# TRADING COSTS, THE EXPANSION OF TRADE AND ECONOMIC GROWTH IN PRE-INDUSTRIAL EUROPE*

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ABSTRACT: In pre-industrial Europe, growth was driven by the expansion of trade, and the expansion of trade was driven by falling trading costs. This paper discusses the mechanisms linking these processes–profit-seeking behavior by merchants, changes in the organization of production, technological progress, and urbanization. It then reviews the fluctuations in European economic growth between 1000 and 1600 and argues that these can best be understood in terms of changing trading costs.

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Why does one economy do better than another? What is holding back the less-developed countries from catching up with the more developed? What problems do the former communist economies face in their transition to a market system? And perhaps the most basic question: What are the origins of the economic success of the West? Our answer to these questions depends on our understanding of the process of economic growth. Only with a sound understanding of this process can we hope to formulate economic policies that promote economic progress and, perhaps more important, avoid economic policies that hinder it.

Modern economics offers an explanation of economic growth that has its origins in the work of Ricardo and Malthus.[1] This 'Ricardian' theory sees the potential output of an economy as being determined by the resources and technology available. At any time, producers exploit this potential to the full: there is no slack. Consequently, for output to grow, the economy needs either more resources or better technology. With no change in technology, output per worker—and so income per capita—can grow only if each worker uses more capital or more land. If more capital or more land is not available, then *total* output can still grow if population and so the number of workers increases. However, in these circumstances, total output will grow by decreasing amounts—the law of diminishing returns. As a result, as population grows, *average* output and so income per capita will fall. Malthus saw in this a mechanism that would constrain the growth of population: falling income would raise mortality and so keep population in check. The great hope of escaping this 'Malthusian trap' is technology: better technology can increase output per worker even without additional resources. Consequently, technological progress becomes for the Ricardian theory the key to long-run economic growth. Despite its pivotal importance, however, the theory offers no *economic* explanation of what determines the rate of technological progress. Rather, it emphasizes non-economic factors: culture—the degree of mechanical and scientific curiosity—and politics—the extent of government support or opposition.

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[1]The Ricardian theory originates with Ricardo (1817) and Malthus (1798) and has been elaborated in more modern terms by Solow (1970). See Grantham (1999) for an excellent discussion of the Ricardian theory and its limitations in understanding pre-industrial growth.

There is an old joke about economics. An engineer, a physicist, and an economist are shipwrecked on a desert island. They have salvaged a number of crates of canned food, but they have no way to open the cans. The engineer suggests a complicated mechanical device to open the cans by crushing them. The physicist suggests a way to use the heat of the sun to pop them open. The economist's suggestion? "Assume we have a can-opener." The can-opener in the Ricardian theory of economic growth is the market. The market is simply taken for granted: it plays no explicit role in the Ricardian theory. But in the real world, markets cannot be taken for granted. Contrary to the Ricardian view, it is not technological progress but rather the creation and expansion of markets that drives economic growth. Technological progress is a consequence, not a cause. It is a lack of well-functioning markets—not a lack of resources or of technology—that explains the stagnation of the less-developed world and the problems of the transition economies. The economic success of the West is explained, not by its cultural superiority or by the wisdom of its governments, but by its greater success in developing markets. Of course, the obvious question is, Why do markets develop more successfully in one place rather than in another? Answering that question is a primary goal of this book.

Seeing the creation and expansion of markets as the key to economic growth is hardly a novel idea. Indeed, it is the core of a second tradition in economics, quite distinct from the Ricardian. That tradition goes back to Adam Smith's *An Inquiry into the Nature and Causes of the Wealth of Nations*.[2] According to this alternative, 'Smithian', theory, output is not simply a matter of resources and technology: it depends crucially on how production is organized. The expansion of markets induces changes in the organization of production that, in turn, increase the amount of output obtainable from given resources and technology. The expansion of markets does this primarily by promoting specialization—through the exploitation of comparative advantage and through the division of labor. The economy is not, therefore, pressing against a frontier defined by its resources and technology. Rather, it is moving towards that frontier as markets expand.

[2]Smith (1976 [1776])

There is consequently no foundation to the Malthusian theory of population.[3] Of course, technological progress and increasing capital do play an important role: they push out the frontier. However, technological progress and increasing capital are *consequences* of organizational change rather than autonomous causes of growth.[4] The expansion of markets and the reorganization of production promote technological progress and mechanization; new techniques and expanding markets often require investment in additional capital.[5] As I we shall see, it is this Smithian theory of economic growth that is the more illuminating and the more likely to result in useful rather than harmful economic policy.[6]

Perhaps one reason why the Smithian theory focuses on commerce and markets, while the Ricardian theory focuses on production and technology is that the two theories originate in different eras. The Ricardian theory developed in the nineteenth century, its architects dazzled and amazed by the great factories of the Industrial Revolution. The importance of markets, so clear to Adam Smith in an early age, was much less obvious to them: in the nineteenth and twentieth centuries, markets were, on the whole, well developed and could be taken for granted.[7] But this had not always been so. Markets had developed slowly and painfully in the West over many hundreds of years—a process that had laid the foundation for the wonders of the Industrial Revolution. It is, consequently,

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[3]"Changes in occupational practice were so numerous in thirteenth century society as to transform it. The capacity of people to find out new ways to earn a living explains why changing relationships between population and natural resources are of limited relevance." (Britnell (1996) p 81)

[4]See Persson (1988) for an excellent discussion of the nature of technological progress.

[5]It is precisely the ability of organizational change to induce technological progress and investment that prevents it from exhausting its potential and being a source of no more than a once-over improvement in productivity. (Grantham (1999))

[6]Among modern economic historians, the 'Smithian' view is most closely associated with the name of Douglass North. Federigo Melis championed the Smithian view in an earlier generation (Del Treppo (1981)).

[7]Although even in this period markets continued to develop and to induce further profound organizational changes. See, especially, Chandler (1977) on the nature of the Second Industrial Revolution.

to this ‘pre-industrial’ period that we turn in our quest to understand how and why markets develop and how they affect economic growth.[8]

In the following two sections we lay the foundations for what follows. The first section sketches an outline of a Smithian theory of growth. The second section provides an overview of the period, seen from the perspective of the Smithian theory.

## THE OUTLINES OF A SMITHIAN THEORY OF ECONOMIC GROWTH

### MERCHANTS AND TRADING COSTS

While the Ricardian theory begins, and ends, with the producer, a Smithian theory must begin instead with the merchant. It is he who creates the market. A merchant is a middleman engaged in buying and selling. His profit comes from buying low and selling high. For example, when the merchant-explorer Vasco da Gama reached Calicut on the Malibar coast of India in May of 1498, he found the price of pepper there to be three ducats a quintal. In contrast, when he had left Europe almost a year earlier, the price of pepper at Venice had been eighty ducats a quintal.[9] This huge price differential seems to promise an enormous potential gain from trade and, consequently, an enormous potential profit. However, the key word here is 'potential'. Whether or not the profit opportunity is genuine depends on whether the potential gain from trade is greater than the cost of capturing it—whether it is greater than the trading costs. In this case, the trading costs were very high, and the profits the Portuguese derived from their trade in pepper turned out to be far more modest than this price differential would have suggested.

Trading costs, then, are the key determinants of a merchant's profit. To understand the nature of trading costs, it is useful to divide them into three components. First, trading involves the cost of dealing with other people: we shall call these *transactions costs*. Second, trading usually involves the cost of moving goods from one place to another—*transportation costs*. Third, because both transactions and transportation take time, trading involves *financing costs*. Let us consider each component in greater detail.

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[8]The dating of the Industrial Revolution is controversial. It is conventionally taken to have begun in England after 1750. However, de Vries and van der Woude (1997) has made a persuasive case for locating its beginnings in the Netherlands in the early seventeenth century.

[9]Lach (1965)

Transactions costs begin with the cost of seeking out potentially profitable trading opportunities. For the pre-industrial merchant, slow communications meant that gathering information about goods and markets was difficult and expensive. To exploit a trading opportunity, once identified, our merchant had to deal both with sellers and with purchasers in a struggle to capture for himself as much as possible of the gains from trade. He also had to protect his profits from competing merchants and from governments eager to grab a share. Moreover, since most transactions required him to accept promises—either of delivery or of payment—there was the danger that someone would renege; protecting himself against this eventuality involved additional effort and expense.

Transportation costs, the second category of trading costs, included, of course, the cost of physically moving goods from one place to another—the cost of carriage. This loomed especially large for goods that were heavy or bulky relative to their value. However, in addition to the cost of carriage, there was a second and often more important component of transportation costs—the cost of predation. The depredations of robbers and governments—the distinction between the two not always being clear-were a general problem of the times. However, vulnerability to predation increased greatly when goods were in transit. Merchants faced pirates at sea, brigands on land, and taxes and tolls everywhere.

Financing costs, the third category of trading costs, are a consequence of the delay between purchase and resale. In the pre-industrial economy this delay was typically long. Goods might be in transit or waiting to be sold for many months. The amount of financing required depended, of course, on the value of the goods, but it depended, too, on distance on speed of transportation. The cost of finance depended on the scarcity of credit—reflected in the interest rate—and on the risk of default. The risk of default was frequently high, not only, or even mainly, because others were dishonest. Rather, risk was high because pre-industrial trade was itself so risky. We have already noted ‘counterparty risk’—the risk that others would renege on their promises—and the risk of predation. However, perhaps the greatest risk was market risk—the risk of an adverse change in prices. Because communications were so slow, selling to order was simply not feasible. Trade took the form almost entirely of venturing: merchants sent goods to a distant market ‘on spec’ in the hope of finding buyers at a favorable price. Of course, by the time the goods arrived, circumstances had easily have changed for the worse. Because markets

were generally thin, small changes in supply and demand had a large impact on prices, and prices fluctuated widely.

### TRADING COSTS AND THE NATURE OF TRADE

Trading costs are the key to profitability: a particular trade is profitable only when the potential gains from trade exceed the costs of trading. Consequently, both the overall volume of trade and the types of goods traded depend on the level of trading costs. In the pre-industrial economy, trading costs increased sharply with distance. Distance obviously raised transportation costs—not only the cost of carriage, but also the cost of predation. However, distance also increased market risk, because of the greater delay in communications, and it increased the costs of finance, because of the longer delay between purchase and resale. And, not least, distance increased transactions costs, because long-distance trade involved trading with strangers. Within a community, where people know each other well, transactions costs are relatively low. People trade with one another repeatedly, and it is in their interest to behave. Strangers, by definition, do not know each other well, and because they may never meet again, the incentive for good behavior is absent. Consequently, trade among strangers relies on the development of commercial and financial institutions that can lower transactions costs to an acceptable level.

The increase in trading costs with distance imposed a kind of hierarchy of trade. First came trade at the local level where transportation costs were low and the demands on commercial and financial organization minimal. Next came trade at the regional level—trade within Flanders, say, or the Po Valley or Southeast England. Then came inter-regional trade within a geographic zone—trade among the regions of the Mediterranean basin or of Northwest Europe. Here transportation costs were already higher and the demands on commercial and financial organization greater. Finally came trade between geographic zones—between the Mediterranean basin and Northwest Europe, for example, or between the Mediterranean basin and the East. In such inter-zone trade, transportation costs were high and the demands on commercial and financial organization substantial.

This hierarchy of trade defined a gradient, in terms of the goods traded, of decreasing volume and increasing margins. At the top of the hierarchy, in trade between zones, trading costs were at their highest. Trade was limited, at least initially, to high-margin goods such as spices, bullion, and luxury textiles—goods with a high ratio of value to

weight. Moving down the hierarchy, to trade within the geographic zone and to trade at the regional and local levels, trading costs decreased and so the required margin fell. Consequently, at these lower levels, the volume of trade and the range of goods traded expanded to include low-margin, bulky commodities and cheap manufactured goods.

**TRADING COSTS AND THE EXPANSION OF TRADE**

Trading costs determined not only the geographic pattern of trade, but also how that pattern changed over time. The overall downward trend in trading costs caused trade to expand; intermittent sharp increases in trading costs—usually the result of war—caused trade to contract. Throughout the period, changes in trading costs were the main reason for changes in the extent of trade and so for changes in the pace of economic development. Of course, there were other factors affecting the extent of trade. Rising incomes and increasing populations certainly played a role in expanding trade. However, rising incomes were themselves a result of expanding trade, and increasing populations were at least partly a result of rising incomes. So, both directly and indirectly, trading costs were pivotal.

Of course, neither expanding trade nor falling trading costs just happened automatically: both were the result of active efforts on the part of merchants. Seeking out profit opportunities, merchants discovered and connected markets. Initially, with markets highly fragmented, price differentials were large and the potential gains from trade correspondingly great. However, the expansion of trade itself tended to equalize prices and so diminish potential profits. At the same time, competition among merchants tended to erode the merchant's share of the gains from trade. As it became harder to make a profit from existing price differentials, merchants were forced to seek new profit opportunities or to create their own.

One way merchants created profit opportunities was by lowering trading costs and thereby making a previously unprofitable trade profitable. Ways of lowering trading costs included the development of new commercial and financial institutions to bring down transactions costs and improvements in the means of transportation to bring down the costs of carriage.[10] For example, by lowering the cost of maritime transportation, the

[10]"It is only by constant improvements in organization… that the tendency for the profit rate to fall can be offset." (Hicks (1969) p 56)

Dutch opened up the trade in grain between the Baltic and Northwest Europe.[11]Another way for merchants to create new profit opportunities was to find ways to lower the cost of producing goods or to find or create entirely new goods. Pursuit of these latter alternatives increasingly involved merchants directly in the process of production. For example, Genoese merchants were instrumental in spreading the cultivation of sugar to the Atlantic islands and then to the Americas, in each case lowering production costs and expanding the market.[12]

While falling trading costs tended to expand trade, the expansion of trade itself tended to lower trading costs. A greater volume of trade justified increased investment in infrastructure, both institutional and physical. Many items of infrastructure are largely indivisible: either you have them or you do not. So investing in infrastructure became justified only when the volume of trade was sufficiently large to amortize their cost. This was as true of organized markets and financial institutions as it was of roads, canals, and harbors.[13] A second way in which expanding trade tended to lower trading costs was its effect on the productivity of the merchants themselves. As trade expanded, merchants became increasingly specialized in particular trades and goods or in the provision of financial or commercial services to other merchants.[14] This specialization among merchants increased their productivity and lowered their costs. In all of these various ways, falling trading costs and expanding trade interacted with each other in a cumulative and mutually reinforcing process.

## THE EXPANSION OF TRADE AND ECONOMIC GROWTH

Falling trading costs led the expansion of trade, and expanding trade drove economic growth. It did so principally by inducing a transformation of the process of production. The expansion of trade worked its magic through two inter-related mechanisms. First, it induced profound changes in how production was organized. Second, it accelerated the pace of technological progress.

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[11]See Kohn (2001)a.

[12]See Kohn (2001)b.

[13]See Reed (1973) for a discussion of economies of scale in the production of transactions services and in transportation

[14]Westerfield (1915)

It is important to understand that in the pre-industrial economy, commerce and production were largely separate and distinct activities. Commerce was in the hands of merchants; production was mostly in the hands of others—landowners, peasants, and artisans. To a good approximation, we can think of the pre-industrial economy as consisting of a mass of producers, mostly small, integrated and coordinated by a network of merchants. It was the merchants who created and expanded markets and, by doing so, created the opportunities to which producers responded.[15]

Producers responded to these new opportunities by shifting their efforts towards those goods that offered them the best return. The expansion of trade provided both carrot and stick. The carrot was the increased demand for some locally-produced goods: trade raised their price and made their production more attractive. The stick was the increased supply of other goods that although produced locally could be produced better or made more cheaply elsewhere: trade lowered the price of these goods and made their local production unprofitable. As a result of these incentives, producers increasingly specialized in what they did best—in the activity in which they had a 'comparative advantage'.[16] For example, before the thirteenth century, wine was produced all over Northwest Europe. As trading costs fell and the trade in wine expanded, regions such as Gascony and the Rhine experienced a growing demand for their wine and increasingly specialized in its production. At the same time, growers elsewhere found themselves unable to compete either in price or in quality and switched to other crops.

Under the pressure of expanding trade, families in rural areas, who originally had produced their own home-spun clothing and tools, increasingly specialized in agriculture and bought their manufactured goods from the towns. The shift from self-sufficiency, with everyone producing most of what they themselves consumed, to extensive trade, with everyone specializing in what they did best, increased overall productivity and

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[15]"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 'commercant' 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)

[16]The concept of comparative advantage originates with Ricardo (1817).

raised incomes.[17] Moreover, the greater the geographic extent of trade, the greater the diversity that it encompassed, and the greater the potential for regional specialization and for higher overall productivity.

While specialization according to comparative advantage was the principal factor raising productivity in agriculture, a different kind of specialization was at work in industry—the division of labor.[18] Rather than just specializing in the production of different goods, industrial producers further specialized *by task* within the production of a single good. For example, so long as Flemish woolens had been produced in the countryside, the entire process, from wool to cloth, had been completed by the same producer. But when production moved to the towns in the eleventh century, individual artisans began to specialize in particular sub-processes, such as spinning, weaving, and dyeing.[19]

Specialization by task made sense only when there was a market large enough to absorb the output of the specialized producer. Division of labor in industry depended, therefore, on an increasing overall volume of industrial output and so on the expansion of trade.[20] As Adam Smith famously noted, the division of labor is limited by the extent of the market. Furthermore, the division of labor required coordination. Rather than producing a finished product that could be sold directly to consumers, most specialized producers turned out intermediate goods that required further processing before they could be marketed. The output of a weaver, for example, had to undergo fulling, dyeing, and finishing before it was ready to be sold. The necessary coordination among the stages of production had to be provided either directly by merchants, who moved product from

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[17]"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)

[18]Smith (1976 [1776])

[19]See Kohn (2001)c.

[20]Young (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. Boserup (1981) argued that population growth can by itself promote the division of labor by expanding the scale of production. However, as we noted above, population growth is at least partly the result of rising incomes—which also expand the scale of.

stage to stage, or by the market, which allowed intermediate producers to trade with one another.[21] The existence of such a market, of course, required adequate commercial and financial infrastructure.

Some historians, influenced by producer-centric Ricardian theory, have the relationship between specialization and the expansion of trade backwards. They suggest that specialization came first and trade followed. For example: "In a number of medieval towns production of some commodities soon outstripped the potentialities of the local market… and whenever this happened the petty producer could not market his output, and the services of a merchant intermediary became unavoidable." Or: "As the numbers of small sheepfarmers grew, so professional wool merchants interposed themselves between wool growers and wool exporters."[22] But producers did not specialize in particulars goods in the hope that someone would miraculously show up to purchase them. Indeed, without the signals provided by the market, they had no idea in which goods they should specialize. Only when merchants created a market that provided producers both with direction and with an outlet did producers respond by specializing in the production of particular goods.

Expanding trade, then, raised productivity by inducing a reorganization of production—specialization according to comparative advantage in agriculture and a division of labor in industry.[23] Of course this process, taken alone, has its limits. Ultimately, reorganization would have run its course and there would have been no further increase in productivity. But this did not happen, however, because expanding trade and the consequent reorganization of production accelerated the pace of technological progress. Technological progress moved the limits outwards, creating room

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[21]"Trade was not only the work of arranging exchanges of goods, it was also the activity that organized other economic activities." (p 235) "Manufacturing now tends to be the economic activity around which other activities center, including many forms of trade and services. Manufacturing has become not only the work of making things, but also an activity that organizes other economic activities. This change has corresponded, in time, with the rise of mass-production manufacturing ." ( Jacobs (1969) p 236)

[22]Postan (1987) p 219.

[23]There was actually quite a bit more to the reorganization of production than this. See Kohn (2001)b and Kohn (2001)c for details.

for further reorganization. The importance of technological progress has led some economic historians, influenced by the Ricardian theory, to see it as the prime mover in economic growth and everything else a consequence. However, technological progress was itself a consequence—a consequence of expanding trade and of the reorganization of production.[24]

**EXPANDING TRADE AND TECHNOLOGICAL PROGRESS**

Most technological progress in the pre-industrial economy was incremental—the accretion of innumerable small improvements to existing techniques and products that lowered costs or improved quality. Such improvements were largely the result of trial and error. They were not the outcome of any deliberate program of research and development but rather the inevitable by-product of the process of production itself.[25] Nonetheless, over time the accumulation of incremental improvements generated significant progress. The watermill is a good example. The watermill itself was certainly not a new invention: it had seen widespread use in Roman times.[26] However, during our period it underwent steady improvement—the overshot wheel, improved gearing, the use of cams and cranks, better dams to control water flow—so that the watermill of the sixteenth century was a far more powerful and efficient machine than that of the eleventh century.[27]

The pace of this incremental process of technological change was accelerated by the expansion of trade. Expanding trade raised the level of overall output, and, through specialization and the division of labor, it raised even more the level of output of particular processes.[28] The higher the level of output, the more room for trial and error, and the faster the pace of incremental improvement. It was, for example, the expanding demand for bread, the dietary staple, that led to the construction of numerous new mills and to the resulting experimentation and improvement in design.

In addition to the gradual process of incremental improvement, there was a second, more sporadic, and more dramatic, element of technological progress—major inventions

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[24]See Kohn (2001)b and Kohn (2001)c

[25]See Persson (1988) for a very illuminating discussion of technological progress along these lines.

[26]Squatriti (1997)

[27]Mokyr (1990), Holt (1997)

[28]Palliser (1983) Ch. 6 makes this point.

that constituted departures or breakthroughs. Such inventions were frequently the result of an idea being taken from one place to another or from one product or process to another—rather like a virus jumping from species to species.[29] The expansion of trade facilitated this sort of 'infection'. For example, the spinning wheel and the horizontal loom came to Europe from the East as part of the technology of cotton production. Europeans adapted them both for use in the woolen industry, with enormous ultimate effect, both on productivity and on the nature of the product.[30] The reorganization of production also contributed to the promotion of major inventions. The division of labor focused attention on simpler specialized sub-processes that lent themselves to mechanization, and when one sub-process outpaced another it created bottlenecks that invited radical solutions.

The economic impact of an invention depended, of course, on the speed with which it was adopted. Only when a new invention saw widespread use did it begin to benefit from the normal process of incremental refinement and adaptation that made it really valuable, and only then did it begin to have a significant effect on productivity.[31] Typically, it was decades or even centuries from the first appearance of a particular invention until it came into widespread use. It took two centuries, for example, before the spinning wheel had much of an impact on the woolen industry.[32] The speed of adoption of new inventions depended to a large extent on the expansion of trade. This was especially true for mechanization: mechanization typically reduced cost, but often it also lowered quality. This was certainly true, at least initially, for the spinning wheel. It was only when expanding trade created a mass market for lower-quality goods that mechanization in

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[29]This aspect of technological progress is emphasized by Jacobs (1969).

[30]Mazzaoui (1981) Ch. 4

[31]Major inventions, although relatively infrequent, fed the more basic incremental process of technological progress and kept it going. Mokyr (1990) distinguishes between small incremental ‘microinventions’ and radical ‘macroinventions’ and emphasizes the role of the latter in stimulating the former.

[32]See Kohn (2001)c for a discussion of the reasons for this long delay.

general—and the adoption of the spinning wheel in particular—become economically attractive.[33]

When merchants became directly involved in the process of production, in agriculture or in industry, technological progress accelerated. Merchants were, of course, the most sensitive to market incentives and the best informed about new processes and products. This made them more likely to adopt new inventions and even to sponsor their development. Moreover, the slowness of adoption of new inventions and the tentative nature of the incremental process of trial and error were largely due to a strong aversion to risk on the part of producers. Small, ill-capitalized producers were naturally conservative. Merchants, with greater capital and better diversification, were more willing to take a chance and to try something new.[34]

**EXPANDING TRADE AND URBANIZATION**

The expansion of trade and increasing urbanization went hand in hand: expanding trade promoted the growth of towns and towns played a central role in the expansion of trade. At each level of the hierarchy of trade stood an urban center: the focus of local trade was the market town; the focus of regional trade was a larger town or city; and the focus of inter-regional trade and of trade between geographic zones was the urbanized central region—Northern Italy in the South and the Low Countries in the North. At each level of the hierarchy of trade, the urban center not only coordinated trade at that level, but also linked it with higher and lower levels. The urban center gathered goods from its hinterland to export upwards, and it imported goods and saw to their distribution downwards.[35]

The expansion of trade promoted the growth of towns. A good part of urban employment was directly related to trade—the provision of commercial, financial, and

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[33]The blast furnace is an example. While it was developed in the mid-fifteenth century, it was not widely used until the late sixteenth. See Kohn (2001)c for a discussion.

[34]Kohn (2001)b and Kohn (2001)c and Kohn (2001)d for examples.

[35]In urban science, this view of the role of towns, as promoters of the expansion of trade and so of the development of their hinterlands is known as ‘network system analysis’. It reverses the causation of the more traditional ‘central place analysis’ which sees development of the hinterland as generating towns to dispose of the surplus so created (note the similarity with the ‘backwards’ view of trade and specialization mentioned above). Hohenberg and Lees (1995)

transportation services—and such employment naturally grew as trade expanded. Urban centers provided other services too—administrative, religious, educational, and medical—for which the demand grew as incomes rose. Towns were also centers of manufacturing. Even the smallest town had its butchers and bakers, tailors and leatherworkers, potters, smiths, and carpenters—all living close by the town market to gain access to a larger clientele.[36] However, large towns and urbanized regions went well beyond this to become major producers and exporters of manufactured goods.

Trade promoted urban manufacturing in a number of ways. Commerce itself created a market for some goods—for example, for ships, wagons, and containers. Also, the commodities passing through the urban market created opportunities for processing industries that could add value and lower transportation costs: processed products often have a better ratio of value to bulk than raw materials. For example, the cities of the Hansa turned the cheap local grain into beer for export to the Low Countries at a time that the cost of shipping the grain itself was prohibitive.[37] Trade in manufactured goods brought to the local market all sorts of new products. Typically, their high price would put them out of reach of all but the wealthiest. However, local craftsmen would soon begin to produce cheap imitations for a broader local market. As the quality of these imitations improved, they would be added to the town's exports and their production further expanded. The silk and cotton industries of Northern Italy were examples of this process of turning imports into exports.[38]

Towns enjoyed significant advantages in manufacturing because of their lower trading costs—lower external trading costs and also lower internal trading costs. Because towns were centers of trade and transportation, urban manufacturers had access to cheaper and often to better raw materials; they also found it relatively easy to reach a broad geographic market. Low internal trading costs in the towns, together with the concentration of population, facilitated the division of labor: the size of the local market supported specialization and proximity made the division of labor easier to coordinate.

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[36]When lords founded a new market, they often provided accommodation for potential tradesmen. Britnell (1996) Ch. 1

[37]See Kohn (2001)b for a more extensive discussion.

[38]See Kohn (2001)c for more on this. This process is at the heart of Jacobs (1969) theory of urban development.

The result was a rich mixture of activities and skills.[39] The ready availability of a wide range of skills, goods, and services provided an ideal environment for 'startups' producing new types of goods.[40] Specialization and the division of labor threw up well-defined technical problems; the diversity of available ideas made it easier to solve them, and proximity facilitated the 'infection' of new ideas from one process to another. These advantages of low internal trading costs accrued not only to individual towns, but also to urbanized regions with good internal communications such as parts of Northern Italy and the Low Countries.

The towns were not only centers of manufacturing, they were also centers of agriculture. Close to urban markets, agricultural prices were high. High prices stimulated the restructuring of agriculture and the adoption of intensive methods of cultivation—the two principal sources of productivity growth. Towns provided the financing (they also provided much of the manure). Low external trading costs brought competition from cheap imports of some agricultural commodities, and this strengthened the pressure of comparative advantage.[41] It was no coincidence that the most productive agriculture developed precisely in the same urbanized regions that were the principal centers of manufacturing—Northern Italy and Flanders and, later, Southeast England and Holland.[42]

So here we have the outlines of a Smithian theory of economic growth. Merchants, seeking to capture the gains from trade, create markets. Their ability to do so depends on

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[39]The towns of northern Italy in the twelfth and thirteenth centuries enjoyed an enormous variety of enterprise "high, low, and illicit"; the town was "a multilayered society formed of questing, opportunist, 'self-made men'". Larger towns recognized 100 trades and more. As one contemporary commented, "every day a new craft". (Jones (1997) p 161)

[40]Such 'economies of agglomeration' are the advantage of cities most emphasized by Jane Jacobs Jacobs (1969): "The greater the sheer number and varieties of divisions of labor already achieved in an economy, the greater the economy's inherent capacity for adding still more kinds of goods and services." (p 59)

[41]See Kohn (2001)b for an extensive discussion of the role of towns and urban merchants in the development of agriculture.

[42]For example, Hoffman (1996) notes that early modern French agriculture was 'backward' only in regions isolated from urban markets; the area around Paris was highly productive. "…transportation costs seem to explain much of early modern productivity growth, not just in France, but in Germany and England as well." (p 183)

trading costs—on transactions costs, transportation costs, and financing costs. As trading costs decline—mostly thanks to merchant initiative—trade expands, and expanding trade further lowers trading costs. The expansion of trade raises productivity by inducing a reorganization of the process of production and by accelerating technological progress. At the center of this process stand the towns: trade promotes urbanization and urbanization promotes growth.

## ECONOMIC GROWTH IN PRE-INDUSTRIAL EUROPE

Before we become immersed, in the following chapters, in how this process played itself out in pre-industrial Europe, it is useful to gain an overall perspective on the period as a whole. Overall, the period from 1000 to 1600 was one of expanding trade and consequently one of economic growth. However, growth was neither as rapid nor as steady as it was later to become. The ups and downs of economic growth during the period serve to illustrate the crucial role of trading costs.

### THE COMMERCIAL REVOLUTION

For an extended period before the eleventh century, European trade was disrupted by invasions and by raiding from every quarter. Islam conquered large parts of the Mediterranean basin to the south, with Muslim ships largely closing the sea routes to Christian trade. Vikings invaded and raided the coasts of northern Europe. Magyars invaded from the east. In the face of these assaults, trade collapsed—long-distance trade especially, but also regional trade. Commercial and financial infrastructure withered as towns shrank or disappeared and as merchant activity declined dramatically. Because the economy became increasingly agrarian and locally self-sufficient, production was directed mostly to own use. What trade remained consisted mostly of producers selling directly to local consumers.[43]

From about 1000, the raids and invasions abated and trade began to recover. In the north, the Scandinavians discovered that trading could be more rewarding than raiding. In the Mediterranean, Genoa, Pisa, and Venice were increasingly successful in taking back command of the sea from the Muslims. The Crusades, which began in 1096, were an

[43]The argument for the 'Dark Ages' being the result of a massive disruption of trade, especially in the Mediterranean, was first made by Pirenne (for example, Pirenne (1925)).

economic boon to these same maritime cities, which made a fortune from supplying and transporting the Crusaders and from the trade that opened up with the Levant.[44]

This revival of trade within the two major zones of European trade, and before long between them, set off a sustained economic expansion. This period of growth and development—from the mid-twelfth century until the early fourteenth—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.[45] Under the stimulus of expanding trade, production boomed. 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, especially in the urbanized regions of Italy and northwest Europe. As trading costs fell, long-distance trade expanded beyond high-margin luxuries for the wealthy to include less expensive goods for the merely well-to-do. Predominant among them were less expensive textiles—says and other light woolens traveling south and cottons traveling north. The growing middle class, especially in the urban centers, devoted much of its new wealth to enhancement of person and home. Social mobility and improvement in communications facilitated the rapid spread of fashions across the Mediterranean and within Europe: oriental customs in diet, home decor, and clothing were brought back by returning Crusaders and merchants. All this stimulated demand, and industry prospered.[46]

The population of Europe roughly doubled between 1000 and 1300— 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 the central regions of the two zones of trade, northern Italy and the Low Countries, rates of urbanization approached 30%. In 1000, there was only one European city, Cordoba, with a population of over 100,000—and that

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[44]"Thus the one lasting and essential result of the crusades was to give the Italian towns, and in a lesser degree, those of Provence and Catalonia, the mastery of the Mediterranean." (Pirenne (1937))

[45]Herlihy (1958) Preface

[46]Mazzaoui (1981)

was Muslim. By 1300, Paris, Granada (by then Christian), Venice, Milan, and Genoa all had passed the 100,000 mark.[47]

This extended period of prosperity was also a period 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, like the eighteenth and nineteenth, were times of extraordinary hope and extraordinary economic and social progress in which the whole of Europe shared."[48]

**THE 'GREAT DEPRESSION' OF THE LATE MIDDLE AGES**

The European economy reached a plateau around the turn of the fourteenth century: trade stopped its expansion, the eastern colonization came to a halt, and population stopped growing. Gradually, stagnation turned into contraction. By the 1320s, trade was shrinking and production was in decline. The Black Death, which first struck in 1347 and recurred intermittently for decades, decimated the population. Because contagion was greater in cities, the effect on urban populations was particularly severe. By 1400, the population of western and central Europe had fallen from a peak of about 79 million to about 56 million.[49] This period of economic and demographic contraction has been called the Great Depression of the Late Middle Ages.

The traditional explanation for this major setback, which conventionally is taken to have lasted until the 1450s, is Malthusian.[50] The 'excesses' of the preceding expansion had created the conditions for a crisis. Population had expanded too far, pressing on natural resources and driving down the marginal product of labor and so real incomes. When the climate of Europe took a turn for the worse—the fourteenth and fifteenth centuries were unusually cold in the Northern Hemisphere—the result was a series of disastrous harvests, general malnutrition, and increased vulnerability to epidemics.[51]

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[47]The numbers are from Bairoch (1988) and from Persson (1988).

[48]Nef (1987)

[49]Bairoch (1988)

[50]For example, Lopez (1987) dates the beginning of the recovery at about 1453.

[51]See Harvey (1991) for an elaboration and discussion of this traditional view.

Recent research, however, has challenged this interpretation of events in all its components. There certainly were famines and population declines in the early fourteenth century, especially between 1314 and 1322. For example, in Ypres a major industrial city in Flanders, some 3,000 died in the famine of 1317-18 out of a population of 20,000. However, such declines were local rather than general and recovery from the famines was rapid.[52] Moreover, there is no evidence of agriculture having run up against any sort of technological or resource constraint: real wages did not, in general, decline.[53] And, as we shall see, there is evidence that the economic crisis was less severe and considerably shorter than the conventional view suggests.

Recent explanations for the onset of the crisis focus on the same factors that had brought devastation to the European economy in the period before the Commercial Revolution—widespread warfare and the consequent sharp increase in trading costs.[54] Northwest Europe saw an almost uninterrupted series of conflicts between 1290 and 1453, involving England, France, and Flanders in various combinations. Northern Italy, the center of Mediterranean trade, was no less torn by strife. Conflict between Angevin Naples and Aragonese Sicily from 1282 to 1302 triggered a protracted struggle in northern Italy, from 1313 to 1343, between Ghibelline (pro-Empire) and Guelf (pro-papal) forces. The damage to the region was compounded by roving bands of unemployed mercenaries ("free companies") who laid waste the countryside and held towns to ransom. The long-standing rivalry between Genoa and Venice for domination of trade with the Levant erupted into open warfare in the 1290s, and the conflict continued intermittently until the Genoese conceded defeat at the Peace of Turin in 1381. There was no lack of wars in other parts of Europe: in Germany, civil war after 1313; in the western Mediterranean, a war between Aragon and Castile, and an invasion of Spain by the Marinid Muslims. In the Holy Land, Acre fell to the Mameluks in 1291, forcing trade with Asia to pass through Alexandria, where it came under heavy taxation; the collapse of

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[52]"An older historiography imagined a Europe hobbled by famine and afflicted continually thereafter until the savage years of the Black Death. In fact the reality was quite different… if, anything, the quality of nutrition improved over the period 1322-1346 or at least held steady." (Jordan (1996) p 184-5)

[53]Munro (1997)

[54]For example, Epstein (1998), Grantham (1999) and Munro (1998).

the Mongol empire from the mid-fourteenth century essentially eliminated the alternative overland route to the East.[55]

Some of the damage caused by these wars was direct—killing and destruction of property. Indeed, pillage was a normal way of paying or rewarding the troops. However, the bulk of the economic harm came not from direct damage but from the impact of war on trade. By raising trading costs, war depressed trade and halted or even reversed economic growth.

As we have seen, a major component of transportation costs was the cost of predation: war increased this cost dramatically, especially at sea. Catalan records of shipping costs show that the cost of arming merchant ships increased freight rates by 25% or more between 1275 and 1330; Sicilian records show that freight rates virtually doubled over the fourteenth century.[56] Records of freight charges in the wine trade from Bordeaux to London show that rates trebled between the 1330s and the 1380s, and did not decline again until late in the fifteenth century.[57] In response to these rising costs, maritime trade dropped precipitously. From the first decade of the fourteenth century to the third, exports of wheat from Sicily declined by 94%. Collection of port taxes in Genoa fell by a half, with similar stories elsewhere. In 1342 an inquiry into the depopulation of Marseilles attributed the ruin of the port's revenues to the effects of the fall of Acre and the Angevin wars.[58]

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[55]These 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). Genicott (1966) (pp. 694-700) discusses the effect of warfare on the countryside.

[56]Munro (1997)

[57]Menard (1991) Rates did not fall back to their earlier levels even during periods of formal peace, because the governments of England and France were too weak to police the seas effectively; piracy remained endemic even during peacetime until the 1480s.

[58]These examples are from Munro (1997).

The financing of war may have had as great an effect on trading costs as war itself.[59] The expense of war doubled and quadrupled the outlays of the great princes. To cover this expense, they resorted to means that did damage to the economy far in excess of the revenue they raised.[60] Since merchants were the likeliest source of ready money, they were an obvious target for taxes, forced loans, and expropriations. The resulting depletion of their capital inhibited their ability to trade. But producers were hard hit too. In England, large monastic farms paid 40% of their revenues in tithes and taxes; a 1380 poll tax of one shilling was a week's wages for an urban worker and almost a month's for an agricultural laborer.[61] The level of taxes, together with the costs of collecting them and the resources devoted to evasion, were sufficient to affect the economic well being of ordinary people, especially in the countryside.[62] To prevent the evasion of excise taxes and tolls, trade was forced into regulated markets and staples, raising the cost of transactions.

Tolls were always a formidable obstacle to overland trade, but their frequency and level increased during wartime along with the need for revenue. For example, the 35 separate tolls along the Rhine in 1300, mostly imposed by the great ecclesiastical princes, had increased to over 60 by 1500, forcing the carriage of grain off the river and onto the roads.[63] The rising cost of overland transport crushed the inter-zone trade that had centered on the great Fairs of Champagne.[64] In the thirteenth century, even relatively cheap fabrics, such as says, could be shipped south for no more than 8% of their value; in

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[59]"Increasingly during the early fourteenth century, the most serious damages arose not from the physical destruction inflicted during military campaigns, but from piracy, brigandage, trade embargoes, and the commercially detrimental fiscal and monetary policies employed to conduct that warfare." (Munro (1997) p 74).

[60]"The real evil of the fiscal system was then the uncertainty it created, and the havoc it wreaked with trade, capital, and property rights." Hoffman (1996)

[61]Perroy (1970)

[62]Harvey (1991).

[63]"The total weight of the internal tolls was thus heavy and growing, and may in part account for the gradual clogging of internal trade in the closing centuries of the Middle Ages." (Postan (1987) p 184)

[64]Munro (1997) mentions an Italian merchant, writing in 1327, who cited the Italian wars as the reason he was no longer able to ship cloths from Champagne to Genoa.

the fourteenth century, the cost of shipping luxury cloths overland exceeded 20% of their value, and the cost of shipping cheaper fabrics was prohibitive.[65]

However, taxes were never enough to cover the costs of war. They were both too slow to enact and too difficult to collect. Princes, and cities, were forced to resort to other means that often proved even more damaging to the economy. One alternative was borrowing. Princes and cities tapped financial markets, crowding out commercial borrowing and raising the cost of finance. In Venice, state loans commanded a growing share of overall lending, reducing the availability of funds for trade. In Genoa, interest rates doubled from 6% to 12% at the beginning of the fourteenth century. When princes defaulted, which they usually did, lenders were ruined and banks failed. In 1307 Philip the Fair of France destroyed his principal creditor, the Order of the Knights Templar, rather than repay his debts. The default of Edward III of England contributed to the collapse of the great Florentine merchant banks in the 1340s.[66] A second alternative to taxation, which raised revenue quickly and was under the direct control of the prince, was debasement of the coinage. Frequent and drastic debasements, especially in France, Flanders, and Castile, made a significant contribution to war finance in these countries. However, they also made money a highly uncertain standard of value, raising the cost of payments and making credit virtually impossible.[67] Taken together, these non-fiscal methods of meeting the costs of war destroyed commercial and financial infrastructure and raised transactions costs and the cost of commercial finance.

While expanding trade and the resulting specialization had increased productivity during the Commercial Revolution, it had also increased vulnerability to the interruption of trade. By giving up self-sufficiency, the specialized producer became dependent on trade for his necessities. A disruption of trade could threaten his income and even his survival. This was as true of cities and regions as it was of individuals: specialization raised their incomes, but reduced their adaptability and increased their vulnerability. In the thirteenth century the export of cheap, light cloths to the Mediterranean had been a mainstay of the economies of northwest Europe. When rising trading costs cut off this

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[65]Munro (1997)

[66]See Kohn (1999)b.

[67]See Spufford (1988), Perroy (1970), and the discussion in Kohn (1999)a.

trade, the region was thrown into depression.[68] The Great Famine that afflicted much of Northern Europe between 1314 and 1322 was brought on by a series of poor harvests caused by unusually bad weather. However, the general disruption of trade did much to exacerbate its effects.[69] High transportation costs hit the trade in bulk commodities such as grain particularly hard, and specialized producers, with their markets cut off, lacked the income to purchase food. The so-called 'bullion famine' of this period—widespread shortages of coin—has been attributed to exhaustion of the mines and to technological obstacles. However, it may have been more the result of debasements, interruptions of trade, and fighting and destruction in the producing regions.[70]

**THE ECONOMIC EFFECTS OF THE BLACK DEATH**

The Black Death struck an already disrupted and depressed economy, and, by wiping out a good part of the population, it radically altered the relative scarcity of labor and land. This change in relative scarcity caused a fundamental change in the distribution of income. This, in turn, altered the structure of demand in ways that had far-reaching implications for the future economic development of Europe.

The decline in population reduced the demand for food, especially for grain, the dietary staple. The falling price of grain reduced the value of the agricultural land that produced it. This caused rents to decline and, with them, the income of the land-owning nobility. At the same time, the decline in population made labor relatively scarce, raising its value. In the towns, wages rose as employers competed for workers. In the countryside landowners competed for tenants by offering them better terms and by investing in improvements to the land. In general, acute local shortages of labor helped to create more integrated labor markets, as workers migrated to where wages were highest.[71]

The result was a major redistribution of income away from the land-owning nobility and clergy and towards peasants and urban workers: the fifteenth century has been called

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[68]See Munro (1991), who quotes earlier work by Van Der Wee and Peeters (1970).

[69]"Although it cannot be said that war caused the famine, it intensified the deprivation by expanding a production crisis into a distribution crisis as well." (Jordan (1996) p 19)

[70]Nef (1987) p 700. See Kohn (1999)a for more on the 'bullion famine'.

[71]Epstein (1998) Increased labor mobility accelerated the diffusion of new techniques.

'the century of the common man'.[72] The impoverishment of the land-owning classes reduced the demand for luxuries. The rising incomes of the working classes, together with the fall in the price of bread, increased the demand for non-grain foodstuffs and simple manufactures. There was an increased demand for meat, fish, and cheese and for fruits and vegetables.[73] Manufactured textiles and metal products had already begun to replace homespun and earthen crockery in the thirteenth century, and this trend was reinforced; it became common to own two garments rather than one and to use bedding and draperies.[74]

Demand for products of mass consumption, unlike the demand for luxury goods, was highly sensitive to price. There was therefore a strong incentive for merchants and producers to keep costs low, even at the expense of quality. Increased focus on cost and reduced attention to quality encouraged technological progress and mechanization. Moreover, the adoption of labor-saving technology was further encouraged by rising wages. A good example is Gutenberg's printing press (1453), the culmination of repeated attempts to mechanize the production of books. By eliminating the need for hand copying, labor requirements and so cost was reduced drastically, although with considerable sacrifice in quality. Books went from being a luxury for the wealthy to being a relatively mass-market product. This had an enormous impact on literacy and cultural development.[75]

Most of the impact of these changes in demand and production was felt initially at the local and regional level. Despite the continuing slump in long-distance trade, signs of commercial revival at the regional level were widespread.[76] In agriculture, local specialization in intensive non-grain cultivation took place *within* regions rather than between them.[77] In manufacturing, small industries producing low-cost fabrics for local

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[72]Hohenberg and Lees (1995). Of course, such a massive redistribution of income did not progress without social unrest and profound political changes (Epstein (1991) describes the process in Sicily).

[73]Unger (1980) Ch. 5; Ball (1977) Ch 6

[74]Mazzaoui (1981) Ch. 7

[75]Herlihy (1997)

[76]Epstein (1998)

[77]Epstein (1991) documents this for Sicily. Because of high trading costs, inter-regional comparative advantage declined in importance, and Sicily went from being a specialized producer and exporter of grain

consumption sprang up all over Europe, protected from outside competition by high trading costs. Local markets and regional fairs proliferated, trading mostly foodstuffs and cheap manufactures rather than luxuries. These fairs were frequented by regional traders rather than by the great merchants of long-distance trade.[78]

This picture of increasing trade and production at the local and regional level is hardly consistent with the idea of a general 'Great Depression' extending well into the fifteenth century. Indeed, a revisionist view is emerging that sees this period rather as one of 'creative destruction'. For example, in England from the mid-fourteenth century on, the picture is one not of decline but of economic prosperity and progress—rising wages, increasing imports, rising domestic sales of woolens, increasing residential construction, growing towns.[79] Perhaps the more negative, traditional view is a result of reporting bias: those most likely to have left records are precisely those who suffered setbacks during the period. The great merchants were hurt by the decline in long-distance trade, the nobility was impoverished by the falling value of land, kings and princes were threatened by wars and civil unrest. As one revisionist historian has written, "if we can take our stand, not with Shakespeare, but with Hume and Macaulay, and value a period, politically and socially, not for the glamour and power of its dominant personalities nor even for the wealth and ostentation of its noble and gentle classes, but for its achievements in enlarging the range and enriching the quality of the freedom enjoyed by those who neither rule kingdoms nor control provinces, then perhaps we can see the later Middle Ages in perspective, as a period of tremendous advance not only constitutionally, but also in social and economic affairs."[80]

### ACCELERATING RECOVERY FROM THE 1450S

Warfare abated in the mid-fifteenth century: the end 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 result was a rapid recovery in trade within and between the zones. Recovery

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to being a much more diversified producer of a wide range of agricultural products for the regional market. Comparative advantage determined specialization within the region.

[78]Epstein (1991) Ch. 3

[79]Bridbury (1962)

[80]Bridbury (1962) p107-8.

was rapid, because it could build on the substantial progress at the local and regional level that had been taking place in many parts of Europe since the late fourteenth century. The growth of Antwerp as a commercial center provides a good illustration. Its early prosperity had been based purely on regional trade, mainly in foodstuffs, that centered on the fairs of Brabant. When overland trade from Italy and South Germany resumed in the second half of the fifteenth century, it selected this regional center as its terminus. This trade in turn attracted others, and by the sixteenth century Antwerp had become the center of long-distance trade and the greatest market in Europe.[81]

The rapid recovery of trade was facilitated by declining trading costs. Significant progress in commercial and financial techniques, much of it taking place in Antwerp, lowered the cost of transactions and the cost of finance. Organizational and technological improvements in both overland and maritime transportation combined with the falling cost of predation to lower transportation costs. As trading costs fell, trade once again expanded to include bulk commodities and cheaper manufactures—for example, Baltic and Sicilian grain, Baltic timber, Hungarian copper, German fustians, English and Brabantine woolens, sweet wines and sugar from the Mediterranean and the Atlantic islands, beer and pickled herring from Holland. The renewed expansion of trade stimulated competition and allowed inter-regional comparative advantage to reassert itself. Transoceanic trade, which began at the end of the fifteenth century, provided additional stimulus. Substantial Portuguese imports of Asian spices lowered their price and made them accessible to a broader clientele. The American silver mining boom, which began in the 1540s, stimulated demand throughout Europe.[82]

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.[83] The overall rate of urbanization also resumed its rise, peaking at about 16% in

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[81]Van der Wee (1963)

[82]However recent research tends to downplay the importance of transoceanic trade for the European economy relative to regional and zone trade within Europe. For example: “Although maritime trade and the overseas discoveries have often loomed large in explanations of the late medieval recovery, their effects appear all in all to be rather marginal.” Epstein (1998)

[83]Bairoch (1988)

the early sixteenth century.[84] Urbanization reached 45% in the Low Countries and increased rapidly to 15-20% in England.[85] The recovery of population and of urbanization was helped by an improvement in climatic conditions and a lull in epidemics. However, increasing population and rising grain prices contributed to a fall in real wages during the sixteenth century, moderating the demand for simple industrial goods.[86] At the same time, the booming economy created great concentrations of wealth in the hands of princes and merchants, expanding the demand for luxuries.

Overall, the pattern of expanding trade and economic growth that began in the mid-fifteenth century paralleled that of the earlier Commercial Revolution. Economic progress again brought cultural advances: this was the period of the Renaissance. Unfortunately, widespread warfare broke out again in the sixteenth century. However, while the various wars did have significant effects on the fortunes of individual regions, they never again caused a general economic contraction on the scale of that of the fourteenth century.

## THE ROAD AHEAD

In the chapters that follow we shall pursue in greater detail the Smithian theme: that the expansion of trade drives economic growth and that falling trading costs drive the expansion of trade. In Part I we shall focus on the expansion of trade and on its effects on production and growth. Kohn (2001)a examines how trading costs determined the patterns of European. Kohn (2001)b and Kohn (2001)c examine the impact of expanding trade on agriculture and on industry respectively. We shall see how the organization of production, and the development of techniques and products responded to the opportunities that trade created. The focus of the remainder of the book is trading costs themselves and how and why they fell. Kohn (2001)d looks at transportation costs. Part II is devoted to the financial system and how it developed to fill its three principle functions—payments, lending, and trade in risk. Part III describes the evolution of commercial structure—how merchants created firms, associations, and markets to facilitate trade. Part IV looks at how government affected the expansion of trade and at how the expansion of trade in turn affected the evolution of government. In the light of

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[84]Hohenberg and Lees (1995)p 9: quotes Bairoch and Tilly

[85]Persson (1988)

[86]Sella (1977)

our findings, Part V compares economic development over this period in Europe with economic development elsewhere and explores the origins of Europe's subsequent economic success. Can the seeds of the Industrial Revolution be found in the European economy of 1600?

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