

**HOW AND WHY ECONOMIES DEVELOP AND GROW: LESSONS
FROM PREINDUSTRIAL EUROPE AND CHINA**

CHAPTER 1

A THEORY OF ECONOMIC PROGRESS

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ABSTRACT: The standard Ricardian-Malthusian theory does not provide an adequate explanation of differences in economic development and growth over time and across countries. This chapter presents a different and broader theory that focuses on the effects of commerce and predation on production. It then applies this Smithian theory to the economic and political development of preindustrial Europe.

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The most fundamental challenge for economics is to explain the nature and causes of economic progress. But what exactly is to be explained? What are the facts? One very striking fact is historical—the rapid acceleration of economic progress since the early nineteenth century. Another is geographical—the huge differences in economic progress in different parts of the world. The questions ask themselves. Why has economic progress accelerated? Why is it not universal?

I begin by examining the facts in greater detail, by describing how economists have answered the questions, and by suggesting why those answers are unsatisfactory. I then outline what I believe to be a better answer.

THE STANDARD THEORY

Since the time of the Industrial Revolution, around 1800, economic progress has been rapid, fairly steady and—at least in the West—more or less general. Before, economic progress was much slower. It was also much less steady: periods of relatively rapid progress were interrupted by long periods of stagnation and even of decline. Indeed, these long interruptions are one reason why the overall pace of economic progress was so much slower. In addition, economic progress was far less general: while some areas advanced rapidly, others failed to do so or even fell back.

What do we mean by economic progress? Modern economics identifies economic progress with economic growth—with an increasing quantity of goods and services. A common measure of economic growth is the rate of increase in Gross Domestic Product (GDP), an index of the total value of goods and services produced by an economy. Growth of *total* GDP, however, need not imply much progress, since it may merely be the result of employing more resources in production—a consequence, say, of a growing population. It is usual, therefore, to identify economic progress with growth in GDP *per person*. Growth in this sense implies rising productivity—an ability to get more output from a given amount of resources.

While the concepts are simple, the measurement of GDP and its rate of growth in practice are fraught with difficulties. These difficulties are only compounded when

making comparisons on a historical timescale.¹ Nonetheless, there have been some heroic attempts to estimate GDP over the long run, most notably by Angus Maddison.² According to Maddison, GDP per person in Western Europe, the United States and other European offshoots grew from about \$1,200 in 1820 to over \$20,000 in 2001.³ This implies an average rate of growth of over 1% a year. Since 1950, the rate of growth has accelerated to over 2%. In contrast, before the Industrial Revolution, rates of growth were far lower. Between 1000 and 1600, the period that will mainly concern us, GDP per person rose from about \$400 to about \$900—an average rate of growth of only 0.13% a year.

Why this drastic change in the rate of growth? Perhaps the most obvious explanation is technology. Certainly, technology is the most visible difference between modern times and those that came before. Since the Industrial Revolution, humanity has crossed a scientific-technological threshold that has made possible enormous, cumulative advances in productivity.⁴

Indeed technology is at the center of the standard theory of growth found in economics textbooks. This theory traces its origins to the work of David Ricardo, an economist of the early nineteenth century.⁵ According to this ‘Ricardian’ theory, an economy’s potential output of goods and services is determined by its resources—labor, capital, and land—and by its technology. At any time, producers exploit this potential to the full: given resources and technology, output could not be higher than it is. Consequently, any increase in output must be the result either of more resources or of

¹One serious problem is that over time there is a change not only in the quantity of goods produced, but also in the nature of those goods and in the range of goods (see Holcombe (2007) on this). This is a problem when comparing 1970 to 2000; it is a huge problem when comparing 1000 to 2000. Another problem is the difficulty of correcting for changes in prices: the overall level of prices changes over time because of monetary factors (changes in the value of money). Again this problem is far more serious over longer intervals of time.

²Maddison (2003)

³The numbers are for GDP valued in 1990 prices.

⁴Mokyr (2002, Mokyr (1990)

⁵Ricardo (1817). The theory was elaborated in a more modern form by Solow (1970).

better technology. If technology remains the same, additional resources will produce more output, but there will be no increase in productivity: output will increase only in proportion to the increase in resources. So rising productivity requires continuing technological progress. According to the Ricardian view, the more rapid rate of growth since the Industrial Revolution must be the consequence of more rapid technological progress.

While this explains why growth was slower before the Industrial Revolution it does not alone explain the long periods of stagnation and decline. This can be done, however, by adding an additional element suggested by Robert Malthus, a contemporary of Ricardo's. Malthus suggested a connection between the level of income and the rate of growth of population.⁶ Suppose that a cluster of innovations raised productivity and so income. The higher level of income would cause population to grow. With more labor, output would grow too. However, the growing population would eventually come up against a finite and limited amount of land. Because land could not increase along with population, increasing amounts of labor would obtain smaller and smaller increases in output (diminishing returns). As a result, *average* output—and so income—would decline. As income declined, so would population growth. Eventually income would fall to the level of subsistence, at which point population would stop growing. In the absence of sufficiently rapid and steady technological progress, this mechanism—the 'Malthusian trap'—would prevent anything but a temporary escape from subsistence.

So the Ricardian theory, as modified by Malthus, explains the periods of relatively rapid preindustrial growth as being the consequence of major technological innovations. For example, proponents of this theory suggest that major innovations in the early Middle Ages—the three-crop rotation, the equine harness, and heavy northern plow—caused a period of relatively rapid growth from c. 1100 to c. 1300.⁷ In this view, periods of stagnation and decline, such as that of c. 1300 to c. 1450, are 'subsistence crises' caused by the resulting, ultimately unsustainable, increase in population.⁸ If there have been no

⁶Malthus (1798)

⁷White (1962)

⁸See Harvey (1991) for an elaboration and discussion of this interpretation.

subsistence crises since the Industrial Revolution, it is only because technological progress has kept ahead of population growth.

There are a number of problems with the Ricardian theory. First, even if we accept it as true, it is not a very deep explanation. Of course technological progress is important, but what causes technological progress? Why did technological progress accelerate at the time of the Industrial Revolution and not before? More fundamentally, is technological progress the cause of economic progress or merely a symptom of it?

There are, however, strong reasons *not* to accept the Ricardian theory as true. The strongest is the second of our basic facts—the enormous disparities in economic progress across countries. For example, in year 2000 dollars, GDP per person in the United States was about \$34,000. In Brazil it was about \$7,200. In the Republic of Congo it was about \$1,300—close to what it had been in the United States in 1820.⁹ The Ricardian theory has been notably unsuccessful in explaining disparities such as these in terms of differences in resources and technology.¹⁰

Moreover, the Ricardian-Malthusian explanation of the ups and downs of the preindustrial economy has not held up under closer examination.¹¹ For example, the supposedly major innovations of the early Middle Ages were either not new or were of little economic significance. So whatever the explanation of the relatively rapid growth from c. 1100 to c. 1300, it was not a jump in technological progress. Moreover, the extended crisis that followed this period, from c. 1300 to c. 1450, does not seem to have been caused by a shortage of land or by overpopulation: crop yields did not fall (as a result of ‘exhaustion of the soil’) and labor productivity did not decline as the theory would suggest. So, again, we must seek the causes of the crisis elsewhere.

⁹The numbers are in year 2000 international (purchasing power) dollars. They are taken from Alan Heston, Robert Summers and Bettina Aten, Penn World Table Version 6.2, Center for International Comparisons of Production, Income and Prices at the University of Pennsylvania, September 2006.

The 1820 number for the U.S. is from Maddison (2003). While the two numbers are close, as noted in fn 1 the meaning of such a comparison is questionable.

¹⁰See, for example, Easterly (2001).

¹¹See, for example, Harvey (1991), Jordan (1996), Grantham (1999), Steensgaard (1997), Verhulst (2002), and Grantham (2003).

The Ricardian theory, therefore, fails to explain the observed pattern of economic progress—both the geographic pattern and the historical pattern. The reason for this failure is the basic assumption of the Ricardian theory—that an economy always produces at its full potential. Contemplating the economies of Brazil and the Congo, such an assumption seems wildly implausible. Surely, such economies are performing *well below* their potential. Similarly, we shall see that the ups and downs of preindustrial economies were not caused so much by changes in their potential as by changes in the degree to which they were able to exploit that potential.¹²

It should be clear from this that we need to broaden our theory of economic progress. We need a theory that explains not only an economy's potential but also how much of that potential is being realized.

A DIFFERENT THEORY

Let us begin by broadening our definition of economic activity. For the Ricardian theory, economic activity is identified with production—the actual creation of goods and services. But in fact there are two additional economic activities quite distinct from production. One is commerce—trading for a profit the goods and services that others produce. The other is predation—taking by force the goods and services that others produce or trade. Both commerce and predation are *economic* activities in that each, no less than production, provides a way of making a living.

The existence of these three distinct ways of making a living is particularly clear to students of preindustrial history, because each of the three was then the sole province of a distinct group specialized in that activity. Production was the work of landowners, peasants, and artisans. Commerce was the work of merchants, who were not generally involved directly in production themselves.¹³ Predation was the work of specialists in the

¹²As Epstein (2001) and Grantham (1999) have argued.

¹³“Before the Industrial Revolution especially, the hand that turned the wheel of commerce was not the producing craftsman but the merchant and tradesman. After this Revolution, the successful manufacturer became to some degree a ‘commerçant’ organizing his own sales department. But a most significant feature of the period before 1760 was the almost absolute dependence of the producing class upon the trading class.” (Westerfield (1915) p 125)

use of force. Some of the latter were self-employed—various bandits and pirates. But most were agents of governments. Indeed, as we shall see, governments were by far the most important source of predation. Of course, governments also played a vital role in protecting *against* predation: this too required the use of force. So force, predation, and government were closely intertwined.

The key to a broader and more satisfactory theory of economic progress is an understanding of the effects of these two additional activities—commerce and predation. Such a theory can be stated quite concisely in the form of two related propositions:

Proposition 1. *Commerce promotes production; predation inhibits it.*

Proposition 2. *Limit predation (get government right), and economic progress will take care of itself.*

In terms of economic potential, commerce promotes its realization, while predation prevents it. Moreover, if predation, the inhibiting factor, can be restrained, economic progress will continue indefinitely. As we shall see, not only will the economy come closer to realizing its potential, but that potential will itself expand.

THE NATURE AND CAUSES OF ECONOMIC PROGRESS

We can illustrate our two propositions in the context of preindustrial Europe. How did commerce promote production? How did predation inhibit it? In what sense did preindustrial Europe ‘get government right? How was it that economic progress ‘took care of itself’?

How commerce promoted production

Commerce promoted production through expansion of the market. Expansion of the market created incentives—both carrot and stick. The carrot was the increased demand from other places for particular locally-produced goods: expansion of the market raised their price and made their production more attractive. The stick was increased competition from goods produced elsewhere, some of which were cheaper or of better quality than their local equivalents. Producers responded to these incentives by changing what they were producing and how they were producing it.

In agriculture, producers came to specialize according to their ‘comparative advantage’.¹⁴ For example, before the thirteenth century, wine was produced all over northwest Europe. However, as the trade in wine expanded, the regions most suited to viticulture, especially Gascony and the Rhine valley, experienced a growing demand for their wine and expanded their production. At the same time, growers elsewhere found themselves unable to compete either in price or in quality and switched to other crops.

In industry, producers specialized not only in different goods but also within the production of a single good by task. For example, in the early Middle Ages, Flemish woolens were produced in the countryside; the entire process, from raising sheep to finishing cloth, was completed by the same rural household. When, in the eleventh century, production moved to the towns, individual artisans started to specialize in particular sub-processes, such as spinning, weaving, and dyeing.

The reorganization of production in such ways as these raised the productivity of producers. Indeed, in the preindustrial economy, it was the reorganization of production that was the principle source of economic growth.¹⁵ If growth was slow, it was because expansion of the market and the resulting reorganization were gradual and frequently interrupted.

Technological progress too was a source of growth, although not as important as it is today. It was mostly incremental—the accretion of innumerable small improvements to existing techniques and products that lowered costs or improved quality. Over time, these small improvements accumulated and made a difference. The watermill, for example, was already widely used by the Romans, but it underwent steady improvement in preindustrial Europe. The overshot wheel, improved gearing, the use of cams and cranks, better dams to control water flow—all these made the watermill of the sixteenth century a far more powerful and efficient machine than that of classical antiquity.¹⁶ The pace of

¹⁴The concept of comparative advantage originates with Ricardo (1817).

¹⁵“Growth did not result from a sudden conversion to efficiency. Nor was it yet driven by patents and the diffusion of complex scientific knowledge that were beyond the peasants’ ken. The source of productivity growth was in fact much simpler. It was comparative advantage, and it depended on costs of transportation and opportunities for trade with the rest of the economy.” (Hoffman (1996) pp. 203-4)

¹⁶Mokyr (1990), Holt (1997)

technological progress was accelerated by expansion of the market. It was, for example, the expanding demand for the dietary staple, bread, that led to the construction of numerous new mills and to the resulting experimentation and improvement in their design.

In addition to this gradual process of incremental improvement, there were some major inventions that constituted departures or breakthroughs. The economic impact of such an invention depended, of course, on the speed with which it was taken up and applied. Typically, this took decades or even centuries. It was two centuries, for example, before the spinning wheel had much of an impact on the woolen industry. The speed of adoption of new inventions depended to a large extent on expansion of the market. This was especially true for mechanization. Mechanization typically reduced cost, but often only at the expense of quality. This was certainly the case, at least initially, for the spinning of wool. It was only when expanding trade created a mass market for lower-quality goods that mechanization in general—and the adoption of the spinning wheel in particular—became economically attractive.

Technological progress was not, therefore, as in the Ricardian theory, an exogenous cause of growth—something outside the economic process. Nor was it the consequence of non-economic factors. On the contrary, it was itself a consequence of expansion of the market and of the reorganization of production.

How predation inhibited economic progress

Much of the economic damage caused by predation was related to war. The consequent death and destruction damaged economies directly. For example, the Hundred Years War devastated parts of France, and the economies of central Europe took centuries to recover from the ravages of the Thirty Years War. In general, however, the greatest economic damage of war came not from the hostilities themselves but from how war was financed.

The waging of war required resources and to acquire those resources governments resorted to various forms of exaction. These included the arbitrary seizure of property, the imposition of taxes and tolls, the creation and exploitation of monopolies, and debasement of the coinage (inflation). In each case, the harm to the economy exceeded

the gain to the government, but the extent of the collateral damage differed. In general, taxes caused the least collateral damage; debasement, the most.

Predation, in the form of war and its associated exaction, had a direct inhibiting effect on production. For producers to invest in production, they needed to know that they would enjoy the fruits of their labor. Farmers did not plant if they expected their crops to be destroyed or taken by marauding armies. Nor did they improve their land when they knew that any additional output would be taken by the lord or by the king's tax collectors.

Predation also affected production indirectly through its impact on commerce. War interrupted trade, both on land and at sea. For example, rising protection costs in the Mediterranean during the wars of the fourteenth century caused freight rates to double there; as a result, shipments of wheat from Sicily, a major exporter, declined by 94%.¹⁷ Moreover, commerce was a favorite target of exaction: governments imposed tolls and taxes on trade, seized goods in transit, and expropriated merchants. Debasement was particularly harmful, because it made the value of deferred payment highly uncertain. This undermined contractual relationships of all kinds—whether for debt, labor, or the renting of land.

It is hard to know the extent of exaction precisely. Numbers for the cash revenue of central governments—typically estimated at 5-10% of the value of total output—might suggest it was modest. However, such a number is deceptive. We must add to this number the substantial exaction in kind by the central government. We must also add the take of others with rights of exaction—of lords, cities, and the Church. Neither must we forget the considerable share of central government exaction—probably a majority—that was pocketed by the agents who collected it. In all, the total weight of exaction on the populace was often crushing.

In general, by hindering commerce, wartime predation caused a contraction of the market. This had precisely the reverse effect of market expansion—undoing productive reorganization and reducing overall productivity.

¹⁷Munro (1997)

How preindustrial Europe ‘got government right’

As we have seen, predation and protection from predation were both closely related to government. There were, in fact, two distinct types of government—one originating in predation, the other in protection against predation. *Predatory government* came into being when a group of ‘rulers’ took control of a territory for the purpose of predation—for example, the Norman conquest of England in 1066 or the Hapsburg dynasty’s acquisition by marriage of Spain in 1516. *Associational government* came into being when the inhabitants of a territory took joint action to control and to exercise force, primarily to protect themselves against predation. For example, the citizens of many medieval towns formed formal sworn ‘communes’ for their mutual defense. Preindustrial Europe was an overlapping patchwork of predatory and associational governments. The governments of kings and lords were essentially predatory; those of cities and villages, essentially associational.¹⁸

The many governments of preindustrial Europe, both predatory and associational, were constantly at war with one another. Predatory governments waged war to hold and to expand the territories on which they preyed. For example, the kings of England and France fought the Hundred Years War over their rival claims to French territory, and the Hapsburgs fought the Thirty Years war in an attempt to establish control over Germany. Associational governments waged war too, both to protect their territories against predatory governments and to further their interests in the rivalry for trade. For example, the cities of northern Italy fought a war of independence against the German Emperor in the twelfth century. And the rivalry for trade with the Levant between Genoa and Venice degenerated into a series of wars in the fourteenth century.

The success of governments in war, and so their survival, depended largely on their economic strength—that is, on the resources they could command and on their ability to mobilize them. Since larger economies were generally able to mobilize more resources, there was an overall tendency towards consolidation, with larger entities swallowing up

¹⁸As we shall see in Chapter 10, the distinction between the two types of government was not absolute: predatory governments took on associational aspects and associational governments were not entirely innocent of predation.

smaller ones. Consolidation proved to be a problem for the survival of associational government, because large-scale associational government tended to degenerate into tyranny, a form of predatory government.

Economic strength depended, however, not only on the size of the economy upon which a government could draw, but also on the vitality of that economy. A government that did less harm to its economy when mobilizing resources for war had a considerable advantage: it could mobilize more resources from a given economic base, and it could sustain its military efforts for longer. Here, associational government had the edge. Associational governments were more responsive and therefore less likely to engage in economically harmful forms of exaction. They were also more reliable debtors than predatory governments and so better able to borrow; they consequently had less need to engage in the more harmful forms of exaction. As a result their economies could continue to function in wartime and even to thrive.

Incessant warfare among the many governments of preindustrial Europe—governments of differing forms—resulted in a process of evolutionary selection. The interdependence between government and economy biased this process towards survival of forms of government that were economically less harmful.

How economic progress ‘took care of itself’

So long as predation was kept within tolerable bounds, economic progress was self-perpetuating and cumulative. That is, economic progress generated more economic progress.

As we have seen, the engine of economic progress was expansion of the market. How far the market expanded depended on three things—on potential supply, on potential demand, and on trading costs (the costs of bringing supply and demand together). Economic progress was self-perpetuating because expansion of the market increased potential supply, increased potential demand, and lowered trading costs. It thereby created the conditions necessary for further expansion of the market and for continuing economic progress.

We have already seen how expansion of the market boosted potential supply by raising productivity. But rising productivity also increased income. Some of this increase went to the producers themselves; some to those employed in commerce (those

responsible for the expansion of the market); and some to those engaged in predation. The rising incomes of all three groups increased potential demand. This created new opportunities for commerce and for further expansion of the market.¹⁹

The stimulus of the expanding market, both to supply and to demand, was amplified by the effects of economic progress on the growth of population and on urbanization. Rising incomes—and, even more, expanding economic opportunity—stimulated population growth. Expanding trade and the growth of urban manufacturing led to the increasing concentration of population in towns and cities. This lowered trading costs and so further stimulated trade—within the cities themselves, among cities, and between cities and country.²⁰

The rising volume of trade—the result of expansion of the market, of population growth, and of urbanization—led to an increase in productivity in commerce itself. As in production, this was a result of reorganization and of the technological progress that this induced. As the volume of trade grew, there was a division of labor within commerce. Individual merchants came to specialize in particular lines of trade—such as silks, woolens, or grain. Some came to specialize in particular functions—as financiers, shipping brokers, or commission agents—providing services that facilitated the trading of others. Moreover, the growing volume of trade justified investment in infrastructure—transportation infrastructure such as roads and harbors; trading infrastructure such as organized markets, banks, and courts; and educational infrastructure such as schools and universities.

Technological progress in commerce included new forms of business organization, such as *commenda* partnerships and share companies; new financial instruments, such as bills of exchange and insurance contracts; new methods of accounting, calculation, and communications; and new types of ship that were more seaworthy, faster, and less costly

¹⁹Young (1928) noted the process is self-reinforcing: the division of labor raises productivity and so income; rising income increases buying power and so the size of the market; this promotes further division of labor.

²⁰Grantham (2007)

to operate. Rising productivity in commerce lowered trading costs, making possible a further expansion of the market.

THE PATTERN OF ECONOMIC AND POLITICAL PROGRESS

A theory based on the opposing effects of commerce and predation, provides an explanation not only for the overall trend of economic progress, but also for its ups and downs.

As we have seen, war and the resulting exaction damaged economies and so diminished the resources available to governments. Because of the propensity of war to destroy the economic base that supported it, the history of preindustrial Europe exhibited a certain cyclicity. A period of general peace and modest predation allowed economic progress to proceed and even to accelerate. The consequent prosperity provided governments with the resources they needed to go to war. The resulting conflicts eventually weakened economies to the point at which governments were forced to cease hostilities. The ensuing peace permitted the resumption of economic progress, setting the scene for the beginning of the next cycle.

Between the twelfth and the seventeenth centuries preindustrial Europe underwent two such cycles. We can therefore divide up our overall timeframe into four stylized periods, in which peace and economic progress alternated with war and stagnation:

The Commercial Revolution (c. 1100 to c. 1300)

The crisis of the long fourteenth century (c. 1300 to c. 1450)

The expansion of the long sixteenth century (c. 1450 to c.1580)

The crisis of the long seventeenth century (from c1580)

This periodization is stylized, in that it simplifies a much more complex dynamics. First, the pattern was far from uniform across the whole of Europe. During periods of general expansion, as we shall see, some areas progressed much faster than others. Conversely, in periods of general crisis, some areas managed to do quite well. For example, the seventeenth century may have been an age of crisis for many, but for the Dutch it was a 'Golden Age'.

Second, within each of these periods there were shorter-term fluctuations. Some were related to predation: for example, the French excursion into northern Italy that began in 1494 devastated that region for several decades in the midst of an otherwise prosperous period. Other short-term fluctuations were more like modern business cycles in nature: Genoa, for example, enjoyed a boom from 1248 to 1254, followed by a slump that continued through 1262 (accompanied by bank failures and political unrest).²¹

Third, the forces of commerce and predation were not the only sources of fluctuation: nature too played a role. Climate change had a significant impact on an economy that was predominantly agrarian. The Commercial Revolution coincided with a general warming of the climate, and the crisis of the fourteenth century with a general cooling that brought floods, famines, and widespread malnutrition.²² A great pandemic, the Black Death, reached Europe in the fourteenth century and killed between a third and a half of the population. The economic impact was considerable.

These qualifications notwithstanding, it will prove helpful to order our chronology in terms of these four stylized periods. I will sketch them here in outline. A more nuanced picture, that takes into account these qualifications, will emerge in later chapters. Before we begin, however, it is best to review briefly what came before.

Before 1100

The second millennium before the current era saw the development of a flourishing commercial economy in the eastern Mediterranean. For reasons that remain obscure, but which certainly included war, this period of economic expansion came to a relatively sudden end around 1200 BCE.

Commerce seems to have recovered around 800 BCE, initiating an economic expansion that lasted for roughly a millennium. Trade expanded to encompass the whole Mediterranean basin and then spread northward into continental Europe. The pace of this economic expansion accelerated in the first century BCE when most of the area came under the control of Rome. The early Roman empire, especially from the time of

²¹Lopez (1987) Medieval business letters are “full of references to business fluctuations and to alternating periods of good and bad trade.” de Roover (1948) Ch. 16

²²Harvey (1991)

Augustus, ‘got government right’ — at least with respect to its relationship with the economy. Government predation was modest; the government provided a stable currency and good public order; and it allowed a great deal of local independence. The result was the development of a remarkably sophisticated and productive commercial economy throughout the empire.²³

The long economic expansion of the ancient world came to an end in the third century of the current era. Its ending was the result of a severe fiscal and monetary crisis within the Roman empire, brought about by internal and external conflicts. A sharp increase in government predation in the form of high taxes and debasement of the currency, accompanied by pervasive and rigid controls, devastated the economy. The ultimate collapse of the western empire in the fifth century was merely a landmark along a path of general economic decline and political disintegration. The Germanic invasions were more a symptom than a cause of this decline.²⁴

The economy continued to decline under the Germanic kingdoms that succeeded the empire. The pace and depth of decline varied from region to region, depending on the timing and the extent of war-related turmoil and predation.²⁵ In some regions—Britain, for example—standards of living fell to far below their pre-Roman levels. By the seventh century, the population of western Europe had shrunk to perhaps half or less its level in the first century.²⁶ Urbanization declined steadily from the second century, with towns eventually shrinking to a fraction of their earlier size. The population of Rome itself fell from about one million in the first century to as little as twenty thousand in the seventh.

The decline bottomed out first in northwest Europe in the sixth century. There, the Merovingian Franks established a strong kingdom in the Low Countries and northern France. With stability, commerce began slowly to re-emerge. Their Carolingian

²³On the pre-Roman economy, see Grantham (2006). On the economy of the early Roman empire, see Temin (2006).

²⁴Temin (2006), Bernardi (1970), Tainter (1988) Ch. 5

²⁵McCormick (2001), Wickham (2005), Ward-Perkins (2005)

²⁶The decline was accelerated by a series of plagues. The deadliest of these was the Plague of Justinian (probably bubonic plague) that struck in 541 and returned periodically for two centuries. Spread by shipboard rats it was particularly devastating to what remained of maritime trade.

successors, especially Charlemagne (768-814), expanded the Frankish territories into an empire that included northern Spain, Germany, and northern Italy. Commerce expanded with the empire. In particular, the ninth century conquest of northern Italy connected the growing Frankish economy with a reviving economy in the Mediterranean. With the beginnings of economic recovery from the late seventh century, the decline in the population of western Europe came to an end, to be succeeded by gradual growth. There was also a slow revival of urbanization.²⁷

This burgeoning economic recovery was slowed in the ninth and tenth centuries by a resurgence of war and predation. Civil war broke up the Carolingian empire, and from without there came a series of large-scale raids and invasions by Vikings, Magyars, and Arabs. These events disrupted commerce and temporarily slowed the pace of economic recovery.²⁸

The Commercial Revolution (from c. 1100 to c. 1300)

In the eleventh century, the raids and invasions abated and the economic expansion that had begun in the seventh century regained its momentum. The breakup of the Carolingian empire had fragmented predatory government into a number of separate kingdoms. In each, the king at the center was weak, his vassal lords relatively strong. The Church, with its universal presence and its great wealth, was an important arbiter of power. By playing off the parties against one another, cities succeeded in achieving varying degrees of independence under their own associational governments. In northern Italy they achieved formal independence; elsewhere they remained formally subject to lords or kings but nonetheless won considerable autonomy in ordering their own affairs.

This political environment proved conducive to rapid and extensive economic progress, particularly from the mid-twelfth century to the end of the thirteenth—a period that has come to be known as the Commercial Revolution. Trade expanded enormously: for example, the value of goods moving through the port of Genoa doubled between 1214 and 1274 and then, over the next twenty years, more than doubled again.²⁹ Under the

²⁷McCormick (2001), Wickham (2005)

²⁸McCormick (2001), Wickham (2005)

²⁹Herlihy (1958) Preface

stimulus of expanding commerce, production thrived. In agriculture, rising prices and rents stimulated a significant increase in the area under cultivation: forests were cleared, coastlands drained, and new territories to the east opened up for colonization. Industry too blossomed—particularly the mining of silver in Germany and the manufacture of textiles in the cities of northwest Europe and Italy.

Between 1000 and 1300 the population of Europe grew from about 40 million to about 75 million. And, with the expansion of trade and industry, there was a significant increase in urbanization. In 1000, less than five per cent of the population of western and central Europe were living in towns of 5,000 or more; by 1300 that percentage had more than doubled; in northern Italy and in the Low Countries, rates of urbanization approached 30%. In 1000, there was only one western European city, Cordoba, with a population of over 100,000—and that city was Muslim. By 1300, Paris, Granada (by then Christian), Venice, Milan, and Genoa had all passed the 100,000 mark.³⁰

This extended period of prosperity was also one of significant cultural achievement. Science and mathematics, art and music—all took important steps forward. This was the age of cathedral building and of the foundation of great universities. “In cultural and intellectual history this period is one of the most brilliant in the annals of Europe...The twelfth and thirteenth centuries... were times of extraordinary hope and extraordinary economic and social progress in which the whole of Europe shared.”³¹

The crisis of the long fourteenth century (c. 1300 to c. 1450)

In the fourteenth century expansion of the market ended, the colonization of eastern Europe came to a halt, and population stopped growing. The reason for this reversal was the familiar one—a sharp increase in the incidence and severity of wars and their associated predation.³²

There had, of course, been wars during the Commercial Revolution, but nothing approaching the number and extent of the conflicts of the long fourteenth century. Northwest Europe saw an almost uninterrupted series of wars between 1290 and 1453,

³⁰The numbers are from Bairoch (1988) and from Persson (1988).

³¹Nef (1987)

³²See, for example, Epstein (2001), Grantham (1999) and Munro (1998).

involving England, France, and Flanders in various combinations. Northern Italy, the center of Mediterranean trade, was no less torn by strife. Other wars included a civil war in Germany, and a war between Aragon and Castile.³³

Overall, war-related predation disrupted and inhibited both production and commerce. It raised the cost of transportation by sea and by land, fragmenting the market. This undid some of the gains of the earlier expansion, and imposed considerable hardship in those regions that were most specialized and most dependent on trade. Other regions, however, did quite well as trade expanded internally within those regions.

Natural disasters compounded the havoc of war. Unusually bad weather brought a series of poor harvests throughout much of Northern Europe between 1314 and 1322 resulting in widespread famine, particularly in the cities. The Black Death struck in 1347 and recurred intermittently for decades, decimating the population. Because contagion was greater in cities, the effect on urban populations was again particularly severe. By 1400, the overall population of western and central Europe had fallen from a peak of about 80 million to perhaps 55 million.³⁴

The dramatic drop in population radically altered the relative scarcity of labor and land. There was, therefore, a redistribution of income away from the land-owning nobility and clergy and towards peasants and urban workers. The rising incomes of ordinary people shifted demand towards simpler consumption goods and this stimulated local commerce and production.³⁵ The high cost of labor also encouraged reorganization and innovation to economize on its use.

The wars of the long fourteenth century led to a consolidation of predatory government. The many essentially independent duchies, counties, and earldoms were united into a few larger, stronger, and more centralized kingdoms and empires. At the

³³These wars, and others of the period, are enumerated in, for example, Lopez (1987), Harvey (1991), Genicott (1966), and Munro (1991). "If individually the various wars from the 1290s often seem unimportant, collectively and cumulatively, as they spread across Europe and the entire Mediterranean basin, they had a far more destructive impact upon Europe's international trade than did the warfare of the preceding two centuries." (Munro (1997) p 74).

³⁴Bairoch (1988)

³⁵Epstein (2001)

same time, the fiscal pressures of war transformed the nature of predatory government, with representative assemblies emerging all over Europe. There was consolidation too of associational governments: the three hundred self-governing city states of northern and central Italy were subsumed into five much larger city-centered territorial states.³⁶

While the period was certainly one of crisis, a creative response in many areas paved the way for the subsequent resumption of economic progress

The expansion of the long sixteenth century (c. 1450 to c.1580)

By the middle of the fifteenth century, the wars of the long fourteenth century had largely burned themselves out. Most notably, the ending of the Hundred Year War in 1453 brought peace to northwest Europe, and the Treaty of Lodi of 1454 did the same for Italy. The cessation of hostilities brought a reduction in war-related predation: taxes became less onerous, piracy less prevalent, tolls less burdensome; debasements largely came to an end. The hostility of Nature abated too: there was a lull in epidemics and the climate moderated. The result was rapid economic recovery and renewed expansion that continued well into the sixteenth century.

As war receded and the economy recovered, so did population. By 1500, the population of western and central Europe had regained its earlier peak of around 75 million. Population continued to grow in the sixteenth century, approaching 100 million by 1600.³⁷ The overall rate of urbanization also resumed its rise, peaking at about 16% in the early sixteenth century.³⁸ Urbanization reached 45% in the Low Countries and increased rapidly to 15-20% in England.³⁹

As it had during the Commercial Revolution, economic progress once again brought significant cultural achievement. This was, of course, the period of the Renaissance. The invention of the printing press in 1453 transformed books from a luxury for the wealthy into a relatively mass-market product. This had an enormous impact on literacy and cultural development.

³⁶Epstein (1999)

³⁷Bairoch (1988)

³⁸Hohenberg and Lees (1995)p 9: quotes Bairoch and Tilly

³⁹Persson (1988)

The expansion of the sixteenth century was not, however, without its wars. Economic prosperity soon filled the coffers of predatory governments, making possible new military adventures. France invaded northern Italy and it was also embroiled in sporadic civil war between Protestants and Catholics. Hapsburg Spain fought the French over control of Italy and fought the Ottomans over control of the Mediterranean.

The wars of the sixteenth century were, however, less devastating in their economic impact—at least initially—than had been those of the fourteenth century. The major reason for this was the greatly enhanced ability of governments to borrow. New financial markets had emerged during the economic expansion to serve commerce and production, and their existence now enabled governments to finance their wars largely on credit. This permitted them to avoid some of the most harmful forms of exaction. On the other hand, it also allowed them to finance war on a far larger scale.

The crisis of the long seventeenth century (from c1580)

Towards the end of the sixteenth century, there began a series of wars that together caused a noticeable overall slowing of the European economy.⁴⁰ The conflict between Spain and France escalated in scale and in intensity. The Low Countries rose up against Spain, with England soon involved on the Dutch side. The Thirty Years War embroiled much of central Europe. Civil war broke out in England. Ottoman incursions intensified, culminating in the siege of Vienna in 1683.⁴¹

The wars of the second political-economic cycle again transformed the nature of government, producing two new types of political regime—the imperial state and the associational state. Predatory governments, most notably those of France and Hapsburg Spain, proved to be untrustworthy borrowers. Having destroyed their credit by defaulting on their debts, they were forced to resort increasingly to other expedients to provide them with the cash they needed—especially tax farming and the sale of offices. These practices created a new predatory class—the predatory bureaucracy. The *imperial state* was a large, loosely integrated group of territories controlled by such a predatory bureaucracy.

⁴⁰Steensgaard (1997)

⁴¹Nature again contributed to the misery: there was a new outbreak of epidemics and a renewed cooling of the climate. de Vries (1976) Ch. 1

Within it, representative assemblies and associational governments were either absorbed into the bureaucracy or suppressed.

Associational government was weakened in the imperial states, and in the city-centered territorial states of northern Italy it had largely degenerated into tyranny. However, just when associational government seemed about to disappear, it emerged in a new and stronger form in the Dutch Republic. The latter was created as an association of associational governments, with the representative assembly providing a forum for joint action—especially in matters of national defense. This new structure—the *associational state*—solved the scale problem of associational government while retaining the advantages of less harmful exaction and a superior ability to borrow.

The two new forms of government provided very different economic environments. That of the associational state was conducive to economic progress; that of the imperial state was not. As a result, the crisis of the seventeenth century was quite uneven in its economic impact.⁴² The Hapsburg territories were most severely affected. Spain, Italy, central Europe, and the southern Low Countries—all experienced economic decline, sometimes severe. France stagnated. But England, Sweden and, especially, the new Dutch Republic continued to prosper.⁴³

Overall, the population of Europe changed little in the seventeenth century. It declined significantly in the regions most affected by war, but it continued to grow in England and the Dutch Republic—boosted by refugees from the war zones.⁴⁴ Similarly, while urbanization changed little overall, it grew significantly in the regions of prosperity.

Subsequent centuries saw a series of wars, testing the strength of these two new forms of government against one another. The imperial states were larger; the associational states economically more prosperous and dynamic. Ultimately, the economic advantages of the associational state proved decisive.

⁴²Cipolla (1994) Ch. 10; de Vries (1976) Ch. 1

⁴³Nef (1964) Ch. 7

⁴⁴de Vries (1976) Ch. 1

It was the ascendancy of the associational state that made it possible for economic progress to continue in the West. The leaders in economic progress were a succession of associational states—first the Dutch Republic, then Britain (firmly associational after the ‘Glorious Revolution’ of 1688), and then the United States.

A SMITHIAN THEORY OF ECONOMIC PROGRESS

It should be clear from this brief survey that the key to understanding economic progress lies in the study of commerce and predation, how each affects production, and how all three activities evolve together.

This view of economic progress is far from new. Indeed, it dates back at least to 1776—to Adam Smith’s great treatise, *An Inquiry into the Nature and Causes of the Wealth of Nations*.⁴⁵ Smith’s famous dictum: “The division of labor is limited by the extent of the market” is the core of Proposition 1.⁴⁶ Proposition 2 is essentially a rewording of the Smith quotation taken as this book’s epigraph: “Little else is requisite to carry a state to the highest degree of opulence from the lowest barbarism, but peace, easy taxes and a tolerable administration of justice; all the rest being brought by the natural course of things.” The theory elaborated in the following chapters can therefore be seen as an extension of Smith’s. Smith derived his ideas from his own study of economic history. If it is possible today to go beyond his insights, it is because economic historians have since added considerably to the historical evidence available and because economic theorists have provided powerful new tools with which to analyze that evidence. Since Smith, many others have made valuable contributions to the Smithian theory of economic progress: in what follows, I will make liberal use of their contributions.

The difference between the Smithian theory and the Ricardian is at least partly a reflection of the different times in which they were formulated. Smith wrote before the Industrial Revolution; those who developed the Ricardian theory after it. In the earlier period, the importance of commerce and predation was self-evident. In the later period, the wonders of new technology blinded observers to the importance of anything else. Unnoticed, commerce continued to do its work and predation remained largely under

⁴⁵Smith (1976 [1776])

⁴⁶Smith (1976 [1776]) Book I, Chapter 3

control. However, a theory of economic progress that takes such favorable conditions for granted is seriously incomplete and highly misleading. In many parts of the world today, commerce cannot do its work and predation is not at all under control.⁴⁷

The broader scope of the Smithian theory requires a correspondingly broader concept of economic progress. As we have seen, the Ricardian theory identifies economic progress solely with economic growth—with the increasing productivity of those engaged in production. For the Smithian theory, economic progress involves not only production but also commerce and government (predation). Economic progress therefore means not only economic growth but also economic *development*—those changes in the organization of society that make growth possible. Such changes include, of course, changes in the organization of production: as we have seen, these play a crucial role in increasing productivity. But they also include changes in the organization of commerce and of government: changes that facilitate expansion of the market and that constrain predation.

This broader understanding of the nature of economic progress offers a different perspective on its pace in preindustrial Europe. We have seen that economic growth and technological progress were relatively slow by modern standards. This has led some to argue that economic progress before the Industrial Revolution was inconsequential. They are mistaken. While economic growth may have been slow, economic development was proceeding apace. And it was this economic development that made possible the subsequent acceleration in economic growth.

The following chapters elaborate and expand on the theory of economic progress outlined here. Chapters 2 through 7 explain in greater detail how commerce promoted production in preindustrial Europe and how ‘economic progress took care of itself’. Chapters 8 through 10 explain how predation inhibited production and how preindustrial Europe ‘got government right’. Chapter 11 summarizes what is to be learned from the history of preindustrial Europe about the process of economic growth and development. In Chapter 12, we turn to preindustrial China. The goal is to test our theory—to see

⁴⁷See, for example, Guest (2004).

whether a theory derived from a study of European history can adequately explain the Chinese experience.

An appendix to the book addresses the subject of culture. Differences in culture have often been offered as an explanation for differences in economic progress—both over time and across countries. We shall see that culture is indeed important and why. We shall also see that, like technology, cultural differences are not an independent factor, but can largely be explained in terms of the same principles that explain economic progress in general.

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