Chapter 3

WORLD TRADE 1000–1500: THE ECONOMIC CONSEQUENCES OF GENGHIS KHAN

OUR FOCUS ON "WORLD TRADE" from 1000 to 1500 will mainly be on trade between the regional units defined in chapter 1, with attention where necessary being paid to intraregional developments as well. As we have already noted, trade in the Mediterranean and the Black Sea traditionally involved the Islamic World and both Western and Eastern Europe. The Indian Ocean linked the Islamic World, Eastern Africa, India, and Southeast Asia, while the South China Sea connected China directly to the Indonesian Archipelago and indirectly to India and the Islamic World. The Red Sea and the Persian Gulf were the crucial East–West overseas gateways in this period as they had been since Roman times and even earlier. The overland route was the alternative passage linking China to the Islamic World and both Eastern and Western Europe through Central Asia. It will thus be convenient to organize the discussion in terms of (i) the Mediterranean and the Black Sea, (ii) the Indian Ocean and the South China Sea, and (iii) overland trade from China to Europe across Central Asia. The lengthy period that we examine in this chapter saw decisive shifts in the control of these trade routes that had momentous historical consequences and it will be convenient to divide the period as a whole into two distinct eras, 1000–1350 and 1350–1500, demarcated by the initial onset of the Black Death.

Quantitative data for the early part of this period are scarce almost to the point of nonexistence, but a surprising amount of information does exist about the commodities exported and imported by each of the regions and the role that these played in their economic systems. Changes in trade routes and some qualitative assessments of the volume of trade along them will be noted. By the late medieval period, more data become available, particularly price data, and we will make use of these in the later sections of this chapter.

The economic history of Eurasia during this half millennium was marked decisively by the impact of two great (and interrelated) shocks,

one geopolitical and the other biological. The first shock was the unification of most of the Eurasian landmass by the Mongols under the leadership of Genghis Khan. The second shock was the catastrophe of the Black Death, which struck around the same time as the Mongol Empire was disintegrating. This chapter will therefore dwell at length on the immediate and longer-run consequences of both these shocks. A third theme is the gradual emergence of Western Europe from the provincial and relatively isolated backwater of Eurasia that it had been at the beginning of the period to the powerful expansionist force all over the globe that it would become five hundred years later. In terms of Halford Mackinder's "geographical pivot of history," the half millennium covered in this chapter saw power begin to shift away from the "Heartland" of the Eurasian landmass, which had dominated it from the dawn of history, toward the "Rimland" of the western extremity of that landmass, culminating in the voyages of Christopher Columbus, Vasco da Gama, and Ferdinand Magellan as well as the combined military-nautical revolution of "guns and sails" (Cipolla 1965).

Trade and War in the Mediterranean and the Black Sea, 1000–1350

The Mediterranean, the "*Mare Nostrum*" of the Romans, even more than their celebrated roads, was the vital highway that created the economic unity of their empire. As we noted in the previous chapter, Henri Pirenne's famous claim that the Arab irruption of the seventh century made the sea a "Muslim Lake," cutting off commerce between Western Europe and Byzantium, and leading to an increasingly autarkic Western Europe, is no longer accepted by scholars. In fact, as Maurice Lombard argued, the Golden Age of Islam stimulated trade with Western Europe by providing her with an increasingly prosperous trade partner. Trade between the Islamic World and Europe can be analyzed within a "center–periphery" framework, with Europe specializing in resource-intensive and labor-intensive commodities and the Islamic World in more advanced manufactures. Slaves, the most labor-intensive of all labor-intensive commodities, were indeed the major export of Europe to the Islamic World for centuries, until the conversion to Christianity of the pagan Slavs dried up the supply. The decline of urban crafts and associated activities noted by Pirenne could then be attributed to the deindustrialization of a previously more balanced economic system by opportunities for lucrative exports of primary products to a more advanced and technologically sophisticated partner: an early example of what is now known as the "Dutch Disease," and the mirror image

of the rising industrialization and declining grain exports of Fatimid Egypt which we noted in the previous chapter. Whatever the reason, there is no doubt that in 1000 both Western Europe and the Slavic part of Eastern Europe outside of the Byzantine Empire constituted an underdeveloped hinterland to the economically more advanced Byzantine Empire and Islamic World.

It is convenient to begin our examination of trade at "the market at the edge of the west" (Constable 1994), where the western edge of the Muslim Mediterranean world bordered on the southern edge of Christian Europe. As we saw in chapter 1, the original Umayyad dynasty in Iberia and the centralized state associated with it fragmented into a number of petty kingdoms early in the eleventh century, the so-called *taifas*. This disintegration of the Islamic state enabled the Christians to push their frontier southwards and to exact substantial tribute payments from the *taifa* states, and eventually to capture the major city of Toledo in 1085. This provoked an intervention by the Berber rulers of Marrakesh, who established a single unified state across the straits of Gibraltar, the dynasty of the Almoravids. The political cycle of disintegration followed by North African intervention was repeated in the twelfth century, with the new Berber dynasty of the Almohads establishing itself in 1147. With their control of access to the trans-Saharan gold supplies these unified Berber empires on both sides of the straits were economically dominant as well as militarily powerful. Their periods of glory, however, were eventually checked by the expansion of a resurgent Christian Europe. Cordoba and Seville fell to Castile by the middle of the thirteenth century, while Aragon reconquered Valencia and the island of Mallorca. Only the kingdom of Granada remained in Muslim hands by 1350.

As we saw in the previous chapter, the economic prosperity of al-Andalus was based on the transmission of crops, agricultural techniques, and manufacturing activities from east to west within the Islamic World. The conversion of the Slavs to Christianity and the success of the Norsemen in developing trade between Europe and the Islamic World, at the expense of competitors such as the Rhadanite Jews, meant that Arctic furs and Eastern European slaves no longer transited Iberia in significant numbers. The source for slaves was limited to captives from the Christian Iberian kingdoms, while the expensive sables and martens of the north were replaced by humbler rabbit skins. However, gold from West Africa continued to flow through al-Andalus, particularly after it had been minted by the Almoravids into the very popular *murabitun*, used and imitated by several of the Christian kingdoms.

As previously noted, timber was one of the main exports of Muslim Spain during this period, both in the form of wood itself and also embodied in ships. The timber was mostly from the extensive pine forests of the coastal regions and the Balearic Islands. The logs were floated downriver to the shipbuilding centers of Denia and Valencia, while the ships were sold to both Muslims and Christian buyers around the Mediterranean. Several minerals, particularly copper and mercury but also marble and tin, were exported. Two exotic but valuable exports were ambergris from the Atlantic coast and the crimson dye called *qirmiz*. A wide range of high-quality textiles, mainly silk, was exported around the Mediterranean. This must have been a high-value-added industry since the raw silk itself was produced in the country with the Sierra Nevada mountain range providing a favorable climate for the growth of mulberry trees. Geographers spoke of three thousand silkworm farms around Jaen and eight hundred workshops in Almería. The silk was both exported raw and worked up into expensive brocades and other fabrics. Linen, cotton, and woolen products were also exported, while silk and wool were exported in the form of carpets. Exports to the Christian states seemed to grow particularly rapidly after 1100 (ibid., p. 178).

Constable (1994, chapter 7) lists leather, paper, and ceramics as representing further important manufactured exports from al-Andalus. Paper was not only exported as such, but also combined with high-quality leather in the form of expensive books. She cites a commercial manual of the period advising merchants not to invest in "philosophical books since these are bought only by wise men and scholars, most of whom are poor, and whose numbers are few" (p. 195). Paper had an active market among bureaucrats and merchants who sought it for their records and correspondence.

The reconquest of much of the Iberian Peninsula by Castile and Aragon, starting in the first half of the thirteenth century, coincided with some momentous shifts in the pattern and direction of its trade. As Constable points out, the most significant alteration was the decline of silk and the rise of wool as the chief export from the region. The Muslim silk industry declined partly because of the disruption of its skilled workforce, but mainly because of competition from the rising Italian center of Lucca, and greater access to the supplies of the Far East because of the decline of Byzantium after the Fourth Crusade of 1204 and the establishment of the *Pax Mongolica*. The woolen industry created by the import of the merino sheep from North Africa to the plains of Castile, a truly momentous innovation, grew very rapidly, supplying the Flemish cities with the raw material that they needed for their

flourishing manufactures. Iron also became an important new export while some traditional exports such as olive oil continued, despite the shift from Muslim to Christian rule. The slave trade continued, with the exception that, as a result of the progress of the *Reconquista*, it was now captured Muslims exported to Christian lands instead of pagan Slavs and captured Christians to the Islamic World (ibid., pp. 234–35).

As we have seen, the beginning of this period saw North Africa, Egypt, Syria, and Palestine under the rule of the powerful Fatimid dynasty (969–1171), which established an alternative Shiite caliphate in Cairo in rivalry with the Abbasid caliphate still surviving in Baghdad and Iraq. Despite its brilliant beginnings, the Fatimid state gradually disintegrated under the pressure of Bedouin revolts, warfare with Byzantines and Crusaders, and ethnic rivalries within the army. The Fatimid dynasty was overthrown by the Kurdish hero Saladin in 1171, who used the resources of Egypt to good effect against the Crusaders. He finally defeated them in the decisive Battle of Hattin in 1187, which led to the recovery of Jerusalem and most of the Holy Land for Islam. Saladin founded the Ayyubid dynasty that ruled Egypt, Syria, and Palestine until the middle of the next century. The Achilles heel of both these dynasties seems to have been the burdens imposed upon agriculture and the rest of the economy by the necessity to maintain their large armies. The officers were endowed with military fiefs that were short-term under the Fatimids but eventually became hereditary under the Ayyubids. Revenues from land taxes did not keep pace with rising expenditures, so increasingly heavy impositions were placed on industry and trade. Both the Fatimids and Ayyubids were thus weakened and finally brought down by the strain imposed on their revenue systems by the requirements of their large and increasingly unruly armies.

In 1250 the slave soldiers of the Ayyubids, the celebrated Mamluks, staged a coup d'état that amazingly kept them in power until Egypt was incorporated into the Ottoman Empire in 1517. Ethnically, these regiments were mainly Kipchak Turks and later Circassians, together with a sprinkling of Albanians, Hungarians, and other central and Eastern Europeans. Captured and purchased in their teens they were given a rigorous military training before being freed and "graduating" into the elite corps of the armies. Sons of Mamluks could not become genuine Mamluks themselves, since they would not have spent their early youth on the steppe and been purchased as slaves. Hence the Mamluks have been called a "one-generation military aristocracy." The sultanate itself was occupied by one of the officers, chosen by a competitive process involving intrigue and assassination between factions grouped around the contending emirs or military commanders.

Perhaps not surprisingly, the survivors of this Darwinian process were often very able rulers (Irwin 1986, chapter 8). The foundations of the Mamluk state were firmly laid by the immensely gifted and energetic general and administrator, Sultan al-Zahir Baybars (1260–77), and his contemporary and comrade in arms, Sultan al-Mansur Qalawun (1279–90). They successfully combined the Mamluk military system, involving the "men of the sword," with the civil bureaucracy of the largely Coptic "men of the pen," and the judicial system of the Islamic theologians and jurists, the "men of the turban," into a highly efficient, centralized state extending from the Nile to the Euphrates, that was able to resist all comers for over two hundred and fifty years.

The remuneration of the officers and soldiers was in the form of entitlements to rents from nonhereditary "fiefs" that were not contiguous and never evolved into feudalism of the western type. As we will see, this would have important consequences a century later. The rents from the spice trade continued to be an important source of revenue. The main historical achievement of the Mamluks was unquestionably their defeat of the Mongols at the Battle of Ain Jalut in Palestine in 1260, which marked the westward limit of their advance into the Islamic World. They also had the distinction of driving out the Crusaders from their remaining strongholds of Antioch, Tripoli, and Acre. After the fall of Baghdad to the Mongols in 1258 Cairo became the leading city of the Islamic World and the center of its art, architecture, and learning, as well as the residence of the Abbasid caliph, which gave legitimacy to the rule of the Mamluk sultan. There is no doubt therefore that the Mamluks deserved being called "the saviors of Islam" by Ibn Khaldun himself. By the logic of their peculiar social system, the maintenance of the Mamluks' ranks required continual replenishment by purchase of youthful slaves with the preferred ethnic backgrounds. Trade with the source of these slaves through the Dardanelles was thus essential to their system, even if only for its own reproduction, since the Mongol Il-Khans cut off the overland supply routes.

It is now time to turn to the powers that were eventually to dominate the trade of the Mediterranean, namely the maritime city-states of the Italian peninsula. Given its central location in the Mediterranean, and contact with the growing European economy through the Alpine passes, it is perhaps not surprising that Italy would come to play such a crucial role in this period. The growth of population, agricultural production, and urban centers in Europe meant a lucrative market for the Eastern luxuries that merchants from the peninsula were well situated to supply in exchange for wool, silver, and other primary products. North Italian towns such as Milan and Pavia became

important manufacturing and banking centers nourished by this transalpine trade. It was the coastal cities of Amalfi, Bari, Pisa, Genoa, and preeminently Venice, however, that were the most spectacular success stories of this period.

An important feature of the Italian city-states was their self-governing status, enabling them to concentrate on trade and economic activity without being burdened by taxation and regulation under regimes devoted to other objectives, as was clearly the case in the Islamic World. Formal sovereignty over the region was divided between the Byzantine emperor, the Holy Roman Emperor, and the pope, enabling Venice and the other cities to exercise de facto autonomy by means of astute diplomacy and the occasional use of force. In this way the political disintegration of Western Europe from the fifth century onwards proved in the long run to be a source of competitive advantage (Jones 2003).

Another factor benefiting the city-states was the Crusades. Following Viking expansion in the North Atlantic and Christian expansion in Iberia, there was now a wholesale effort to repel Muslim advances against the Byzantine Empire, and recapture the Holy Land on behalf of Christendom. The first Crusade was proclaimed by Pope Urban II in Clermont in 1095, and initially met with considerable success, with Jerusalem being captured from the Fatimids in 1099 and several Crusader states being established in Palestine. While the shock troops of the Crusader forces were typically younger sons of the Norman or German nobility, eager to carve out territorial principalities for themselves in the east, the Italian city-states were active participants and profited greatly from the enterprise, providing transportation, financial services, and on some occasions direct naval support. In return, they were compensated with trading privileges in Syria and Palestine.

Venice began its glorious twelve centuries of existence as a separate political entity in a very humble way, eking out a living by boating and fishing in the lagoons. The main economic activity was originally the making of salt and its export to the cities of the hinterland. Increasingly, the Venetians turned to the sea, using easily available timber for galleys and sailing craft. Allegiance to Byzantium was rewarded with trading privileges, leading to its becoming a transit point for silks and spices from the East bound for inland towns and Europe beyond the passes. Gradually, by use of its fleet for both trade and warfare, the city-state extended its influence southwards in the Adriatic and to the Dalmatian coast, where slaves for export to the east were another source of profit. Support for the Byzantine emperor against the rising Norman power

in southern Italy was rewarded with the Golden Bull of 1082, which gave Venetian merchants duty-free access to the empire. The republic was well on its way to becoming "Queen of the Adriatic."

Frederick C. Lane (1973) estimates the population in 1200 at about 80,000 for the lagoon area as a whole, rising to double that number a century later. The city itself had a population of nearly 120,000 in 1300, making it larger than Paris at the same time. (Milan, Florence, Naples, and Palermo were of comparable size to Venice, making the peninsula by far the most heavily urbanized region in Western Europe.) Even as early as 1000 it was noted that Venice was unique in that it was "the first city in the Middle Ages to live by trade alone" (Bautier 1971, p. 65). Supplies of wheat, wine, and olive oil were imported to provision the city and surrounding areas. The twelfth century saw Venice extend her power and influence in the eastern Mediterranean. On the one hand she acted to preserve the Byzantine Empire from threats by Normans and Muslims, and on the other to plunder and extract commercial advantage from the empire for herself. These activities culminated in the Fourth Crusade that sacked Constantinople in 1204. The reward obtained was three-eighths of the new Latin empire and the immense booty that was acquired. Venice took her share of the real estate in the form of the island of Crete and strategically located naval bases in the Aegean and the Ionian Sea. Another major advantage was open access to the Black Sea that Venice had previously been denied.

Venice was now well-placed to be the middleman between a growing and increasingly prosperous Western Europe on the one hand, and on the other not only the Islamic World but China across the overland route as well, as a result of its access to the Black Sea and the *Pax Mongolica* that was soon to be established. Pepper and other spices were in growing demand as well as supplies of raw cotton and silk for European industries. These imports were paid for not only in silver from new mines opened in central Europe, but also with the woolen cloth of Flanders and Florence and an increasing variety of other manufactured products as well. Despite sporadic warfare, commercial relations with the Ayyubids and later the Mamluks were maintained. In addition to this transit trade with the Levant, Venice also obtained extensive profit from controlling the trade in salt and wheat for most of northern Italy. She was able to use her naval power to enforce strict navigation laws requiring most imports to the northern Adriatic to pass through Venice itself. She also captured much of the local carrying trade in the Aegean and Ionian Seas. Venice obtained wheat not only from Sicily and Crete but also from as far away as the Black Sea, just as Athens had done in antiquity.

The great rival of Venice for this entire period and beyond was Genoa, on the northern edge of the western coast of the peninsula. Closed in by the Apennines, Genoa had an even more humble beginning than Venice, since she did not even have the salt of the lagoons as the basis for commercial success. Robert Lopez in a number of works has stressed the role of warfare and booty from the Arabs in the western Mediterranean as providing the "primitive accumulation" required to launch Genoa on her spectacular path of commercial and financial expansion. Pisa was an early rival for control over Sardinia and Corsica but the two cities collaborated in lucrative raids on the North African Muslim ports. Early collaboration with the Crusaders brought colonies and commercial privileges in the east as well. All the major Italian maritime cities participated in the trade of the Mediterranean, involving not only the spice and silks of the transit trade but also the export of industrial raw materials such as cotton and alum from Syria and Palestine and wool from North Africa for the flourishing Tuscan cloth industry.

The first half of the thirteenth century saw Venice dominant in the east and the Black Sea, the payoff from the Fourth Crusade of 1204. The Genoese, however, supported the Byzantine counterattack that reclaimed Constantinople for the dynasty of Michael Paleologus in 1261. In return they obtained extremely lucrative colonial and commercial rewards, at the expense of Venice. Genoa obtained trading stations in the Black Sea, the Sea of Marmara, and the shores of the Aegean. Luzzatto (1961, p. 90) says that "Genoese trade developed an enormous range, extending from the Crimea to the Straits of Gibraltar and eventually, after the late thirteenth century, to the ocean routes beyond." The peak of Genoese trade and revenue seems to have been reached in the last decade of the thirteenth century. Lopez (1987, p. 355) states that revenues from taxes on trade turnover rose more than fourfold from 1274 to 1293 and were seven times as high as the income of the contemporaneous French monarchy of Philip Augustus. Revenues from the overseas trading stations at Pera, Alexandria, and other strategically located sites grew to "a size approaching that of the motherland itself." Genoa also pioneered voyages through the Straits of Gibraltar to England and Flanders, exchanging Eastern and Mediterranean wares for English wool and Flemish cloth and adding a seaborne route integrating northern and southern Europe. In terms of population Genoa never seems to have exceeded 100,000 in the city itself, with perhaps four or five times as many living in surrounding areas. It was thus always smaller than its great rival Venice, but comparable with Paris, Milan, and other major European cities.

One interesting question raised by the prolonged and bitter conflict between Christians and Muslims during the Crusades is its effect on the willingness to trade with the enemy. The verdict is quite clear. Despite papal edicts prohibiting supplying the Muslims with war materials, the Italian maritime cities provided weapons, ship-building materials, and other goods, while the Genoese in particular maintained the supply of slave recruits from the Black Sea for the elite Mamluk troops, the very ones that were engaged in driving the remnants of the Crusader states out of the coastal regions of Syria and Palestine (Ehrenkreutz 1981). That task was completed in 1289, when Tripoli was taken, and 1291, with the capture of the last Christian stronghold in the Holy Land and the major port in the region at that time, Acre. To be fair, the Church's moral position was somewhat undermined by its sale of exemptions from the general ban, and while the cost of such exemptions represented an additional cost for European merchants the Mamluks were apparently willing to provide compensation for it. In this way, the Crusaders' coreligionists from the Italian maritime cities were gaining an almost complete commercial dominance on the Mediterranean and within Constantinople itself, accelerating the long decay of the "Eastern Rome" and threatening the economic supremacy of the Islamic World that had prevailed at the turn of the second millennium.

The Crusades also led to the transmission of ideas and technology between the Muslim and Christian worlds, to the long-run benefit of the latter. A famous example is the so-called Arabic numeral system, which in fact originated in India, as was well-known to both Muslims and their European interlocutors. The new numbers gradually displaced Roman numerals, eventually being used by European merchants for business purposes. More generally, as Alfred Lieber (1968, pp. 231–32) says, "the greatest contribution of the Muslim World to medieval economic life was the development of commercial methods based on writing and recording. This was made possible by the high degree of literacy of the Oriental merchants of that time, which, in its turn, was encouraged by the fact that relatively cheap writing materials had long been available in this part of the world.… This ability…played a still more important part in the development of superior methods of payment and of financing international trade." An additional advantage facilitating modern business practices, as both Lieber and Janet Abu-Lughod (1989, p. 216) emphasize, was that Islam had traditionally been well-disposed toward merchants, which may not be surprising given that Mecca had been an important commercial center at the time of Mohammed, who was himself a merchant.

We have already encountered the example of the bill of exchange which Ibn Hawqal came across in Awdaghost, and these instruments were used widely in the Islamic World, both by merchants and by imperial bureaucracies seeking to transfer revenues from the provinces to the capital, from at least the eighth century (ibid., pp. 233–34). Similarly, the *commenda* contract, which played such an important role in financing Mediterranean trade, has clear historical antecedents in the earlier Muslim *qirâd* contract.[1] As Lieber admits (p. 240), it is difficult to find proof of particular instruments being transmitted between cultures, and it is always theoretically possible, as John Pryor (1977, p. 6) points out, that similar contracts, such as the *commenda*, arose in different countries as "individual responses to similar economic needs in different places at different times." The fact that bills of exchange were in use in Tang China might be taken as evidence in favor of the latter view, although Lieber (pp. 234–35) points out that the Muslim merchants trading there may in fact have learned from the Chinese experience and transmitted the knowledge thus acquired to their homelands.

Udovitch (1962) regards the *qirâd* as being the clear precursor of the *commenda*, and argues that Western merchants learned such techniques from their Muslim colleagues from the eighth century onwards. Pryor (1977), on the other hand, finds antecedents for the *commenda* in the Roman *societas* and the Byzantine *chreokoinônia*, as well as the *qirâd* and the Jewish *'isqa*, and concludes that the *commenda* arose as a result of a creative European amalgamation of Roman, Byzantine, and Middle Eastern sources. Western merchants clearly had the opportunity to learn from their Muslim counterparts. A Muslim visitor to Acre in 1184 noted that the Christian clerks there were using Arabic to keep the customs records, while Pisan merchants were receiving letters, again in Arabic, from Tunisian correspondents in 1200 (Lieber 1968, p. 238). Finally, as Lieber (p. 230) points out, there is convincing linguistic evidence of the impact of Muslim commercial practice on medieval European business: European words such as *douane*, tariff, traffic, risk, and *fondaco* all have their origins in Eastern languages.

Another famous example of the Muslim World's influence on the West, which had monumental consequences for no fewer than three

[1] For a recent analytical account of the financing of Venetian trade, see González de Lara (2005). According to her definition, "the commenda or *collegantia*, as the Venetians called it, was a partnership agreement through which an investor supplied funds on which he both accepted the risk of loss and received a return depending on the trade conducted by a merchant" (p. 5).

continents a few centuries later, is sugar. As Barbara Solow (1987) has pointed out, once Christians had been introduced to the "sweet salt" they lost no time in cultivating it themselves, initially in their Crusader domains, but later in Crete, Cyprus, and Sicily. Ominously, sugar cultivation had been associated with slavery in the Muslim World, and now Christians used slaves to cultivate it as well, developing sugar plantations that were the direct precursors of the New World slave plantations of the future. By the early fifteenth century, the cultivation had spread as far west as Iberian possessions in the Atlantic, such as Madeira, and the slaves concerned were being imported from Africa. From now on, "European colonization was associated with sugar; sugar was associated with slavery; and slavery was associated with blacks" (ibid., p. 714).

The Indian Ocean and the South China Sea, 1000–1350

The trade of the Mediterranean was linked to that of the Indian Ocean and the South China Sea through the Red Sea and the Persian Gulf, the historic channels for the flow of spices to Europe. The purveyors of these Eastern spices to western markets from about the ninth to the eleventh century were a community of Jewish merchants based in Fustat (Old Cairo) but with far-flung connections from Spain to India. The discarded commercial and other correspondence of this community accumulated in Fustat, the so-called "Geniza Papers," enabled S. D. Goitein (1967) to construct a richly detailed account of their economic and cultural activities. They not only obtained pepper and other spices from further east in India but also dealt extensively in silk, flax, and other commodities, especially with the North African ports. They flourished under the Abbasid governors and the Fatimids, but declined under competition from the Italians and the more strenuous atmosphere of the Crusades and the Islamic response to them.

Already during this period we can see signs of the Christians attempting to circumvent Muslim middlemen and gain direct access to Eastern spices. Particularly active in this regard was the notorious Crusader Reynaud de Châtillon, who repeatedly violated truces with the Muslims to raid their trade caravans. The Kurdish hero Saladin was particularly incensed by a raid that Reynaud launched on the Hijaz in Arabia in 1182, in the course of which he captured Eilat and attacked Muslim shipping in the Red Sea. This Saladin regarded as a threat not only to the hajj and the holy cities of Mecca and Medina, but also to

the lucrative commerce of the Red Sea. Reynaud's fleet was eventually destroyed, and Reynaud himself had the honor of being personally beheaded by Saladin after being captured at the Battle of the Horns of Hattin in 1187 (Phillips 1998, p. 98).

Saladin seems to have turned to a group of exclusively Muslim merchants (except for some converted Jews and Christians) known as the "Karimi" for the supply of spices and other oriental wares. They were granted royal protection, fiscal privileges, and exclusive rights to import Eastern goods through the Red Sea. While these merchants may originally have proceeded themselves to India and even further east, they eventually concentrated on the Red Sea segment of the trade alone, purchasing their requirements at Aden at the mouth of the Red Sea, to which Gujarati and various other merchants brought the pepper and cotton textiles of India and spices and other products from further east. Aden was in the domain of the sultans of Yemen, who owed allegiance to the Ayyubid dynasty of Saladin and to his Mamluk successors. A long-run equilibrium of sorts seems to have been established, with the Yemenis getting a cut but never going so far as to provoke the more powerful Egyptians into full-scale warfare.

Aden was a flourishing commercial emporium at this time, with merchants from all over the Islamic World and beyond. Its cosmopolitan nature, as well as the vast profits which could be made there, is well illustrated by the career of one Arab merchant who had apparently spent forty years in China. He lost twelve ships at sea in a single storm but recouped his entire loss with the profits from the thirteenth, carrying porcelain and aloe wood. He also formed a "multinational corporation" of his own, with seven sons from seven wives in different parts of the world sending him goods in return for Levantine, Maghribi, and Frankish products (Labib 1970, p. 68).

Transport up the Red Sea was protected by the Egyptian sultans, who also provided facilities for the goods to be unloaded and transported by caravans and down the Nile to Cairo. The Italians and other European merchants were confined to their "funduks" or trading stations in Alexandria and Damietta. The main groups were from Venice, Genoa, Pisa, Marseilles, and Barcelona. Confining the westerners in this way obviously turned the "terms of trade" in favor of the Egyptian state and the Karimi agents. The foreigners were, however, given guarantees of personal safety and security of property and profits. Special incentives and tax exemptions were given for strategic goods, particularly slave recruits for the Mamluk armies. Muslim merchants seem to have paid import duties of around 25% while Christians frequently paid 20% or even as little as 10% for particular goods (ibid., p. 74).

Trade relations with the west coast of India and Ceylon were close and extensive. The main export from India was the famous black pepper from Malabar, the unique source of this product in world trade before it was introduced into Sumatra and other Indonesian islands, probably in the late fourteenth or early fifteenth centuries. Cotton textiles were the other great Indian export item, as in later centuries, with production concentrated in the three main areas of Gujarat, Bengal, and the Coromandel Coast. Iron and steel products, mainly weapons, and a wide variety of other goods detailed in Digby (1982) were also exported. This author disputes the widespread contention that the Red Sea displaced the Persian Gulf during this period. He points to the substantial export of an unusual but valuable commodity to India through the Persian Gulf, namely cavalry horses, for which there was a high demand due to the incessant warfare in the subcontinent and the inability to sustain horse-breeding domestically. The great traveler Ibn Battuta encountered Turkic tribes with thousands of horses that sold for as little as one dinar each, when the price in India could exceed two hundred dinars or even five hundred. He says that the animals were exported to India in droves of six thousand or so (Gibb 1986, p. 145). The anecdote is revealing in two ways, showing not just the widespread international trade of the time, but also the enormous price gaps that prevailed between markets. Racehorses were also imported from Yemen, Oman, and Fars at prices of up to four thousand dinars each. The Moroccan traveler gives interesting information on trade all over the Islamic World and the Indian Ocean at the time, and on shipping and ocean transport, including a fleet of junks on which he sailed to China from the west coast of India. One is struck by the extent of trade and specialization in the world of that time, with communities in the Horn of Africa entirely dependent on imports of rice and cloth from India, and Ethiopian slaves being used as marines on Chinese junks and as naval mercenaries in the service of Muslim rulers in India.

As is well-known, both Marco Polo and Ibn Battuta were tremendously impressed with the wealth of China during the Mongol Yüan dynasty, even though it probably fell short of the peak achieved under the Sung. A much-cited estimate by Polo of daily imports of pepper in the Fujian port of Zaiton (Quanzhou), of over 10,000 lb., gives some notion of the size of the "China market" of the times. Polo also claimed that, for every shipload of spices from Alexandria to Christian ports, one hundred arrived in Quanzhou. Ibn Battuta claimed to have seen "a hundred first-class junks together" and "smaller ones past counting" in Quanzhou and thirteen at one time in Calicut on the Malabar Coast in India. The crew of one of the ships that he saw was put at one

thousand: six hundred sailors and four hundred highly specialized troops, including archers and "arbalists who throw naphtha" (ibid., p. 235).

Mongol policy in China with regard to the economy and trade was on the whole a continuation of that of the Sung, with occasional attempts at greater state intervention to obtain more revenue and profit. Overland trade with Central Asia and the West, as we will see in the next section, expanded greatly as a result of the imposition of the *Pax Mongolica* over the nomad kingdoms that had dominated the steppe under the Sung. Overseas trade with Southeast Asia and the Indian Ocean to as far as East Africa and the port of Kilwa revived, and there was substantial trade with Japan and Korea. Japan exported a variety of mineral products, including copper ore and silver, as well as steel swords, while Korea exported pottery, lacquer ware, copper ware, ginseng, and other medicinal items. In return, China exported porcelain, silk and other textiles, books, reexported southern spices and exotic products, as well as large amounts of copper cash that circulated as legal tender in Japan and provided the money supply for the growing Japanese economy. The flow of books to Japan and Korea is interesting, indicating cultural transmission to these Confucian countries from the source. The wreck of a vessel apparently bound for Japan and the Philippines contained over ten thousand pieces of porcelain (Shiba 1983, p. 106), providing some indication of a sizable volume of trade.

The *Pax Mongolica* and Overland Trade, 1000–1350

Having looked at the seaborne trade of Eurasia during the 1000–1350 era starting at its western end in Islamic Spain, it is appropriate to make the "return journey" overland at the eastern end, starting with Sung China. At the opening of the period Sung China confronted two powerful Sinicized nomadic states on her northern and western borders, the Khitans of the Liao dynasty and the Tanguts of the Hsi Hsia Empire. The "proto-Mongol" Khitans (who are responsible for the term "Cathay" that was used in the West from medieval times onward for China) held sway in the area of Manchuria and eastern Mongolia. Formidable mounted warriors, they were the elite of a multiethnic state that included other nomadic and forest peoples as well as a large sedentary population of Chinese farmers and craftsmen, comprising about 60% of the population, with the Khitans themselves and other non-Chinese 20% each (Lewis 1988, p. 11). They were Buddhists,

used their own script as well as Chinese, and were very far from being "barbarians" despite their steppe nomad origins. The Hsi Hsia domain was in the regions of Kansu, Shensi, and western Mongolia. The population was ethnically diverse with the Tanguts forming the ruling stratum and the elite cavalry of the army, as with the Khitans. Their position athwart the east–west and north–south trade routes gave them substantial revenues from taxing the traffic.

Despite geopolitical competition and frequent conflict, both the border states had extensive trading relations with Sung China. The Liao exported horses and sheep, furs, slaves, woolen cloth and carpets, and, somewhat surprisingly, iron armor and weapons. China exported silk and brocade, tea, silver and gold ornaments, marine products, medicinal herbs and spices, and other products from Southeast Asia. In addition to trading their own products, Shiba (1983, p. 97) reports that the Liao controlled trade and received tribute from Korea and other nomadic tribes such as the Jurchen and the Uighurs, as well as from the oasis cities of Khotan and Kucha which provided jade, amber, agate, carpets, cotton cloth, ginseng, and gold and silver bullion. The main commodity that the Chinese desired from both the Liao and the Hsi Hsia was horses for their cavalry, the supply of which was naturally restricted by the border states at times of conflict. The Hsi Hsia were particularly well situated by their control of the Kansu Corridor, bounded by mountains on one side and the Gobi Desert on the other. Salt was a potentially major Hsi Hsia export that China wanted to restrict to protect its own monopoly of that essential item. Not surprisingly, smuggling of horses and salt seems to have thrived. When war cut off trade between one of the border states and China, the other was not slow to take advantage. Shiba (1983, p. 100) states that the price of silk was forty times higher in Hsi Hsia than in China during wars, leading to profitable exports from the Liao to them.

Unable to subdue either of the border states, the Sung attempted to "buy" peace by paying what amounted to de facto tribute to both of them. The Liao received 300,000 bolts of silk and 200,000 ounces of silver annually, while 70,000 ounces of silver, 150,000 bolts of silk, and 10,000 catties of tea went annually to the Hsi Hsia. Shiba states that most of the silver paid by the Sung returned to China to settle trade surpluses that prevailed with both of the border states. We learn that the terms of trade were 20 bolts of silk or 100 catties (or 125 lb.) of tea for one horse. Since the exchange of tea and silk for horses took place for over 2,000 years, a record of these two relative prices would provide an interesting index of nomad–sedentary relations at the eastern end of Eurasia, if the information could be recovered from the extensive dynastic records of the Han to the Qing Dynasties.

In the 1120s the Liao Empire was overthrown by the formerly subject Manchurian tribe of the Jurchen, although one of the empire's Khitan princes moved west with his followers and established the Qarakhitai (or "Black Khitai") Empire, which is also known as the Western Liao Empire in the Chinese annals. The Jurchen also drove the Sung out of North China and their capital at K'ai-feng, forcing them to retreat to the south. The Jurchen established a new dynasty, the Chin, which was overthrown along with the Southern Sung and the Hsi Hsia by the Mongols in the thirteenth century. They did maintain a flourishing economy for over one hundred years, continuing to trade extensively with the Southern Sung along the previous pattern of Khitan–Chinese relations.

While the Khitans, Tanguts, and Jurchen in the east had been Sinicized by their contact with China, and the western Turks Islamicized by their contacts with the Persians and the Arabs, the Mongol tribes of Inner Asia had continued with their pastoral nomadic life on the steppe. In the early thirteenth century they were forged into an effectively centralized union by the genius of one Temüjin, who was proclaimed as Genghis Khan, or "universal ruler," in 1206. Under his descendants the entire Eurasian landmass from Iraq, Iran, and Russia in the west to China in the east was conquered and the *Pax Mongolica* established. China was invaded in 1211, and Beijing captured in 1215, but the northern Chin Empire was only finally subdued in 1234, by which time the frustrated Mongols had "switched from a policy of massacre in punishment for rebellion to one of straight genocide," according to McEvedy and Jones (1978, p. 172). The same authors report that the total Chinese population loss during the Mongol conquest was a horrifying 35 million, compared with a population in 1200 of 115 million. In 1218 Genghis Khan destroyed the Qarakhitai Empire. While Phillips says that the Khitans "ceased to exist as a people" (Phillips 1998, p. 61), it should be noted that individual Khitans continued to play significant roles in Central Asian and even world history. For example, Yeliu Chu-tsai, the celebrated principal advisor of both Genghis and his son Ögödei, was himself a Khitan of the royal clan. Next was the turn of Khwarezm to the west, as well as the Hsi Hsia, during which campaign Genghis died in 1227. Ögödei established the Mongol capital of Karakorum, and attacked Iran, Iraq, and Russia, taking Kiev in 1240. In 1241 the Mongols conquered Hungary, reaching the Adriatic Sea, and a small group made it almost as far as Vienna. Fortunately for Europe, Ögödei died at this stage, and a planned invasion of the western half of the continent was postponed. After a brief reign by Ögödei's son Güyük, Möngke became the Great Khan,

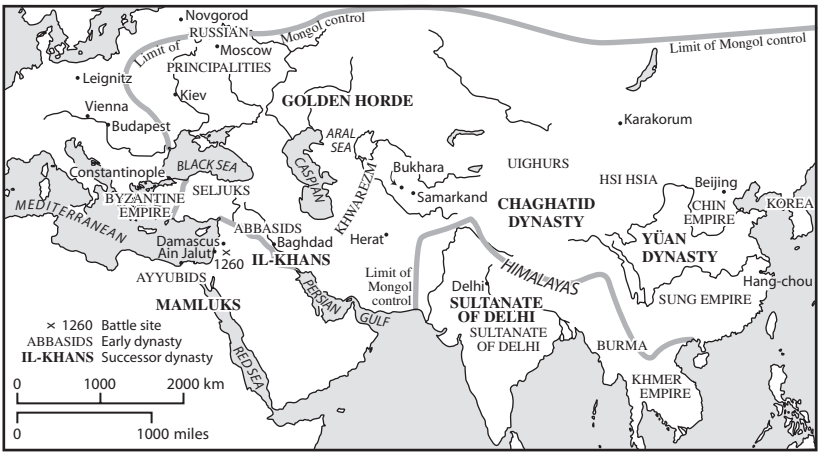

FIGURE 3.1. The Mongol Empire.

holding the position from 1251 to 1259. The Assassins in Iran were destroyed in 1256–57, Baghdad was taken the following year amid great slaughter, and Damascus shortly thereafter. Meanwhile the Mongols were advancing against the Sung Empire in Southern China, with its capital Hang-chou being taken in 1276 (ibid., chapter 4).

After the final conquest of the Southern Sung in 1279 gave the Mongols full control of all China, Khubilai Khan sought to consolidate the authority of the new Yüan dynasty (proclaimed in 1271) over what he regarded as China's vassal states and tributaries. Korea had already been subjugated after long and bitter resistance and its resources in manpower and shipping were pressed into service for the invasion of Japan, after the proud feudal ruling class had spurned Mongol demands for submission. An initial invasion in 1274 was a failure due to strong resistance and bad weather, but a massive invasion involving thousands of ships and about 140,000 troops was launched in 1281. Most of the ships, crews, and troops were either Korean or Chinese. As is well-known this invasion ended in disaster for the Mongols as a result of both the spirited defense of the feudal warrior class and the "divine wind" or *kamikaze* of a typhoon that sank most of the fleet. Another overseas invasion, this time of Java in 1292, also ended in failure. Land invasions of Burma led to the fall of the Pagan dynasty, without any discernible benefit to the Yüan, while land and sea invasions of Annam and Champa in what is now Vietnam also ended in failure. The death of Khubilai Khan in 1294 could be said to

have ended the expansionary phase of the Mongol Empire in East Asia (see figure 3.1).

One important reason for the astonishing success of the Mongols, according to Adshead (1993, p. 61), was their ability to mobilize close to half of the horse population of the world, estimated at about 20 million at that time. While Mongol armies were not exceptionally large, at about 100,000 on major campaigns, each man had up to twenty remounts, so that a fresh animal was always available at decisive encounters. The availability of pasture was thus a major constraint on campaigns beyond the steppes, which may explain why they did not penetrate further into Europe, the Middle East, and Southeast Asia, despite the attempted invasions of Burma and Vietnam.

Central control by the "Great Khan" over the entire empire was loose and mainly symbolic after the death of Möngke (who was succeeded in the position by Khubilai). The enormous empire was divided among Genghis's grandsons, with Khubilai getting China and adjoining parts of Manchuria and Mongolia, while Hulagu obtained Iraq and Iran to be ruled as the empire of the Il-Khans or "viceroys" of the Great Khan. Domination over Russia and Ukraine was ceded to the so-called "Golden Horde" of Batu, and Central Asia between Iran and China passed to Chagatai.

Khubilai and his descendants ruled China as the Yüan dynasty, leaving Chinese civilization and administration largely intact even though they made extensive use of "outside experts" at the top levels of military, civil, and financial administration. These tended to be Muslim Central Asians, Tibetan Buddhists, and Nestorian Christians, out of distrust of the ethnic Chinese mandarin class. In a similar fashion the Il-Khans also preserved Persian and Arab traditions in their domains, again using Christians, Jews, and other outsiders as officials. The Golden Horde established a splendid capital at Sarai on the Volga but continued to maintain themselves physically apart from their Russian and other Slavic subjects. The heavy taxes of various kinds levied by the Mongols were collected on their behalf by the Russian princes themselves, with the cooperation of the Orthodox Church and under the supervision of Mongol inspectors. The "deal" was that the Russian church and princes were allowed to remain in office at the price of abject submission to the Mongols and effective performance of their duties as tax collectors for their overlords. This was the infamous "Tartar Yoke" under which the Russians were to suffer for centuries. The Central Asian steppes and oases of the Chaghatid dynasty were under loose central control, with the traditional mix of sedentary agriculture around the oases and pastoralism on the steppe.

Several of the major cities had been severely depopulated during the campaigns, but apparently recovered after a generation or two.

In China and Persia the Mongols directly ruled over large sedentary populations who formed the "tax base" of their empires. It was therefore rational for them to maintain and enhance the productive capacity of these lands. Khubilai Khan in particular made strenuous efforts on transport and irrigation projects, as did the more enlightened of the Il-Khans. Both regimes introduced paper currencies, with some success initially in China, though the Persian experiment was a disaster from the outset. Tabriz, the capital of the Il-Khans, was a flourishing commercial center at the hub of major caravan routes as well as being linked by sea with China and Southeast Asia, as evidenced by Polo's return voyage escorting a Yüan princess.

Despite competition and conflict between the components of the empire as a whole, particularly the Golden Horde and the Il-Khans of Persia, there was a reality to the *Pax Mongolica*. The Mongols always wanted to encourage trade and the routes across Central Asia were safer and busier than previously or subsequently. Thus despite the burden of the Tartar Yoke the Russian cities experienced considerable prosperity from participation in long-distance trade. Novgorod sent furs and other forest products to the west for silver and woolen cloth, as well as trading actively to the east. Trade with the Middle East and China continued to flourish. Even small towns and rural areas were able to pay taxes in silver, indicating exposure to trade. Halperin (1987, chapter 7) cites evidence that nonelite segments of the population consumed some traded goods and that several cities undertook extensive construction projects for cathedrals and other public edifices during the Mongol period.

Janet Abu-Lughod (1989) has presented a vivid picture of a nonhegemonic or horizontally linked "world system" from 1250 to 1350, the period of the *Pax Mongolica*, which covers essentially all of our seven regions. The links extended in successive steps all the way from the British Isles and Spain in the west to China, Korea, and Japan in the east, and from Bergen and Novgorod in the north to the Indonesian archipelago in the south. Indeed, it extended even further west than this, to Iceland, which imported grain in exchange for woolen cloth, and even in a more tenuous form to Greenland, which while isolated and largely self-sufficient did on occasion send walrus tusks or polar bear skins to Iceland or Norway (Phillips 1998, chapter 9). Lopez (1971, p. 108) reports that one company based in Lucca actually sent agents there to collect papal tithes. Although only items with a high ratio of value to weight such as spices, silk, furs, and slaves were traded over

long distances, there were fairly extensive regional markets for bulk items such as grain, olive oil, and timber. The physical and institutional infrastructure to support this trade in the form of transportation and credit systems was also well developed, and travelers such as Ibn Battuta, Polo, and various papal envoys showed how relatively easy and safe it was to cover enormous distances.

In addition to the testimony of Marco Polo and the papal envoys there is the information provided in the commercial handbook published by the Florentine Francesco Balducci Pegolotti in the early 1340s. According to the *Practica della Mercatura*, the land route from Crimea to Beijing was "perfectly safe, whether by day or by night" (Rossabi 1990, p. 356), and given the Italian presence in and around the Black Sea it was largely Italians who availed themselves of the opportunities which the Mongol conquests represented. The journey might be relatively safe, but it was still a long one: it took between eight and eleven months to reach China from Crimea (Phillips 1998, p. 100). Nonetheless, it was possible to make huge profits by cutting out the middleman. According to Pegolotti, travel costs and customs duties for a caravan might amount to some 3,500 florins, while the merchandise could be sold for 25,000 florins (Rossabi 1990, pp. 356–57). Italians were thus attracted in large numbers to Persia and the Kipchak steppes, while enough of their compatriots became established in China that Franciscans built a *fondaco* in Quanzhou in which to house Catholic merchants (Lopez 1952, pp. 312–13; 1987, pp. 352–53). In 1323 a bishopric was established in Quanzhou, although Franciscan missionaries such as Odoric of Pordenone (who was accompanied on his travels by one James of Hibernia, and the account of whose travels appears to have been plagiarized in the fourteenth-century English work *Mandeville's Travels*) met with no success in their efforts to convert the Chinese (Phillips 1998, chapter 5).

David Abulafia (1987, pp. 447–48) suggests that Europeans came to China to purchase not just traditional Chinese luxury exports such as silk but Southeast Asian spices as well, which were shipped north to the mainland before being purchased by Christian (and Muslim) merchants. Given the natural cost advantages which sea transport had over land transport during this period, this is a remarkable testament to the integration of the Eurasian economy during this period, although there were inevitably losers, notably in Egypt. The Venetians did not send a single convoy to Egypt between 1323 and 1345 (Lopez 1987, p. 387): the *Pax Mongolica* thus exacted an economic cost on the Muslim World, following the far graver costs imposed by Mongol wars. The Italians paid for their purchases with "gems, live

horses, mechanical clocks and fountains, fine linen and woolen cloth" (ibid., p. 353). Some also tried even more direct routes to access Eastern spices, with several Italians being recorded as having ventured into India during this period (Phillips 1998, p. 103). According to Phillips (p. 238) a group of Genoese sailors hatched a plan in 1290 to sail down the Tigris and gain access to the Indian Ocean that way.

It was not just goods but also people, techniques, and ideas that moved freely across all parts of the known world for the first time. For example, both the New Testament as well as the Christian Psalter were translated into the Tartar language by John of Monte Corvino (Abu-Lughod 1989, p. 168). Information flows, however, proved far more influential in the opposite direction. Technological change, which was already under way in Western Europe, probably received a further boost by the diffusion of Chinese inventions during this period, a case that was vigorously argued by Needham (1954). But the most compelling testament to the international integration achieved by the *Pax Mongolica* comes in the form of price data cited by Lopez (1987, p. 353): apparently, Chinese silk sold in Italy during this period for no more than three times its purchase price in China.

When did "globalization" begin? While the answer depends on the definition used, a strong case can be made that it began with the unification of the central Eurasian landmass by the Mongol conquests and the reactions this aroused in the sedentary civilizations that they were launched against. Each civilization previously had been aware of the others, but only as isolated entities, not as interactive components of a unified system. In Europe even the legends of "Prester John," the mythical Christian hero in the East who was wrongly identified with Genghis Khan and other non-Muslim nomad conquerors, served to provide a unified geopolitical framework, encouraging the thought of opening an eastern front against Islam, and so arousing the desire to establish contact, by sea or land, with these realms beyond Islam for religious, military, and commercial purposes. Frustrated by their Venetian rivals on land, the Genoese contemplated an end run around Africa in the late thirteenth century, leading to the lost voyage of the Vivaldi brothers in 1291. Yet another Genoese would launch a similar attempt two centuries later. As Adshead (1993, p. 77) puts it, "if Europe came to dominate the world, it was possibly because Europe first perceived there was a world to dominate. There is a straight line from Marco Polo to Christopher Columbus, the eastward looking Venetian to the westward looking Genoese."

Eurasia on the Eve of the Black Death

The relative position of our seven regional units in 1350 was altered considerably from what it had been in 1000. Western Europe, which had been a backward "hinterland" to Byzantium and the Islamic World at the start of the millennium, had developed a highly productive agricultural base, leading to a surge in population, and had also undergone what Robert Lopez (1971) called the "Commercial Revolution," with Italian cities taking the lead in extending the range and diversity of their trade over both sea and land, and also making important technical innovations in the textile industries as well as shipbuilding and navigational techniques. The merchant communities of Greeks, Syrians, and Jews that were so prominent in the conduct of long-distance trade in 1000 had largely given way to the thrusting competition of the Venetians and Genoese, backed up by armed force where necessary. Shipping in the Mediterranean, which had been dominated by Byzantium and the Muslims, was now mainly in Italian hands. Their reach extended from the English Channel to the Black Sea by 1350, with the frequency and speed of voyages enhanced by the adoption of the compass and other nautical innovations.

As we have seen, long-distance trade exposed Western merchants to a variety of sophisticated financial practices, but it also gave them the incentive to adopt such practices themselves. Thus the Commercial Revolution, which involved not just trade with Asia but an increase in the burgeoning intra-European trade that we described in the previous chapter, stimulated a variety of important innovations in Europe. These included not just the bills of exchange that we have already encountered, but deposit banking, insurance, and "commercial and banking accounting, which gradually changes from scribbled memos to separate columns for credit and debt, and ultimately to rigorous double entry bookkeeping" (ibid., p. 107). Intra-European commerce promoted specialization during this period, both industrial and agricultural, with beneficial effects on the European standard of living. Urbanization was an integral part of this process, with towns specializing in manufacturing and exchanging their produce for imported food (Rosenberg and Birdzell 1986, pp. 78–80). Thus commerce "passed from the fringe to the very centre of everyday life" in Europe, and "became the driving force of economic progress" (Lopez 1967, p. 126; see also Greif 2006, pp. 23–27).

The Islamic World, on the other hand, seemed already to be undergoing an economic malaise, extending from the Iberian Peninsula, where it had been pushed back by the Christian advance, all the way

to Iraq and Iran in the east, where it staggered under the Mongol onslaught. It is true that there was a gradual recovery after the initial devastation but there is no doubt that Baghdad, Bukhara, Samarkand, and other flourishing cities had long passed their peak. Only the North African states, and Egypt and Syria under the Mamluks, still exercised formidable political and military power. However, the wealth of the Mamluk state had become increasingly parasitical on rents from the transit trade in spices and other oriental products, while the *Pax Mongolica* diverted trade away from the Red Sea and toward the overland route. Byzantium suffered major catastrophes during the period 1000–1350, from the loss of western Anatolia to the Turks to the occupation of Constantinople itself by the Latin Crusaders from 1204 to 1261. Even after the restoration of the Byzantine emperors, control of the economic life of the empire was passing increasingly to the Genoese and Venetians. Despite having made such a promising beginning under the cultural aegis of the Orthodox Church, Kievan Rus fell victim to the Mongols, and its successor states had become the vassals and tax collectors of their steppe overlords of the Golden Horde.

The most dramatic change of the period was the domination of the Eurasian landmass from the Urals to the Pacific by the Turco-Mongol nomads of Central Asia. In 1000 they had established the Khazar Empire in the west bordering on Byzantium, Kievan Russia, and the Islamic World, and the Khitan and Tangut Empires in the east bordering on Sung China. By 1350 they had conquered all of China in the east, Iraq and Iran in the west, and reduced the Russian principalities to vassal status. In addition Delhi and the fertile north Indian plains were ruled by Turkic dynasties of slave soldiers, and the Mamluks ruling over Egypt and Syria were themselves mainly Kipchak Turks. Japan and Java had been invaded unsuccessfully by sea while raids had been conducted into Burma and Vietnam on the Southeast Asian mainland.

The Islamic World, however, was able to turn military defeat into cultural victory by the conversion of the Il-Khans and the Golden Horde to Islam, despite their earlier adherence to shamanism and experimentation with Buddhism and Nestorian Christianity. Also, as we have seen, the Crusaders had been expelled from their footholds in Palestine and Syria. Thus the territorial extent of the *Dar-al-Islam* was maintained and even extended to the northern half of India under the Delhi sultanate, with the only losses being in the Iberian Peninsula. By incorporating the vigorous and militant Turkic steppe nomads into its cultural fold, Islam was thus able to absorb and transcend the Mongol onslaught that had done such damage in the thirteenth

century. The Mongols in Persia and the Russian borderlands were themselves absorbed imperceptibly into the larger Turkic populations with which they were associated and to whom they had close cultural and linguistic affinities.

The Black Death

The integration of the *Pax Mongolica* had the tragic consequence of promoting what Le Roy Ladurie (1981) called "the unification of the globe by disease" or the formation of a "microbian common market." There was not only the conceptual unification of the world along with the economic, as pointed out previously, but also a biological unification. Bacteria and viruses, long localized to particular regions, were transferred and mingled by the movement of humans and animals over long distances, as for instance occurred with the operations of the Mongol cavalry. According to McNeill (1998) the plague germs were transmitted by Mongol troops from the Burma–Yunnan border to Central Asia, and eventually to the Genoese trading station of Kaffa (Feodosiya) on the Black Sea in 1347.[2] An oft-repeated story is that the khan of the Golden Horde Janibeg ordered infected corpses to be catapulted into Kaffa when he laid siege to it in 1347, from where the plague was transmitted by a Genoese vessel to Messina in Sicily. It rapidly spread to ports around the Mediterranean and all across Europe, Egypt, and Syria as well. The overall European death rate was estimated at between a quarter and a third, with the rate being higher in more densely populated regions in the west, and much lower in the emptier east (McEvedy and Jones 1978, p. 25). Carlo Cipolla (1994, p. 131) states that the plague killed about 25 million out of a total population of 80 million in Europe during the period 1348–51. It recurred in waves of mostly diminishing intensity until the end of the sixteenth century. It was undoubtedly the greatest catastrophe to strike the Western World during the last millennium, not even excluding the two world wars of the twentieth century. The effect on the Islamic World, according to Dols (1977), was at least as severe, if not even more so. The rest of this chapter will examine the consequences of the catastrophe and the subsequent recovery on the volume and pattern of world trade.

[2]Whether these germs were the bubonic plague germ, pasteurella pestis, or another disease is now a matter of hot controversy: for very different recent opinions on the matter, see Cohn (2003) and Benedictow (2004). Without taking a position on this biological debate, we will in what follows refer interchangeably to the "Black Death" and the "plague."

FIGURE 3.2. Real English building wages, 1300–1500 (laborers, 1451–75 = 100). *Source:* Munro (2004).

In analyzing the economic consequences of the Black Death, it is apparent that the impact effect would be a drastic decline in total production but a rise in per capita real income and wealth, since land and physical capital remain unchanged and the livestock population was apparently unaffected by the plague.[3] With diminishing returns to labor, we would expect a rise in the real wage and thus a decline in the rent per acre and the return to physical capital. Furthermore (by the well-known Rybczynski theorem in trade theory), we would expect a rise in the relative price of labor-intensive goods and a fall in the relative price of land-intensive goods, since the output of the former would contract and that of the latter expand if relative product prices were held constant. With per capita income rising we would also expect a boom in markets for luxury goods and a relative decline in markets for more basic goods such as food and other necessities.

With these simple neoclassical predictions in mind we can turn to the historical literature on the subject to find whether they are borne out or not, focusing on the European evidence. If these predictions are accurate, then a major debate between Lopez and Miskimin (1962) and Cipolla (1964) would be easy to resolve. The first two authors

[3]The analysis which follows draws heavily on Findlay and Lundahl (2003, 2006). Obviously, these predictions apply to regions where land was scarce, such as Western Europe and China, but not as much in frontier societies such as Central Asia, where land was in effectively unlimited supply and the marginal product of labor was relatively invariant.

spoke about the "depression of the Renaissance" since the cultural flowering of the next century and a half was accompanied by a fall in population, production, and trade around 1350 and only a gradual recovery afterwards. Cipolla, on the other hand, points toward evidence of per capita improvement. The "per capita thesis" is stated sharply by Bridbury (1962, p. 91) when he observed that England, and by implication the rest of Western Europe that suffered the effects of the plague, "was given a sort of Marshall Aid on a stupendous scale" (see also Hatcher 1977).

The basic facts seem to accord with our theoretical expectations and the per capita thesis. Figure 3.2 shows John Munro's (2004) data for English building laborers' real wages during the fourteenth and fifteenth centuries. As can be seen, the data suggest a sharp rise in English real wages from the middle of the fourteenth century. Real wages continued rising for about a century, so that by the middle of the fifteenth century laborers were earning more than twice as much in real terms as they had been doing on the eve of the Black Death.[4] These wage trends were not confined to England. Earl Hamilton's (1936, p. 186) real wage data for Navarre show that laborers' real wages more than doubled there between the early 1350s and 1401–5, before subsequently declining by about one-fifth. A contemporary Florentine observer, Matteo Villani, complained in 1363 that "serving girls and…stable boys want at least 12 florins per year, and the most arrogant among them 18 or 24 florins per year, and so also nurses and minor artisans working with their hands want three times or nearly the usual pay" (cited in Herlihy 1997, pp. 48–49). At the same time he also complained of rampant inflation, but his comments that "the common people, by reason of the abundance and superfluity which they found, would no longer work at their accustomed trades; they wanted the dearest and most delicate foods…while children and common women clad themselves in all the fair and costly garments of the illustrious who had died" (pp. 47–48) suggest that the living standards of the poor on balance improved there as well.[5] Finally, it seems clear that urban real wages increased by as much as 100% in Egypt, Byzantium, and the Balkans as well as in Western Europe (Ashtor 1976a; Pamuk 2005).

[4] Clark's (2005) data show much the same thing, as well as a decline in wages during the population expansion of the thirteenth century.

[5] An important exception to this trend in the literature is provided by Munro (2004), who finds that real building wages in Bruges fell by some 30% between 1349–50 and 1356–60, and only started rising thereafter, reaching a peak in 1401–5 (by which stage they were some 15% higher than the 1349–50 level).

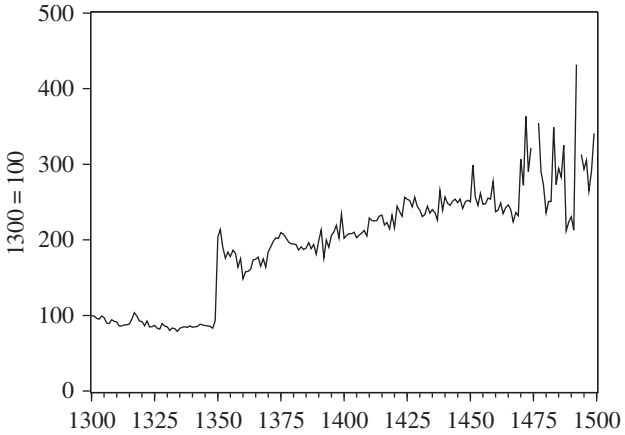

FIGURE 3.3. English wage–rental ratio, 1300–1500 (1300 = 100).
Source: data graciously provided by Greg Clark.

Figure 3.3 shows that labor gained not only in absolute but in relative terms as well. As can be seen, the ratio of English wages to land rents declined steadily from 1300 to 1350, but the Black Death led to an immediate doubling of the ratio of wages to land rents, followed by a steady increase for the following century. Towns grew larger in the wake of the plague, in contrast with the experience following the Plague of Justinian, reflecting the positive effects of increasing living standards on urbanization, which more than compensated for the negative effects of a declining population. Thus Bautier (1971, p. 187) states that the population of Paris grew from about 100,000 at the beginning of the fourteenth century to about 300,000 by the sixteenth. That of Lübeck rose from 15,000 around 1300 to 25,000 in the fifteenth century; Hamburg from 5,000 around 1300 to 16,000 around 1450; Bremen from 12,000 before the plague to 17,000 around 1400; and Danzig from 2,000 in 1300 to 20,000 by the middle of the fifteenth century (ibid.).

Within agriculture there was an expansion of land-intensive activities such as sheep and cattle rearing, relative to cereal cultivation. Other things being equal (in particular, demand), this should have led to a decline in the relative price of animal products, such as wool. This decline, together with the high-income elasticity of demand for high-quality woolen textiles, produced a long-sustained boom in the woolen cloth industry, the leading manufacturing sector of the Middle Ages. Figure 3.4(a) shows that the price of woolen cloth rose steadily

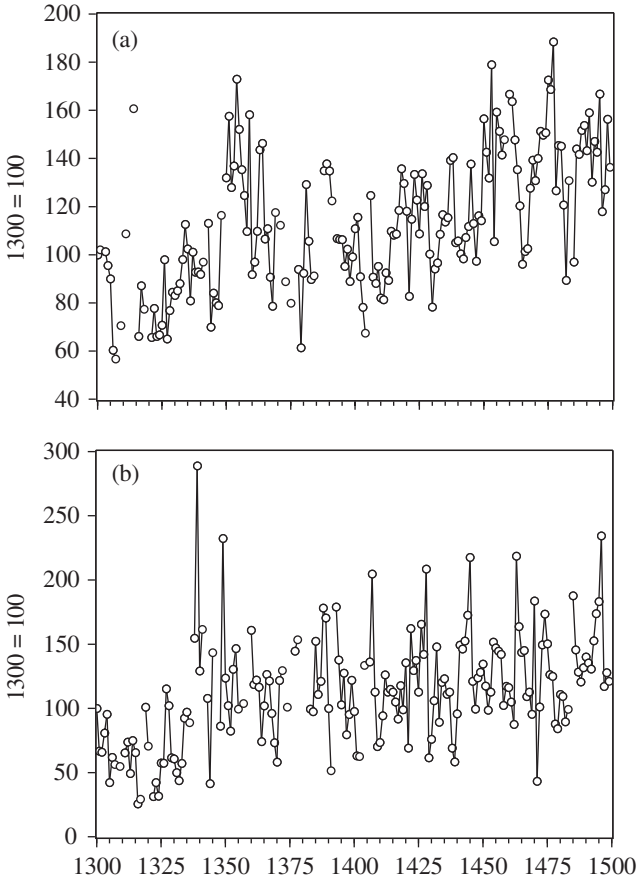

FIGURE 3.4. Relative commodity price trends, England 1300–1500 (1300 = 100): (a) woolen cloth to wool price ratio; (b) wine and port to wheat price ratio. *Source:* data graciously provided by Greg Clark.

relative to wool between 1350 and 1500, and while this presumably reflected in part higher labor costs, it is no surprise that the industry grew so impressively during this period, with weaving concentrated in the towns of Flanders, and finishing and dyeing in Florence and other northern Italian cities. Taxation of raw wool exports by Edward III to finance his wars in France gave "effective protection" to the woolen textile industry in England, as pointed out long ago by Eileen Power (1941, p. 101), and stimulated a shift in the composition of exports from raw wool to cloth, at the expense of Flanders.

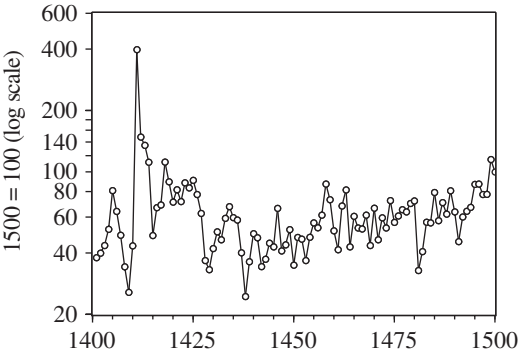

FIGURE 3.5. Annual English pepper prices 1401–1500, relative to grain (1500 = 100). *Source:* O'Rourke and Williamson (forthcoming).

The high income-elasticity of demand for wine and beer led to a rise in their relative price (figure 3.4(b)) as well, which in turn prompted an extension of vineyards and barley at the expense of wheat. Of greater importance to intercontinental trade was the effect of rising living standards on relative Asian spice prices: as would be expected, they rose sharply. Hamilton's (1936, pp. 267–69) data indicate that the price of Asian spices in Navarre doubled relative to agricultural commodities in the quarter century following the plague, and Greg Clark's data suggest that something similar happened in England, with low relative spice prices during the *Pax Mongolica* being followed by much higher relative prices from the 1340s onwards. Figure 3.5 shows that relative pepper prices in England rose across the fifteenth century, although this trend is somewhat obscured by a remarkable spike in pepper prices around 1411 or so, which lingered on during the rest of the decade and the 1420s. Once that spike, to which we will return below, has been accounted for, the upward trend in pepper prices is unmistakable. The same is true of real pepper prices in Vienna and the Netherlands, although the upward trend in the latter case was only weakly statistically significant (O'Rourke and Williamson forthcoming).

The Black Death had monetary consequences in Europe as well, memorably summed up by David Herlihy in the statement that "men were dying, but coins were not."[6] In terms of the well-known Fisher equation ($MV = PQ$), MV (the money supply multiplied by velocity) was initially unchanged, but output Q had declined as a result of the

[6]Herlihy (1967, p. 125), cited in Munro (2004, p. 1037).

decline in population, and so prices P had to rise. The result was what Munro (2004, p. 1037) termed the "sudden eruption of quite horrendous inflation," with the price of commodities rising sharply relative to silver. This fall in the relative price of silver in turn led to a reduction in silver (and gold) production in Europe (Nef 1987, p. 721), which coincided as we have seen with an increase in European demand for Eastern trade goods. These were largely paid for with silver: the net impact therefore was a decline in the European stock of silver coins, which led to John Day speaking of "the Great Bullion Famine of the Fifteenth Century" (Day 1978).[7] Lopez, Miskimin, and Udovitch (1970) trace the flow of bullion from England to Egypt by way of Italy between 1350 and 1500, and find that whatever Egypt accumulated from the West it eventually lost to India and the Far East. A particularly heavy drain on the Mamluk money supply was the cost of replenishing their own ranks with fresh imports of young male slaves from the steppes through the Black Sea. With each slave costing between 50 and 140 gold dinars, importing an estimated 2,000 slaves annually cost between 100,000 and 280,000 gold dinars in the 1420s.

Over time, the rise in European living standards should have prompted a recovery in the population, for familiar Malthusian reasons, and thus in European output levels (chapter 6 will discuss the Malthusian model in greater detail). With output rising, and the supply of silver in the economy falling, the price level should have eventually started to decline, with a prolonged period of deflation succeeding the initial burst of inflation. This should have gone on until such time as the increased relative price of silver prompted a recovery in silver mining, with a consequent rise in the price level. Thus, the simple general equilibrium model presented in Findlay and Lundahl (2003) predicts that the European price level should have initially increased after the Black Death; then declined, as a result of the Bullion Famine; and finally increased again.

This is exactly what seems to have happened. Figure 3.6 provides Northern Italian grain prices, expressed in terms of silver. Rising prices in the late fourteenth century are followed by a sharp price decline that lasts until the 1460s, when it is succeeded by an unmistakable if more modest price increase. According to Nef (1987, p. 735), there was a "boom in mining and metallurgy" between 1460 and 1530, with annual central European silver output rising perhaps more than fivefold, and

[7] See also Miskimin (1975) and Spufford (1988, chapters 14–16). For a contrary view, see Sussman (1998).

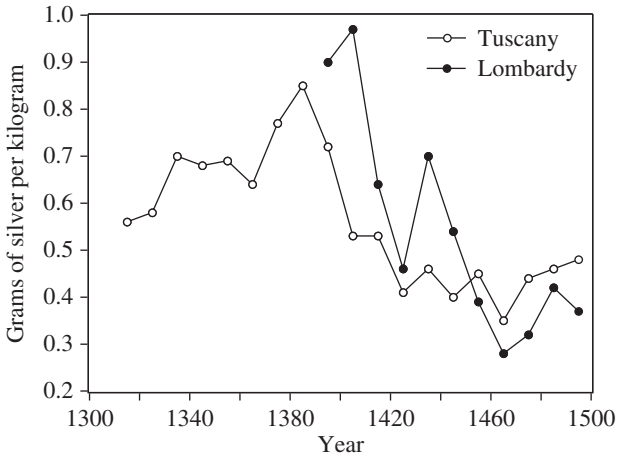

FIGURE 3.6. Northern Italian grain prices, 1310–1500 (grams of silver per kilogram). *Source:* Malanima (2002), available at http://gpih.ucdavis.edu/Datafilelist.htm.

Munro (2003) provides compelling new evidence of the size of this boom, which "vastly exceeded the scale of Spanish–American silver imports for the first half of the sixteenth century" (p. 10). According to Munro, the fact that this boom did not provoke significant inflation can be explained by the fact that silver was being continuously drained to the east as a result of trade, and that the European economy was by this time expanding along with population, implying that an increasing quantity of money was required merely to prevent prices falling.[8]

Of course, as population gradually recovered, the Malthusian model predicts that living standards should have declined, and in principle the economy could simply have recovered its initial equilibrium (Findlay and Lundahl 2006). But this is to ignore the role of path dependence in the real world: as David Herlihy (1997) persuasively argues in his brilliant book, the experience of higher living standards, and an increase in the share of the population which was propertied, meant that a higher proportion of the European population was regulated by preventive checks as opposed to positive checks after the crisis. If this translated into a later age of marriage for females, then Europe's population could have continued to grow without living standards collapsing to their original level. In addition, he argues that labor scarcity prompted technological change, symbolized by Gutenberg's

[8]In addition, mining output accelerated sharply only after 1510.

printing press, which could satisfy the growing demand for books more efficiently than old methods based on scribes (p. 50). Another example of labor-saving technological progress for Herlihy was firearms, which again implicitly substituted capital for relatively expensive soldiers (p. 51).

Stephan Epstein (2000) provides another, political reason why the plague may have benefited Western Europe in the long run. According to him, the decentralized governance of the feudal economy was an obstacle to growth, since local jurisdictions taxed trade, and "the major influence on the rate of innovation was the cost of trade" (p. 49), in accordance with Smith's dictum that the division of labor is limited by the extent of the market. Epstein provides evidence that "agricultural innovation appears to have been inversely correlated with the intensity of seigniorial rights, and rural industrial growth was inversely correlated with the jurisdictional powers of towns and lords" (p. 51). In this context, "the Black Death emerges as an exogenous event which contributed to the feudal economy's transition from a low-level 'equilibrium trap' to a higher growth path by sharply intensifying pressures that had been building up for centuries," namely a move toward more centralized states, at war with each other and thus requiring state-level taxation and state-level administrative structures. "By shifting the bargaining power between land and labor so rapidly…the fourteenth-century pandemic turned a comparatively smooth evolutionary process into a wave of Schumpeterian 'creative destruction'…. Supported by a wealthier peasant elite…aspiring rulers increased the jurisdictional integration of their territories, making markets more competitive, stimulating commercialization and setting the stage for the long sixteenth-century boom" (pp. 54–55).

According to McEvedy and Jones (1978, p. 18), Europe's population grew from 60 million in 1400 to 81 million in 1500. English real wages remained very high throughout the fifteenth century (figure 3.2), despite an increase in the English population of some 50% (ibid., p. 43). Similarly, Hamilton's data suggest that real wages were historically high in Navarre during the first half of the fifteenth century, even though the Iberian population rose from 6.5 to 7.75 million over the course of the century (ibid., p. 105). More generally, Pamuk (2005) concludes that real wages remained above their pre-plague levels until the sixteenth century, not just in Western Europe but across the Mediterranean world, while Allen (2001) has shown that England and the Low Countries even managed to avoid declining real wages in the longer run as well.

Thus, the fifteenth century was one in which Europe experienced both an increase in its population and high living standards. Limited

though they are, these data bear out the picture of an initially smaller but substantially richer European population, with a proportionately reduced output and trade in necessities but with a sharp increase in imports of luxury items such as northern furs and Eastern spices. The next section examines the consequences of this development for trade between Western and Eastern Europe.

Trade between Western and Eastern Europe, 1350–1500

The Hanseatic League, an association of north German towns organized to protect their joint commercial interests in foreign markets, dominated the trade of the Baltic and the North Sea during the period 1350–1500. The League from the beginning to the end of its existence was mainly concerned with the two-way flow of trade between eastern and northwestern Europe along the axis Novgorod–Reval–Lübeck–Hamburg–Bruges–London (Dollinger 1970, chapter 10). Along this main stream of trade furs and wax from the north of Russia and Finland were the main products moving westwards, while Flemish cloth and salt from north Germany and the Bay of Biscay were the principal items traveling eastwards. In addition, copper and iron from Sweden, fish from Norway and Scania, and grain and timber from Prussia and Poland were other major commodities added to the stream from north and south of the east–west Novgorod–London axis. It can be seen that the trade could be characterized as an exchange of raw materials and other primary products from Russia, Finland, the eastern Baltic areas, and Scandinavia for western manufactures, particularly Flemish woolen cloth.

Statistical series are unfortunately scarce but there are some scattered indicators of the expansion of trade between 1350 and 1500. Dollinger (p. 215) reports that the trade of Lübeck in the Baltic rose from 153,000 marks in 1368 to 660,000 marks in 1492. Since prices fell sharply, perhaps as much as 50% over this period, this means that the increase in the volume of trade was possibly twice as high again. Hanseatic exports of English cloths rose from 6,000 in 1400 to more than 15,000 by 1480.

Furs from the northern forests and tundra were obtained by Finnish and Russian hunters and collected at the eastern Baltic ports. The most valuable was sable, sold in Venice for 82 ducats per 100 pelts at the beginning of the fifteenth century. Marten and beaver were sold at 30 and 14 ducats, while lynx, squirrel, otters, and weasel skins fetched prices in the low single digits for 100 pelts. Furs were clearly

"prestige" or "status" goods, and the scale of demand indicates the extent to which the wealthier segments of medieval Europe, and also the Mamluk elite of the Islamic World to which many of these items were reexported, were willing and able to indulge in luxury and display. Dollinger (p. 235), who gives the price data quoted above, also reports that one Hanseatic merchant family alone imported into Flanders more than 300,000 pelts over the period 1403–15 from Danzig, Riga, and Reval. One convoy of three ships sailed from Riga to Bruges with 450,000 pelts, in addition to wax and linen of equal value to the furs.

Wax was obtained from bees in the northern forests and collected for sale to the Hanseatic and other merchants. The demand for candles to be used in religious services was presumably stimulated by the experience of the Black Death. Amber, for use as jewelry, was another valuable luxury item, the supply of which was lucrative enough to be monopolized by the knights of the Teutonic Order, the most powerful military and political entity in Prussia and the eastern Baltic area at the time.

During most of this period the Hansa dominated the trade of Scandinavia. Norway relied on grain imports from the Baltic provided by the League through their trading post at Bergen in exchange for dried codfish. The League used its influence over the grain supply to wring trade concessions out of Norway, though it respected the agreement not to trade north of Bergen. German merchants were also prominent in the commerce of Stockholm, and the League was the channel through which the supplies of copper and high-quality iron from Sweden entered the European market. Denmark supplied cattle and butter at this time, although the powerful Danish kings on occasion threatened Lübeck and other towns of the League with their naval forces. The main economic activity linking the League and Scandinavia, however, was the great salted herring industry of Scania in northeastern Denmark. Enormous quantities of salt, imported from the Bay of Biscay by large fleets of Hanseatic ships, were an essential input into the process of curing and preserving the herring caught on the shores of the Baltic (Crouzet 2001, p. 30, footnote 28).

Timber from Scandinavia, Russia, and the eastern Baltic lands was another valuable export, along with the related supply of potash and resin. Timber and hemp for use as cordage were essential inputs for the shipbuilding industries of Holland, England, and the cities of the League itself. Timber, iron, and copper were also strategic goods necessary for warships and their armament. Even the bow staves of the English archers in the Hundred Years' War were apparently imported from the forests of Eastern Europe.

Grain from Pomerania became increasingly essential to feed not only Norway but also Flanders and Holland, permitting them to specialize in the manufacture and export of woolen cloth using wool from England and Spain as the essential input. It is thus apparent that medieval northern Europe had developed an extensive pattern of specialization and interdependence between the lands of the North Sea and the Atlantic on the west and the Baltic in the east. The Hanseatic League gained its importance through the control it attempted to exercise as the sole intermediary between these diverse geographic areas. Control of the narrow Danish straits and the overland route across the Jutland peninsula linking Lübeck and Hamburg was therefore crucial, and the numerous wars that were fought by the League during this period testify to this fact. The League's objective was to prevent the Dutch and English from breaking into the Baltic and the Scandinavians from breaking out. They succeeded for about a century and a half before succumbing finally to the Dutch.

Wine, and to a lesser extent beer, were also important in medieval European trade. Specialization in viticulture developed early, and Bordeaux and Burgundy, Alsace and the Moselle were major exporting regions. Rhenish wines were exported all around Germany and the Baltic, and French wines were popular in England and the Low Countries. Beer was produced in most German towns, with Hamburg and Wismar being the biggest exporters.

What of the economic consequences of this northern trade between Eastern and Western Europe? The recovery of population and the labor force after the Black Death would, by simple factor proportions reasoning along Heckscher–Ohlin lines, raise the relative price of land-intensive goods such as grain and livestock products, together with the rent per acre of land, and lower that of labor-intensive goods such as manufactures along with the real wage. This would in turn imply an improvement in the terms of trade of the grain-exporting Eastern countries, leading to an extension of the area under cultivation and a growth of exports. These predictions seem to have been borne out in Poland, Prussia, and even to some extent in Denmark. As Postan (1970), Malowist (1966), and many others have pointed out, this had momentous social and political consequences. The nobility and gentry in all these lands, who were in any event benefiting from rising rents, were able to use their command of both military force and political influence over weak central states to bind the peasantry even more firmly to the soil in a "second serfdom," and thus expand their rents correspondingly further. Domestic manufacturing and handicrafts, and therefore the prosperity and influence of the towns,

should have declined in these countries, while wholesale and retail trade should have been taken up increasingly by foreign merchants, particularly if they were better organized and financed than their domestic counterparts. Again there is abundant evidence that this is exactly what happened.

The difference in factor proportions between Eastern and Western Europe can thus go a long way toward explaining the otherwise puzzling fact, noted by many observers, of why the same cause—population recovery after the Black Death—could produce such widely divergent sociopolitical outcomes as the "second serfdom" in the former case and the decline of feudalism and the rise of towns in the latter. In each region the impact effect of the plague was to raise wages, lower land rents, and hence increase the demand on the part of landowners for serfdom. The different experiences of Eastern and Western Europe must therefore be due to differences in the "supply" of serfdom, with rulers in the former region more willing to accede to landowners' demands than their counterparts in the latter. Trade and population recovery favored urban interests in the west and rural interests in the east. To the extent that these economic gains translated into political gains as well, this can help explain the different institutional supply responses in the two regions.[9]

A major aspect of the trade of northwest Europe with the Hanseatic League was the monetary imbalance against the former, involving the transfer of silver to the north German cities. Where did this silver go? Some of it undoubtedly went to Novgorod and Smolensk to pay for the expensive furs, amber, and wax that were so much in demand in the west. In turn the Russian principalities themselves used the silver at least partly to pay tribute to the Golden Horde, although this would become less of a factor as the period progressed, as we will see shortly. The German burghers, however, also had a strong propensity to purchase luxury products from the south of Europe, chiefly Italy. The overland route through Nuremburg and Frankfurt to Milan thus redirected the silver drained from England, France, and the Low Countries to the Italian cities of Milan, Florence, Genoa, Lucca, and Venice. The Italians also supplied northwest Europe directly by sea, with Venetian and Genoese galleys calling regularly at London, Bruges, and other northern ports. The luxury products that the Italians sold were chiefly the high-quality woolens of Florence, the silks and brocades of Lucca, and the finely crafted armor and weapons manufactured at Milan.

[9]Allen (1998) and Domar (1970), among many others, make several of these points. England remains a puzzle, however, since it was not heavily urbanized.

In addition there were also of course the spices and other oriental products that Venice and Genoa obtained from their trade with the Islamic World, and which were increasingly demanded by Europeans as their incomes rose. In order to analyze this trade, we need to turn our attention to geopolitical developments in Central and East Asia.

Overland Trade, 1350–1500: The Aftermath of the *Pax Mongolica*

The *Pax Mongolica* disintegrated as a result of the demise of the Il-Khan regime in Persia in 1335, the unrelated internal conflicts of the Mongol states in Central Asia, and the fall of the Yüan dynasty to the native Chinese Ming in 1368. While the traditional trade patterns between nomadic and sedentary peoples, such as the exchange of horses and camels for tea and silk, continued, the absence of imperial rule, even if only loosely unified between the different components of the Mongol Empire, had momentous geopolitical consequences that in turn had major repercussions on the future patterns of world trade.

The end of the *Pax Mongolica* spelled the end of the relative ease with which European merchants had been able to move throughout Eurasia. Foreigners were expelled from China, and there were massacres of Europeans in Persia and Turkestan to name just two examples. Thus it was that "the eastern frontier of south European trade gradually receded from the sea of China to the edge of the Mediterranean, losing even there the secure shelters of the Italian commercial colonies," and that European merchants found themselves once more dependent on "the Egyptian bottle-neck" (Lopez 1987, pp. 383, 387). Briefly, it seemed that the status quo ante might be restored by the great Central Asian conqueror, Timur (Tamerlane). Ethnically Turkic but politically affiliated with the Chaghatai Mongol Khans, he launched a series of attacks on surrounding areas, nomad and sedentary alike, causing great destruction and amassing a huge amount of plunder. His capital of Samarkand and other cities of the region were the beneficiaries of these fruits of conquest, reflected in splendid architecture and the construction of observatories and libraries. Adshead (1993) claims that there was an underlying logic to his apparently destructive activities, namely the securing of the southern Silk Road and the diversion of the caravan trade to this route from the alternative northern route controlled by the Golden Horde. His destruction of Sarai, the Horde's capital on the Volga and the hub of its commerce, is explained as a calculated move to further this

aim. Similarly, his conquest of Aleppo in Syria from the Mamluks is interpreted as the securing of a western terminus for this trade route, and the conquest of China that he was planning at his death in 1405 as the acquisition of the source of the goods that traveled westward along the Road.

Certainly, in Europe "Tamerlane seemed to many a new Chingis Khan who would restore peace through destruction and commerce through peace in the immense territories he subdued," and he was all the more welcome as a result of the advances of the Ottoman Turks, who were expanding into the Balkans and threatening Constantinople at this time (Lopez 1987, pp. 388–89). The crushing defeat that the forces of the Ottoman Sultan Bayezid (Marlowe's Bejazet) suffered at his hands at Ankara in 1402 postponed the fall of Constantinople by fifty years. With his death in 1405, however, the dream would vanish, the Ottoman advance would continue, Constantinople itself would fall in 1453 to Sultan Mehmed II "the Conqueror," and European–Asian trade would once again revert to the traditional sea routes described earlier.

However, European exclusion from Asia did not imply that the overland trade as a whole declined or stagnated. As we will see, the fifteenth century was the "Age of Commerce" in Southeast Asia, fueled by the expansion of China under the Ming and the recovery of Europe and the Mediterranean from the Black Death. It would therefore be surprising if prosperity at both ends of the old Silk Road did not sustain a corresponding continuance or even expansion of the overland trade in parallel with the growth of the overseas trade. To be sure, Europeans no longer participated directly in this trade, but this was a relatively minor detail in an era when Europe was still a bit player in the economic life of Asia. Thus, an extremely valuable paper by Morris Rossabi (1990) has pointed out that the Central Asian caravan trade did not decline but actually flourished throughout the fifteenth century. Despite the fall of the Yüan, and the Mongol Empire as a whole except for the Golden Horde, the successor states in Central Asia, Iran, and Turkey generally maintained peace and security along the trade routes.

As we have seen, Timur was extremely concerned to keep open the central land route from China to the west, and his descendants, in particular Shahrukh and Ulugh Beg, ruling in the prosperous caravan cities of Herat and Samarkand, were anxious to attract trade to and through their lands in order to sustain their ambitious building programs and scientific projects, such as the great observatory of Ulugh Beg in Samarkand. The Islamicized Turco-Mongol rulers of the oasis

cities of Hami and Turfan toward the eastern end of the Silk Road were eager to trade their horses and camels for silk, metals, and other manufactures from China, sending numerous "tribute" embassies or trade missions in disguise to China. Turfan alone sent no fewer than fifty-four between 1407 and 1502 (ibid., pp. 358–59). Persian cities such as Shiraz and Isfahan also sent diplomatic and trade missions. There are records of Chinese officials being sent on diplomatic and "fact-finding" missions to the Islamic lands of Southwest Asia. The establishment of the Ottoman Empire by the middle of the fifteenth century also added to peace and security along the trade routes, and merchants from as far away as Turkey, Arabia, and even Egypt traveled to China during the fifteenth century (ibid.).

The Emergence of Russia

As noted earlier the Golden Horde did not impose direct rule on the Russian principalities that they dominated. Instead they extracted tribute and manipulated the individual vassal states to maintain their suzerainty. The disruption caused by the Black Death meant that the hold of the Horde on its Russian vassals was weakened, and the ravages of Timur dealt it another crippling blow. While the initial beneficiary was the rising Grand Duchy of Lithuania, the greatest beneficiary in the long run was the strongest of the Russian principalities, Moscow.

Here the reign of Ivan III "the Great" (1462–1505), the grandfather of Ivan the Terrible, was of fundamental significance. Ivan III consolidated or "gathered" the Russian lands, hitherto divided between other city-states or republics and principalities, under Muscovite sovereignty. In addition he pushed back the penetration of the Roman Catholic Duchy of Lithuania and the German knights of the Livonian Order on Russia's western borders, opening trade routes to Eastern and central Europe and to the Baltic. The subjugation of the great trading republic of Novgorod in 1478 in particular greatly enhanced the wealth and power of Muscovy. Novgorod had controlled vast stretches of territory over which it collected the furs and forest products that it sold to the Hanseatic League and other Western merchants, and these lands were now distributed to Ivan's loyal followers. By a shrewd mixture of force and diplomacy he was also able to extend Muscovite influence over the Tartar Khanates of the Crimea and Kazan and the remnant of the Golden Horde known as the Great Horde, thus gaining access to the regions bordering the Caspian and the Black Sea. The fall of Constantinople to the Ottoman Turks in 1453 meant that he was the

only ruling Eastern Orthodox monarch of his time and his marriage to Sofia, niece of the last Byzantine emperor, allowed him to claim the Byzantine heritage, with Moscow as the third and last Rome.

These considerable achievements were largely the result of his fiscal and military reorganization of the Muscovite state, based on a new "middle service class" that was granted estates and control over serfs in return for providing a mobile and disciplined cavalry force capable of standing up to both the Lithuanian and Livonian knights and the Tartar horsemen of the steppe. "By the end of Ivan III's reign Moscow had become an important commercial center, whose merchants joined their own northern lands with Kazan and the southern market centers of the Black Sea to form a single commercial network" (Martin 1995, p. 322). Ivan III was succeeded by his son Vassily III (1505–33), also an able ruler if not as great a one as his extraordinary father. Vassily managed to hold on to his father's gains and extended them by subjugating another prosperous Russian trading republic, Pskov, and also wresting the major town and fortress of Smolensk from the Lithuanians. Much of his reign was spent in conflict with his father's allies, the Crimean Tartars, and with Kazan, while the wars with Lithuania continued in the west. Relations with the Ottoman Empire did, however, develop positively, based on the ability of Moscow to provide Istanbul with the valuable sable and ermine furs that were prized at the court as ceremonial prestige goods. One of the sources of contention with the Crimean Tartars was that they were losing the middleman role that they had successfully played between the Muscovites and the Ottomans, as the two great powers established increasingly direct bilateral relations. Crummey (1987) points out that the area ruled by Muscovy increased more than threefold between the ascension of Ivan III in 1462 and the death of Vassily III in 1533, in the process transforming it from merely an "ambitious principality" into a "nation-state of enormous size." Eventually the Russian Empire would serve to unify most of northern Eurasia, thus once again giving Europeans direct access to the Asian caravan trade, as we will see in chapter 5.

The Middle East, the Mediterranean, and International Trade, 1350–1500

Not surprisingly, centuries of conflict over the Holy Land, Europe's flirtation with the Mongols, and its abandonment of the traditional Red Sea trade during the *Pax Mongolica* had not endeared the Venetians and other infidel merchants to the Egyptian sultans. Moreover, the

Islamic World, which had exhibited such prosperity and magnificence at the turn of the millennium, was by now in the throes of a prolonged economic stagnation and decline, exacerbated by the Black Death and its continuing demographic repercussions. Mamluk rule continued in Egypt and Syria, but the Circassian Mamluks who took over from the earlier Turkish Mamluks in 1382 adopted ruthlessly predatory policies toward almost all forms of economic activity in their domains. They not only continued the traditional exploitation of the peasantry, but also introduced extortionate taxes and forced sales on industrial production and commerce. The monetary stability of the earlier dynasties was broken by the introduction of copper money on a larger scale. Agricultural production declined as a result of the falling labor force, failure to maintain the infrastructure for irrigation and Bedouin depredations, and a number of industries, from textiles to sugar refining and paper, shrank as the result of excessive taxation and competition from European imports. The revenues squeezed out of the economy by the Mamluks, supplemented by their rents from the transit trade in spices, were largely spent on luxury consumption by the elite and costly wars against the revolting Bedouin tribes and the increasingly powerful Ottoman Turks, while the late fourteenth century was also marked by the ravages of Timur in Syria. Ashtor (1976a, chapter 8), Levanoni (1995, chapter 4), and many other authorities present a very melancholy picture of the economic state of the Islamic World at this time.

Symptomatic of the relative decline of the Islamic World, and the relative rise of Western Europe, is the gradual reversal of the trade patterns that had traditionally prevailed between the two partners (Ashtor 1983, 1992, chapter 1). As we have seen, at the beginning of the millennium European exports had largely consisted of relatively unprocessed goods, with one or two well-documented exceptions such as Frankish swords, in return for high-value manufactures and luxury goods. Now, however, industrial decline in the Mamluk regions meant that it was Europe which better fit the traditional image of a "core" economic region, while the Muslim World found itself playing the role of "periphery" to a greater and greater extent. In textiles, the automatic spindle, treadle loom, and water-driven fulling mill were all adopted in Europe during the thirteenth century, but not in the Muslim World. Abulafia (1987) offers the telling example of fustian, a mixture of linen and wool produced and exported by Italy that took its name from the linen industry of Fustat or Old Cairo that had once been the major supplier of the Mediterranean world. Similar import substitution, followed by eventual export back to the original source

of the imports, also took place in other European industries, such as silk. Italians bought alkali ash from Syria to manufacture glass and soap, and Venetian Murano glass displaced Syrian glass as the industry leader. Papermaking also advanced substantially in Europe relative to the Muslim World. The cultivation of cotton and to a lesser extent sugarcane for export was one of the few positive features of the Mamluk economy during this period, but even this success story foreshadowed the emergence of a "colonial" relationship with respect to Europe later on.

This picture of the consequences of the Black Death of course contrasts dramatically with the very positive outcome for Western Europe that we have described earlier, emphasizing the rise in real wages and per capita incomes and the recovery of population and output to their previous levels. Why did the same exogenous demographic shock produce such sharply divergent outcomes? Ashtor speculates that the rise in real wages in Egypt and Syria following the Black Death was one reason for Mamluk industrial decline, but this hardly seems a convincing explanation, since as we have seen real wages rose in Europe as well, with apparently beneficial long-run effects.

An alternative perspective is provided by a recent study on the differential effects of the plague in Egypt and England (Borsch 2005). Borsch's account of the impact on England is similar in essentials to that given in our earlier section for Western Europe as a whole, which conforms to the predictions of a simple neo-Malthusian model with competitive markets for goods, land, and labor. In Mamluk Egypt, by contrast, the Mamluk system of nonhereditary assignment of lands to military commanders, only for the duration of their office, meant that as individuals each landowner had no incentive to make productive long-term investments, while all had a collective self-interest as members of the same armed ruling class in maintaining their rents. They thus responded to labor scarcity with harsh measures against the peasantry to maintain their rents at the expense of the latter, and when this proved insufficient extended their depredations to urban artisans and merchants. A further very important difference was that Egyptian agriculture was based on the control and allocation of the Nile floods through a complex system of central and local irrigation works. Maintaining rents in the short-term therefore came at the expense not only of the peasantry, but of the upkeep of public works such as the irrigation system as well.

The troubles unleashed by the plague also led to intensification of Bedouin raids on settled lands, despite savage reprisals by the Mamluk regime. As a result of all these factors, Borsch (2005, p. 15) claims that

while in Egypt population declined by as much as 50%, agricultural output fell by no less than 68%. Clearly, the contrast with England and the rest of Western Europe was dramatic indeed. If per capita incomes actually *fell* as a result of the plague, then the Malthusian model would generate further demographic contraction rather than the self-correcting recovery that was displayed in Western Europe. In addition the recurrences of the plague, sixteen in Egypt and fifteen in Syria between the 1360s and the early 1500s, seem to have been much more frequent and severe than they were in Western Europe (Levanoni 1995, p. 137).

If per capita incomes fell in Egypt, but land rents were maintained and urban wages increased (Pamuk 2005), this must have implied sharply deteriorating living standards for the peasantry. This should have given them an incentive to abandon cultivation of marketable crops in favor of subsistence cultivation, or flee into the towns or surrounding deserts, and this in turn should have lowered land rents and urban wages. If the Mamluks succeeded in maintaining rents, therefore, this must ultimately have been because Egyptian peasants were not all that mobile, despite the evidence of rural to urban flight cited by Borsch (2005, pp. 49–52) and implied by Garcin (1998, p. 314), who says that the population of Cairo remained stable despite the decline in the total population. For Abu-Lughod (1989, p. 238), the lesser mobility of Egyptian peasants, relative to their Western European counterparts, is in fact a key difference between the two regions during this period.

In his classic analysis of the causes of serfdom and slavery, Evsey Domar (1970, pp. 28–29) asks why serfdom was not reinstated in Western Europe after the Black Death, when clearly landowners would have benefited from forcing rural workers to accept lower living standards. His answer is that "serfdom could not be restored unless the landowners were reasonably united in their pressure on the government, and unless the latter was willing and able to do their bidding." These conditions, apparently, were not met in England. There were some attempts by Parliament to reduce peasant mobility, but these proved ineffective. On the other hand, the Mamluk regime, dominated as it was by a landowning military elite, was willing to back up landlord attempts to maintain or raise rents with legal action and violence (Borsch 2005, pp. 48–49, 59–62).

Lower intersectoral mobility would have impeded industrial growth in Egypt. Harsh taxation would have been a further burden on the sector. Both factors can thus help to explain the decline of the Muslim World's industrial sector, relative to Western Europe's, during this

period. In addition, the semiarid climate made Egyptian agriculture dependent on stable maintenance of the irrigation system, which the predatory Mamluk institutional structure was not able to provide under the impact of a demographic crisis that was even more severe and prolonged than in Western Europe. As Levanoni (1995) and Garcin (1998) have amply documented, the attempt to maintain their incomes in spite of the fall in population and output led to deep divisions and conflicts between the sultan, the senior emirs, and the unruly new recruits, that severely compromised the military effectiveness and discipline of this alien ruling class. Mamluk Egypt thus never fully recovered from the Black Death, in terms of population, prosperity, political cohesion, or military prowess.

All this meant that European merchants wishing to buy spices in Alexandria were faced with a partner in the Mamluk state that was anxious to squeeze the maximum amount of profit from them and their local counterparts. Not content with the traditional revenue from taxes on the transit trade in spices, the Sultan Barsbay, who ruled from 1422 to 1438, attempted to impose a state monopoly to raise revenues even further. The Karimi merchants who had handled the trade, making fortunes for themselves while also contributing generously to the state coffers, were effectively put out of business by his measures. The Venetians and other European purchasers of the spices resisted his attempts to force them to pay exorbitant prices and his efforts ended in failure according to Ashtor (1983, chapter 5). Nonetheless, fiscal pressure ensured that the incentive for Egypt to maximize its profits persisted throughout the remainder of the century. Thus in 1480, the sultan demanded that he be paid 110 ducats for a *sporta* of pepper, when the market price was only 50 ducats. The Venetians refused, but were subsequently refused permission to leave until they had paid 70 (Lopez 1987, p. 388).

Trade in the Mediterranean during the period was dominated by the ongoing rivalry between Venice and Genoa. The main commodities that the European merchants desired were pepper and ginger, but the more valuable cloves and nutmeg were growing in importance. As Ashtor (1978) has emphasized, raw cotton was increasingly sought after as an input to the textile industry established in southern Germany, central Europe, and Italy. In return, the main export to the Islamic World was woolen cloth, both the high-quality products of Florence and Flanders but also cheaper varieties from Catalonia and France. Metals, particularly copper, were important exports as well. Olive oil from Spain and North Africa was exported to Egypt and Syria by the Italian cities, whose dominance in shipping enabled them to encroach on trade in goods produced within the Islamic World itself.

Throughout the period Venice sent regular convoys of both galleys and cogs to Alexandria and Beirut. While the number of convoys remained fairly stable on average, despite fluctuations (ibid.), the volume of trade increased because the capacity of the cogs and galleys was significantly greater in the later years. The ascendancy of Venice in the spice trade, according to Ashtor, was based on her access to silver and copper from central Europe that was much in demand by the Mamluks, and also to her well-established markets for spices in Germany and northern Europe, through her links with Nuremburg. Another factor was the more aggressive resistance to Barsbay of the Genoese and Catalans, which left them as the less preferred partners when the attempt at state monopoly was implicitly abandoned after his death in 1438. In addition, the Catalans were prone to piracy, which tended to hamper their trade when the Muslim powers took reprisals.

The pattern of Genoese trade in the Mediterranean was different from that of Venice. Her strength lay in her colonies at Pera near Constantinople and at Chios in the Aegean. She had a monopoly of alum exports from the main producing region, Phocaea in Asia Minor, which she exported directly to Flanders, where it was an essential input for the dyeing of cloth. Spice purchases from Alexandria and Damascus were also shipped directly to Southampton and Sluys in Flanders. Chios was the main source of mastic used in paints and perfumes and exported to both Europe and the Islamic World. Slaves obtained in the Black Sea area continued to be exported to the Mamluks in Egypt. Cotton was obtained by Genoa mainly from Turkey and exported to the main centers of the textile industry in Europe. Although Venice and Genoa were the major players, many other European cities and states took an active part in the trade of the Levant and the Mediterranean. Catalan merchants from Barcelona and Valencia were prominent, exporting their own woolen cloth and olive oil from Spain to Egypt and Syria. Amalfi, Pisa, and other Italian cities, and Ragusa on the eastern shore of the Adriatic, were involved as well.

The close of the fifteenth century in the Mediterranean world as a whole can be seen as marking a historic turning point, in which the arena of classical antiquity and its offshoot, Islamic civilization, underwent a crisis and transformation reflecting deep-seated shifts in underlying economic and social forces in favor of northwestern Europe and the Atlantic that would become apparent in the next century. In Western Europe this shift away from Italy and the Mediterranean and toward the Low Countries and the Iberian Peninsula is a familiar one, but associated with it was a much less familiar shift in the Islamic World. The Mamluks, ruling over Egypt and "Greater Syria"

(including Lebanon, Palestine, and Transjordan), as well as the holy cities of Mecca and Medina in the Hijaz, constituted the most powerful state in the Islamic World between the fall of the Abbasid caliphate in 1258 and the fall of Constantinople to the Ottomans in 1453. The Mamluks and Ottomans were both Sunni Muslim, and both elites had their roots in the steppes of western Central Asia, but they were clearly destined to be rivals for the leadership of the Islamic World.

As Carl F. Petry (1994) has pointed out, however, the two states differed fundamentally in that the older Mamluk state wished to preserve the status quo, while the new Ottoman state was expansive and dynamic. The inherent conservatism of the Mamluk state, according to David Ayalon's (1956) classic study, was notably, and fatally, reflected in the attitude of its warrior ruling class toward the use of gunpowder and firearms. As expert horsemen with unrivaled skills in using the bow and the lance, they were hostile and unreceptive to the new military technology based on these innovations, with only auxiliary units being equipped with firearms, and artillery used only for coastal defense rather than in the field. The Ottomans, with their greater exposure to conflict with European powers in the Balkans and central Europe, were far more progressive in arming their elite Janissary infantry with muskets, and used cannon to great effect not only in sieges, as at Constantinople, but in the field as well. Their artillery proved decisive in defeating the rising Safavid dynasty of Shah Ismail at the Battle of Chaldiran in 1515, and in 1516 and 1517 they inflicted the same fate on the Mamluk armies in Syria and Egypt. The entire Mamluk kingdom was incorporated into the empire of Sultan Selim *Yavuz*, or Selim the Grim (1512–20) as he is known in the West, although the Mamluks themselves survived as an influential group within the empire.

Southeast Asia and China, 1350–1500

We turn now to the ultimate source of the spices that were sold by the Muslim World to Christian Europe, namely Southeast Asia, and to the relationship between that region and China. The fifteenth century was one of expansion driven mainly by demand for pepper and spices from China in the east, supplemented by the western trade to the Red Sea and the Persian Gulf, reflecting the demand from the Islamic World and an increasingly prosperous Western Europe. Thus, Anthony Reid (1993a, chapter 1) refers to the 1400–1650 period in Southeast Asian history as "the Age of Commerce." This in itself is a welcome antidote to the traditional Eurocentric view that associates commerce in Asia with

the "Vasco da Gama Epoch" that only begins at the end of the fifteenth century. After noting the slump in the spice trade in the middle of the fourteenth century due to the ravages of the Black Death and the fall of the Mongol Empire, Reid associates the onset of his Age of Commerce with the series of great voyages launched from 1405 onwards by the Ming dynasty under the command of the Muslim admiral Zheng He (or Cheng Ho).

Many accounts of the Ming voyages by Western writers consider them purely as demonstrations of the power and might of the new dynasty and ignore their economic impact. It is interesting therefore that a modern Chinese scholar, T'ien Ju-kang (1981), stresses that Zheng He's voyages brought back enormous quantities of pepper from Southeast Asia and the Malabar Coast. He states (p. 187) that "in China, the change in the value of pepper from being a precious commodity to one in common use came about as a result of Cheng Ho's (Zheng He's) voyages." According to Reid (1993a, p. 12), "the expeditions undoubtedly stimulated Southeast Asian production of crops for the China market." Indeed, it was around this time that pepper plants from Malabar in southern India were introduced into northern Sumatra, from where pepper was exported to China. Pepper was an imperial monopoly under the Ming, who used it, along with sandalwood and other valuable imports, instead of silver or paper money, to remunerate hundreds of thousands of soldiers and civil servants. After the cessation of the voyages, pepper imports continued to be abundant as a result of private trade and tribute payments, leading to an over tenfold drop in price by the early seventeenth century. Apart from pepper, cloves and sappanwood were important commodities in this trade.

The fifteenth century was the heyday of Melaka as the classic Malay "port-polity," as identified by Kathirithamby-Wells and Villiers (1990, chapter 1), under a native potentate who kept his harbor open to merchants from all quarters of the globe. Such political entities were located on rivers, giving them access to an agrarian hinterland, at or near a seacoast giving them access to the arteries of international trade. Trade served as the major source of revenue sustaining the ruling elite. The polity could itself be the source of major exportable products, or alternatively be an entrepôt through which the products of other regions were transshipped. In this sense Melaka can be thought of as the successor of Srivijaya, and a predecessor of Singapore, as the major port-polity of the Southeast Asian region. Its historical origins are obscure. It is supposed to have been founded at the site of a fishing village around 1402 by a certain Paramesvara, allegedly a prince of

the Javanese Sailendra royal family born at Palembang in Sumatra. He apparently gained control of both sides of the Straits and was recognized as the ruler of Melaka by the Ming dynasty with whom he opened diplomatic relations. Significantly, Zheng He called at Melaka in 1409 on the third of the celebrated Ming voyages.

Islam was beginning to spread in Sumatra at this time, with the port-kingdom of Pasai being the first state with a known Muslim ruler, and the Hindu Paramesvara was supposed to have converted before his death in 1424 in order to secure a trade agreement with Pasai. Subsequent rulers apparently reverted to Hinduism before the definitive adoption of Islam by the middle of the fifteenth century. The expansion of east–west trade, particularly in spices in return for silver, cloth, and porcelain, sustained the emergence and growth of Melaka as the premier entrepôt of Southeast Asia, on the basis of its location connecting the Indian Ocean and the South China Sea, between the alternating northeast and southwest monsoon winds. Islam spread as far as the Spice Islands in the wake of the growth of Melaka's trade. By the time it fell to the Portuguese in 1511 Melaka had a population estimated at between 100,000 and 200,000, making it the largest urban center in Southeast Asia (Thomaz 1993).

Trade taxes provided the state with most of its revenues since there was no agricultural production other than vegetables and valuable fruits such as durians and mangosteens, all the rice required being imported from Burma, Siam, or Java free of duty. The total value of trade around 1511 was estimated at between 1 and 2 million Portuguese cruzados. Melaka issued a tin coinage but all currencies were freely traded in the markets. The sultan himself had his own fleet and conducted trade on his own account, as well as in partnership with private traders, apparently without any attempt to disadvantage foreign or local private sector competition. Each major community, such as the Gujaratis, Tamils, Chinese, and Javanese, had its own head or *shahbandar* in charge of their transactions, and responsible to the centrally appointed royal official, the *bendahara*. Around 1516 there were said to be 1,000 Gujaratis, over 4,000 Bengalis, Arabs, and Persians, 1,000 Tamils, and several thousand Javanese. The state had a standing army and navy of mercenaries, supplemented in time of war by levies from the surrounding territories owing allegiance to the sultan. A significant community in Melaka was the *orang laut* or sea nomads, who formed the core of the naval contingents and the ruling elite of the state. The atmosphere at Melaka appears to have been remarkably cosmopolitan. The Islam practiced was not very strict, and was denounced for its laxity by more orthodox Muslims from the Middle East.

The Portuguese apothecary and diplomat Tome Pires, who visited Melaka shortly after the occupation in 1511, claimed that eighty-four languages could be heard spoken in a single day. Pires (1990), in book 6 of his work, gives a fascinatingly detailed account of the trade of Melaka. According to him, at least one hundred large ships came to Melaka every year with very valuable cargoes. Of this total there were approximately five each from Gujarat, the Coromandel Coast, and Bengal, about fifteen from the Lower Burma port of Pegu, around thirty from Siam, ten from China, ten from Palembang, and the rest from various ports in the islands and the Far East. The harbor had warehouses to hold the goods securely until they could be disposed of, and all the necessary institutions to ensure that trade could take place smoothly and securely. We learn that merchants from the Red Sea and the Persian Gulf took their goods to Cambay in Gujarat before proceeding to Melaka, and that "those from Cairo bring the merchandise brought by the galleasses from Venice, to wit, many arms, scarlet-in-grain, colored woolen cloths, coral, copper, quicksilver, vermilion, nails, silver, glass and other beads, and golden glassware." The Cambay ships each had cargoes that he valued at 70,000–80,000 cruzados, including thirty kinds of cloth "much valued in these parts." The return cargoes were cloves, nutmeg, mace, sandalwood, "enormous quantities of white silk," tin, and birds valued for their feathers as plumes.

Pires notes the interdependence of the two great ports, declaring that "the Cambay merchants make Melaka their chief trading center" and that "Melaka cannot live without Cambay, or Cambay without Melaka, if they are to be very rich and prosperous." Tamil merchants known as Klings also brought large quantities of cloth, which were exchanged for sandalwood, camphor, alum, spices, pearls, and gold. These Klings, according to Pires "have all the merchandise and more of the trade of Melaka than any other nation." The greatest of these Tamil merchants was the famous Nina Chatu, who befriended the Portuguese when they first came to Melaka in 1509 and was appointed *bendahara* after their takeover in 1511, committing suicide after they replaced him with a Malay prince to appease the local populace. Pires ends his account of Melaka with a rapturously enthusiastic paean to the port and its potential, not only as the best base for trade in the world because of its incomparable location, but also for victory in the struggle against Islam, since "merchandise favors our faith," and in the commercial competition against its main European rival, because "whoever is lord of Melaka has his hand on the throat of Venice."

Despite its dominance over the Straits, Melaka could not avoid acknowledging some loose form of dependence on the much more

TABLE 3.1. Seaborne tribute missions to China, 1369–1509 (numbers of missions).

Period	Siam	Cambodia	Champa	Java	Melaka	Pasaia
1369–99	33	13	25	11		1
1400–9	11	4	5	8	3	3
1410–19	6	3	9	6	8	7
1420–29	10		9	16	5	5
1430–39	4		10	5	3	3
1440–49	3		9	7	2	
1450–59	2		3	3	3	
1460–69	1		4	3	2	1
1470–79	4		3		1	
1480–89	3		3			3
1490–99	3		3	2		
1500–9	1		2		2	

Source: Reid (1999, table 1, p. 87).

heavily populated state of Ayutthaya in Siam that was able to dominate the Malay Peninsula militarily from its northern end. Ayutthaya was situated near the mouth of the Chao Phraya River, which flowed into the Gulf of Siam. It thus had access to fertile rice plains as well as an outlet to the sea for foreign trade, giving it a formidable combination of manpower and agrarian as well as commercial revenues. The state was founded in 1351 by a ruler of mixed royal Thai and mercantile Chinese descent, a circumstance that reflected the dual basis that was to be characteristic of this important Southeast Asian state. As table 3.1, taken from Reid (1999) shows, Ayutthaya responded energetically to the opportunity to trade with China at the start of the Ming dynasty in 1368, sending sixty seaborne "tribute" missions in the sixty years from 1369 to 1429, more than any other Southeast Asian state, though Champa and Java also sent more than forty each in the same period.

Drawing on cultural influences from the early civilization of Angkor to the east, Ayutthaya developed as a highly centralized bureaucratic state, with separate hierarchies of civil and military officials and allocations of manpower and other resources to specified functions. During the fifteenth century it was able to extend its power to the borders of Burma and Laos and also over the important ports of Mergui and Tenasserim, giving it outlets on the Bay of Bengal. Its major export in addition to rice and tin from the Malay Peninsula was deerskins, very much in demand in China, Japan, and the Ryukyu Islands. The administration of foreign trade, even though under ultimate royal control, was entrusted to officials of foreign origin, among

them Persian and Indian Muslims in addition to Chinese and Sino-Siamese with mercantile backgrounds and experience. The kingdom maintained active contacts with China, which it acknowledged as a suzerain, as well as with India and the Middle East and all the Malay and Indonesian states.

The natural competitors of Ayutthaya in the fifteenth century were the Shans, to whom they were ethnically and linguistically related, divided into numerous petty states, the Mon kingdom of Pegu in Lower Burma founded in 1356, and the Burmese kingdom of Ava, the much diminished successor state of the Pagan Empire that fell in the thirteenth century, founded in 1364. Pegu was very actively involved in the trade of Melaka and the Bay of Bengal and its teak made it a major shipbuilding center for the entire Southeast Asian world. The large vessels that carried cargo to Melaka and other ports in Southeast Asia were often themselves sold at their destinations. Pegu also exported "Martaban jars," popular all over the Southeast Asian world as containers for water, oil, and grains. Pegu's income from foreign trade enabled its rulers in the fifteenth century to contest on better than equal terms with the inland agrarian Burmese kingdom of Ava which lacked an outlet to the sea. On the other hand Ava had substantial revenues from the productive irrigated areas of the Dry Zone in central Burma, enabling it to support a larger population than the swamps of the lower reaches of the Irrawaddy, Sittang, and Salween Rivers ruled by Pegu.

Separated from Ava and Pegu by the Arakan Yoma mountain range was the kingdom of Arakan, extending southeastward along the coast from Bengal with which it had close economic and cultural contacts despite the religious differences between Buddhism and Islam. The capital of this kingdom, Mrauk-U, founded in 1433 and located upriver in a fertile rice plain with access to the sea, also controlled the important port and cotton textile center of Chittagong in Bengal from 1459 until it lost it to the Mughals in 1666, thus giving it a diversified economic and revenue base during this period when it enjoyed its greatest power and prosperity. Bengal cotton textiles were as we have seen much sought after throughout Southeast Asia and could be traded inland and around the Bay for other goods, including rubies from Upper Burma and imports of Chinese goods brought down the Irrawaddy from Yunnan. The Arakanese maintained a powerful fleet of war galleys, specializing in naval operations in the shallow waters of creeks and rivers, which they used in raids for booty and slaves in Bengal that were another lucrative source of revenue.

Vietnam had been a province of China for almost all of the first millennium. Consequently, it is no surprise that the early Ming, with their

interest in overseas contacts, attempted to restore Chinese suzerainty over this recalcitrant area by an invasion in 1407, ostensibly to remove a usurper but in reality to impose direct rule. The Vietnamese, as always, resisted and a new Le dynasty established by the leader of the national revolt arose in 1428 with its capital at Hanoi. The Ming recognized the Le as kings of Annam ("Pacified South") after payment of tribute, saving face all round and restoring relations to the traditional basis of nominal submission but effective independence. The most notable ruler of the new dynasty was Le Thanh Ton (1460–97), who conquered the Champa kingdom to the south in 1471, thus extending the realm to comprise the Mekong delta and the site of the modern Saigon in addition to the traditional base of the Red River delta, the two joined by the long coastal strip east of the Annam mountain range.

Therefore, apart from Melaka there were many other regional centers such as Arakan, Pegu, Ayutthaya, and various northern Javanese coastal states that prospered during this period. Political competition and warfare were by no means unknown but it is notable that no states with imperial claims emerged in Southeast Asia in this century. The power and glory of Pagan, Angkor, and Majapahit had all receded into history, and no new contenders had yet arisen. While Melaka and several other Indonesian and Malay ports were engaged in long-distance trade, their need for local goods stimulated rice production and shipbuilding activities in Burma and Thailand as well. Thus the long-distance trade in spices, Indian cotton textiles, and Chinese silks and ceramics was supplemented in the Southeast Asian states by intraregional trade in rice, timber, and other necessities, ensuring an efficient international specialization. There are no quantitative estimates of total Southeast Asian exports during the fifteenth century, but it seems clear that overall spice exports rose (Reid 1990).

The Ming dynasty turned its back on overseas contacts after ca. 1430, and imposed extensive prohibitions and regulations on foreign trade. The ships and the yards at which they were built ceased to exist and the technology of long-distance maritime navigation was beginning to fade away from disuse. The explanation given for these apparently irrational acts is usually the power struggle between the traditional Confucian mandarins, with their agrarian-based value system and concentration on the nomadic threat from Central Asia, and the palace eunuch faction to which Zheng He himself belonged, which was interested in the projection of Ming influence overseas, in which the former group secured a complete victory. The raids by the so-called Japanese *wako* pirates, who were in fact mostly disaffected Chinese, on the coastal areas was another reason why the Ming bureaucracy

was averse to foreign trade. Security against their inroads was sought by even stricter controls on foreign trade, which was increasingly confined to the traditional tribute system. In this system trade could only be conducted in the context of tribute missions from recognized vassal states, with the volume and types of goods strictly regulated.

One interesting consequence was the emerging importance of the Ryukyu Islands under King Sho Hashi, who encouraged southern Chinese merchants to settle near Okinawa and conduct trade with Japan, China, and Southeast Asia, thus providing an important link between these major markets (Sakamaki 1964; Reid 1990). Table 3.1 shows that tribute missions to China from Java, Siam, Champa, and elsewhere continued during the fifteenth century, after the inward turn of the Ming, although with decreasing frequency. Thus, there were eleven tribute missions from Siam in the first decade of the century and ten during the 1420s, but no more than four during any subsequent decade, and this pattern was repeated elsewhere. China did not become autarkic during this period, but she was clearly more closed than she had been before.

Quantifying the Late Medieval Spice Trade

We end this chapter with some quantitative information on the extent of the spice trade during the fifteenth century, since these are some of the earliest data on intercontinental trade available to us, and since the spice trade was a geopolitically important one. According to Wake (1986), European pepper imports were around 1,000 tons a year in 1400, with Venice supplying about 60% of the total. Imports of spices other than pepper were between 470 and 550 tons, with Venice importing less than half the total. By 1500 Europe's pepper imports had risen modestly to about 1,200 tons, with the share of Venice falling below 60%. For spices other than pepper, including the much more valuable items such as cloves and nutmeg, Europe's imports rose far more rapidly to between 1,200 and 1,350 tons a year, with the share of Venice rising to over 60%. Thus Venice more than compensated for her loss of market share in pepper by a significant gain in the much more lucrative trade in the fine spices.

From the previous discussion it seems likely that this fifteenth-century increase in imports reflected growing European demand rather than easier trading conditions. Pepper price evidence suggests that this was indeed the case. Frederick Lane (1968) and Eliyahu Ashtor (1969, 1973, 1976b) have provided evidence that nominal spice prices,

and in particular pepper prices, fell during the fifteenth century in Venice and the Near East. However, it is relative prices that matter in indicating the economic scarcity or abundance of a commodity, and neither author provides direct evidence on this. Indeed, Ashtor (1969) suggests that part of the explanation for falling spice prices was a general deflationary price trend in the Near East, which would mirror the deflationary trend in Europe pointed to earlier. But in any event, even if real spice prices were falling in Venice and the Near East during this period, figure 3.5 shows that this finding can *not* be generalized to the rest of Europe, since real (i.e., grain-deflated) pepper prices rose in England, as well as in the Netherlands, Flanders, and Austria, over the course of the century (O'Rourke and Williamson forthcoming).

The spike in spice prices in the second decade of the fifteenth century is suggestive, for it coincides precisely with the Zheng He expeditions. Indeed, the year 1411 saw the invasion of Ceylon (Sri Lanka) and the capture of one of the local kings (Wade 2004, p. 16). We have already seen that these missions bought up significant quantities of spices and pepper, and it seems plausible that this could have translated into a large percentage decline in the residual supply that could be shipped to Europe, given the dominant role of the Chinese end market at that time. (Indeed, European clove imports declined from 22 to 14 tonnes between the 1390s and 1400s (Bulbeck et al. 1998, p. 54).) If true, this hypothesis would serve to underline the utter dependence of Europe on Asian market conditions during this period, and its peripheral status within the international economy. Asia, not Europe, still dictated the pace of intercontinental trade.[10]

This would soon change, however, as a result of the forces that we have explored in this chapter. We have seen how the Black Death increased European living standards, and thus the demand for Asian trade goods, exactly at the moment that overland trade with Asia once again became impossible for Western Europeans. Rising prices of pepper and other luxury goods were only to be expected under such conditions, as was the increased exploitation of European consumers by Muslim and Venetian middlemen, who should have raised their

[10] If Edward Gibbon is to be believed, and we would certainly like to believe him, then this is not the first time that events in East Asia directly influenced British relative prices. According to him, "in the year 1238, the inhabitants of Gothia (Sweden) and Frise were prevented, by their fear of the Tartars, from sending, as usual, their ships to the herring fishery on the coast of England; and as there was no exportation, forty or fifty of these fish were sold for a shilling.... It is whimsical enough, that the orders of a Mogul khan, who reigned on the borders of China, should have lowered the price of herrings in the English market" (Gibbon 1907, p. 148).

price–cost margins in response to increased levels of demand. In this way, the contrast between the falling spice prices of Egypt and Venice and the higher prices experienced in the major importing centers of northwestern Europe becomes easily understandable.

All this, as well as the closing of the medieval European frontier (Lewis 1958b), increased the incentive of non-Venetians to find a way around the Muslim middleman, who blocked direct access to both Asian spices and African gold, an aim which as we have seen Europeans had held since the thirteenth century at the latest. And this economic incentive was supplemented by the cultural and geopolitical incentive to return to Cathay, a desire kept alive by the travelers' tales produced during the *Pax Mongolica*. As J. R. S. Phillips (1998, p. 246) puts it, "With only a little exaggeration we might say that the ultimate legacy of the Asian and Eastern European conquests of Genghis Khan and his followers in the thirteenth century was the mutual discovery of Europeans and of the Native American peoples at the end of the fifteenth."