubin, 2021). Did a king have the legitimate right to rule without Parliament (as Charles I had tried to do in the decade preceding the Civil Wars)? Or was following the law, as created by Acts of Parliament, essential to being a legitimate king? Under the Tudors, England had increasingly moved to the latter arrangement. This was not by design – both Henry VII and Henry VIII had autocratic aspirations. It occurred partly because of Henry VIII's need for Parliamentary support for his break with Rome and particularly because historical accident landed England with a minor and two women as his successors. Conflict between crown and Parliament came to a head after James I (r. 1603–25) and his successor Charles I sought to subordinate Parliament to the crown. This conflict was in large part over how powerful the monarchy should be. In the end, the Parliamentarians won and Charles I was executed.

The English Civil Wars were an important turning point. They brought about a change in the ruling coalition. Jha (2015) explores how emerging overseas economic opportunities helped the formation of a coalition in favor of constraining the crown. Many of the landed elite purchased shares in overseas trading companies, aligning their interests with the merchant class. Ownership of shares in overseas trade shifted the views of non-merchants, helping to consolidate support for reformers in Parliament. They therefore had an interest in fighting with Parliament against the king. This aligned the interests of the economic elite with a broad set of powerful people, which, in turn, gave them a central seat at the political bargaining table.

The Civil Wars sharply accelerated the ultimate pre-eminence of limited governance. Such institutional changes were important for the rise of the modern economy. However, even though the Parliamentarians won the day, this did not mean that limited governance immediately followed. The conflict between Parliament and the Stuart kings was not permanently resolved by the Civil Wars. It resulted in another conflict a generation later, between Charles I's son James II (r. 1685–8), a Catholic who aspired to create a more autocratic monarchy along French lines, and his opponents in Parliament. In 1688, a Parliamentary faction invited William of Orange and his wife, Mary (the daughter of the king), to overthrow James. James fled and William and Mary (r. 1689–1702) came to the throne with little bloodshed (at least in England; it was quite different in Scotland and Ireland). This capped off the so-called Glorious Revolution. In the process, William and Mary accepted a Bill of Rights whereby they relinquished numerous rights and agreed to limit the power of the crown. This was a major turning point in the history of limited governance.

The change in English government was part of a broader global and expensive war against France. The settlement following the Glorious Revolution helped fund this war. Because Parliament now had power over the English purse-strings, creditors were more willing to believe they would be paid back (North and Weingast, 1989). William of Orange brought with him Dutch advisors and knowledge of Dutch fiscal and financial practices (Hart, 1991). A critical event was the establishment of the Bank of England in 1694, which helped fund the war effort. Over time, it led to a substantial drop in borrowing costs (see Table 7.1). This enabled an enormous growth in state power that would become a theme of the 18th century and beyond.

By making England (after 1707, Britain) a constitutional monarchy, the Glorious Revolution laid the foundations of the party system and cabinet government (Stasavage, 2002, 2003; Pincus and Robinson, 2014; Cox, 2016). These developments did not all take place immediately after 1688. It took several decades for the implications of the Glorious Revolution to fully take shape. But they provided the political and institutional stability that was important for Britain's subsequent economic growth.

North and Weingast (1989) argued that the credibility of the English monarchy to repay its debts after 1688 translated into more secure property rights in general. While this claim has not survived subsequent scrutiny, in other respects there was an improvement in institutional quality after 1688. Rather than securing property rights, these changes made it easier to reorder property rights in order to exploit new investment opportunities.

In other words, what mattered was less the "security" of property rights in the abstract than the ability to rearrange residual claimancy as new economic opportunities emerged. Feudal property rights were secure but they were

Table 7.1 British borrowing and interest rates, 1693–1739

Date	Amount (£)	Interest (%)
Jan. 1693	723,394	14.0
Mar. 1694	1,000,000	14.0
Mar. 1694	1,200,000	8.0
Apr. 1697	1,400,000	6.3
July 1698	2,000,000	8.0
Mar. 1707	1,155,000	6.25
July 1721	500,000	5.0
Mar. 1728	1,750,000	4.0
May 1731	800,000	3.0
June 1739	300,000	3.0

Data source: North and Weingast (1989, Table 4).

designed to support feudal society and not to maximize productivity. Land rights in 17th-century England were complex and constrained. The ownership of land came with feudal entails which meant that potential heirs could veto anything that could be claimed to detract from the future capital value of the land (such as cutting down a forest or draining a lake).

Prior to the Glorious Revolution, estate bills often failed due to political conflict. However, as a result of changes brought on by the Glorious Revolution, Parliament became a forum where land could be reallocated towards more productive uses (Bogart and Richardson, 2009, 2011). As a consequence, investment in road and river transport dramatically improved, with important consequences for subsequent economic growth (Bogart and Richardson, 2011). Parliamentary regulation helped keep internal trade relatively unimpeded, especially in comparison to the Holy Roman Empire or France (Bogart, 2012). Parliament played a crucial role in regulating the tolls that maintained England's road and canal network. Tolls were kept low, in part by Parliamentary regulation and in part by market competition. Toll roads were funded by users and in competition with river and canal routes.

This was not a move towards greater democracy. Only a small proportion of adult males could vote. And after 1715, elections became less frequent (held only every seven years). In many ways, the power of the rich was entrenched and historians have often viewed the 18th-century British state as designed to favor the propertied classes. Certainly it ruthlessly enforced Enclosure Acts and penal laws against the poor (Hay, Linebaugh, Rule, Thompson, and Winslow, 1975). For the most part, early 18th-century Parliaments were characterized by unabashed rent-seeking. Parliament passed many acts that benefited specific interests – most notably the Calico Act of 1721, which banned the importation of most cotton textiles – at the expense of the larger public. None of this shocked contemporaries. Members of Parliament were expected to look out for their own material interests and to pursue what to modern eyes looks like venality (Root, 1991). This changed over the course of the 18th century. Mokyr and Nye (2007, p. 58) note that "[p]urely redistributional actions ... began losing their appeal. Many special interest groups' legislated privileges, monopolies, exclusions, limitations on labor mobility, occupational choice, and technological innovation found themselves on the defensive as the 18th century wore on."

In other words, if we are to discern the distinctive features of the British political system on the eve of the Industrial Revolution, it is less useful to focus on features such as its corruption or lack of democratic representation. These were features that it shared with almost all pre-modern states. More insight is gained from considering which factors were critical in allowing it to attain a high degree of political stability and prosperity.

In this respect, the British system was successful in constraining the independent power of the monarchy, while balancing the interests of landowning elites with those of mercantile and financial elites. It was able to mobilize tremendous resources for warfare without crushing the domestic economy. It was not a democracy, as it limited political representation to those with property. But it did provide scope for "voice" through regular elections. It also provided greater freedom for religious minorities than did its competitors in Europe (with the exception of the Dutch Republic) while also prohibiting Catholics and religious dissenters from positions of political power (Johnson and Koyama, 2019, pp. 179–83).

Chapter Summary

By around 1700, northwestern Europe had many of the necessary preconditions for sustained economic growth. Per capita incomes and real wages were high by pre-industrial standards. Markets were relatively well developed and extensive. The institutional framework was conducive to the expansion of internal trade. State institutions were strong enough to provide a measure of law and internal peace. But these factors alone were unlikely to have been enough for modern economic growth.

This is demonstrated by the example of the Dutch Republic. Though the Dutch Republic has been hailed as "the first modern economy" (de Vries and van der Woude, 1997), the Dutch pattern of commercial, Smithian, trade-driven growth more closely resembled earlier episodes of temporary growth than it did the sustained economic growth that characterized Western Europe and North America after 1800. As Goldstone (2002, p. 340) writes: "[W]hile Golden Age Holland did indeed experience an 'efflorescence' of innovation, intensification and productivity growth in agriculture, and stable per capita incomes despite substantial population growth, such a pattern is neither uniquely Dutch nor 'modern' by global standards."

In the 18th century, the Dutch Republic remained rich but its economy did not experience further rapid growth (de Vries and van der Woude, 1997). There were many factors responsible for this stagnation. Inequality rose and merchant elites based in Amsterdam were able to entrench their political power (van Bavel, 2016). Institutions like the Dutch East India Company (VOC) benefited a relative small number of shareholders. The Dutch Republic thus followed a similar pattern to Italian city-states like Florence and Venice that grew rich on the back of trade before eventually stagnating. Another factor was the high taxes and high levels of government debt incurred fighting numerous wars for survival against the French. Moreover, the mercantilist policies of the British and the comparative failure of the Dutch to invest further in fiscal capacity also contributed to their relative decline (O'Brien, 2000). Overall, the Dutch were not able to achieve a dramatic and *sustained* increase in living standards. This would not happen until the Great Enrichment that began after 1800, and it was driven by developments in Britain.

The Dutch Republic was at the forefront of the Scientific Revolution. Christiaan Huygens made important contributions to astronomy and mathematics.

Antonie van Leeuwenhoek pioneered the field of microbiology. There were also important Dutch developments in engineering, especially hydraulic engineering. Yet, the Dutch did not experience the combination of growth of industry and structural change that characterized Britain's Industrial Revolution.

Britain did experience this combination in the 18th and 19th centuries. The result was the first modern economy – one in which economic growth was *sustained* without reversal. Why did this happen first in Britain? We began this explanation in this chapter, noting that Britain had some of the important institutional preconditions. Most importantly, it had a (relatively) limited and representative government. But this was clearly not enough. If it were, the Dutch would have had the first modern economy. What else was needed for Britain to prosper? We turn to this question in the next chapter.

8

Britain's Industrial Revolution

We are now in a position to address the question "How did the world become rich?" The answer to this question begins with Britain's Industrial Revolution. Britain's industrialization set in motion a series of events that ultimately resulted in modern, sustained economic growth. Since the first few decades of the 19th century, the world has become richer and billions have been lifted out of poverty. This was due to sustained economic growth. This is why we care so deeply about it.

Figure 8.1 reports the growth of total GDP, population, and GDP per capita in England from 1270 to 1700 and then for Britain from 1700 to 1870. Between 1700 and 1870, the size of the total economy increased by a factor of 10. Population also grew roughly four-fold. Per capita GDP more than doubled. Such an economic transformation defied the logic of the Malthusian economy. By the middle of the 19th century, the British economy began to exhibit modern, sustained economic growth. Per capita GDP grew in a continuous fashion even as the population also continued to expand. Perhaps most importantly, despite the ups and downs of wars and business cycles, there were no serious growth reversals.

The first seven chapters have laid out various theories that give insight into why modern, sustained economic growth was likely to happen in some places but not others. In this chapter we go further. Answering the question "How did the world become rich?" means establishing the reasons for both the *location* of modern economic growth and its *timing*.

We begin this pursuit by exploring the causes of the Industrial Revolution. It began in Britain some time in the second half of the 18th century. This part is uncontroversial. What is more controversial is *why* it began when and where it did. Having outlined some of the institutional prerequisites for growth in Chapter 7, in this chapter we consider the development of the British economy more generally in the 18th and 19th centuries. We also consider what made the Industrial Revolution a "revolution." It was not the rate of economic growth, which remained modest. It was that growth was sustained thereafter.