

The Low Countries

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Introduction

The profound economic breakthrough of the industrial revolution tends to obscure the groundwork of market development on which it was based. Though much slower and more uneven, this transformation encompassed the switch from autarkic or tributary modes of production to voluntary market exchange of goods, labor, land, and capital. Radiating out from northern Italy, the Low Countries, and Britain, the development of product and factor markets also affected urbanized regions of Spain, France, and Germany, but bypassed many rural areas and did not penetrate deeply into eastern Europe until the nineteenth century.¹

The dynamics of European market development before 1800 are demonstrated to good effect by the Low Countries. Despite the limited size of this area, it offers a unique opportunity to explore long-term changes of market institutions under very different political and economic circumstances. A patchwork of independent countries and duchies in the late middle ages, the Low Countries in the fifteenth and sixteenth centuries displayed an ever-greater legal, political, and economic unity, until a civil war, the Dutch Revolt (1568–1572), set the northern and southern part of the Netherlands on very different paths of economic and political development. In the north, the Dutch Republic became what has been termed the first modern economy,

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1 For a general treatment of early market development see de Vries 2001. Cf. also Braudel's emphasis on the existence of highly localized pockets of economic growth before 1800 (Braudel 1979). Cf. for Italy: Epstein 2000; for the Low Countries de Vries and Van der Woude 1997; for France: Hoffman 1996; for Spain: Grafe 2012; for Russia: Dennison 2011.

while in the south the virtual stoppage of maritime trade forced a reorganization of the economy that compensated for some of the ground lost, yet could not prevent a prolonged crisis that lasted until 1750.

The dynamics of European market development before 1800 are demonstrated to good effect by the Low Countries, which underwent several distinct phases of evolution and in addition present a highly illuminating contrast between a considerable degree of economic integration among regions and continuing local variations in the organization of markets.² There were four growth phases between 1000 and 1800, starting with Flanders's late medieval heyday which, around 1300, culminated in Bruges becoming northwestern Europe's leading entrepôt. The second upswing started during the late fifteenth century with the rise of Antwerp as commercial and financial metropolis. Following the political split between north and south with the Dutch Revolt, the economic center of gravity shifted away from Brabant and Flanders to Holland, initiating a third phase of dynamic growth there, while the southern Low Countries endured an era of comparative stagnation. However, toward the end of the eighteenth century positions reversed. The south entered a new, fourth phase, entrepreneurs in Liège and Ghent pioneering an industrial transformation, whereas the north languished until its belated industrialization during the later nineteenth century.

Now we might have expected the area's geographic diversity and political and legal fragmentation, preconditions it shared with Europe at large, to have handicapped the development of markets. Indeed, constraints on capitalist development did exist, notably in regions where agricultural productivity remained low and the rural elite captured most of the surplus. However, we argue in this chapter that diversity and fragmentation promoted their development, in two distinct ways. First, the abundance of navigable waterways crisscrossing the area, in conjunction with very diverse local resource endowments, stimulated competition and regional specialization based on the market exchange of farm products, raw materials, and manufactures as well as, on a more moderate scale, labor and capital (Blockmans 2010b; van Bavel 2010a). The second way, closely connected to the first, was the nature of the interregional competition itself. Historians have often emphasized the negative effects of urban rivalry on economic performance, but there were

² For a quantitative appraisal of the growth performance of various parts of the Low Countries until the nineteenth century: Aerts 2004; de Vries and van der Woude 1997; Lis and Soly 1997b; Mokyr 1976; van der Wee 1963, 1988; van Zanden and van Riel 2004.

marked benefits to competition within the Low Countries, notably in the realm of contracting institutions. Because most of the area was accessible in more ways than one, urban councils and territorial overlords had to remain on their toes if they wanted to maintain their position in commercial networks, while the towns possessed a keen interest in developing institutions to support market exchange (Davids 1996: 100–112; Dijkman 2011; Gelderblom 2013; Stabel 1997; 161–172). For this purpose contracting institutions were borrowed from nearby regions and adapted to local circumstances.

These factors gave the Low Countries a head start but, if market evolution was more pronounced there than elsewhere in Europe, this was a difference in degree, not kind. That difference was rooted in its specific conditions, notably the large number of towns with considerable legal and political autonomy whose connectivity was much higher than that of towns in, say, the German lands, France, or the interior of Spain. Because of these favorable circumstances the Low Countries did not need a strong central government or major improvements in transportation technology to stimulate economic exchange across regions. Conversely, the area's comparative advantage diminished once the governments of rival states began fostering their own economic interests by excluding Low Countries merchants and manufacturers from domestic markets and by improving their own infrastructure.

Cross-country connections

Geography forms the basis of the Low Countries' diversity.³ Northern and western parts of the area are flat and lie low, partly below sea level, but as we move east and notably south the land becomes first gently undulating and then mountainous towards the Meuse valley. Most areas have easy access to the sea, either via inlets or by way of the rivers and, increasingly from the early middle ages, man-made canals that crisscross the country. Soil types vary from rich clay and loam to marshy peatlands, poor sand soils, and rock-strewn hillsides. Widely different patterns of settlement and exploitation across the area reflected this diversity of soils. Combined with the ease of transporting surpluses, this variety stimulated specialization and exchange between regions, and in time also the emergence of bigger settlements.

³ Cf. van Bavel (2010a: 15–50) for the definitive statement and references to the older literature.

The southern part already possessed towns in Roman times, but following the empire's collapse most of them disappeared with the exception of those in the southern tip of Flanders. There, walled settlements at Cambrai, Tournai, and Arras held on long enough to take part in the urban revival that started to manifest itself from the seventh century onward. In the Meuse valley fortresses remained and served as a basis for a repopulation at places like Huy, Namur, Tongeren, and Maastricht (van Bavel 2010a: 102). Elsewhere, notably in the area north of the River Rhine not conquered by the Romans, the urban revival favored more recent nodes of settlement, such as castles, manors, episcopal seats, or abbeys. Whatever their origin, the early emerging towns shared one salient characteristic. They were all situated to profit from passing trade, i.e. on navigable water. A finely woven network of towns emerged, linked by waterways and serving hinterlands with market facilities and administrative functions. One such cluster centered on Ypres, Lille, Arras, and Cambrai in the southern Flanders–Artois area, another on Bruges and Ghent in northern Flanders, a third one along the Meuse river, and a fourth one emerged a little later on the eastern side of the Zuider Zee.

Over time these towns gained considerable freedom of action in shaping the local institutional framework for the organization of exchange. The growth of towns offered opportunities which overlords, be they clerical or temporal, could not afford to let go, such as a boost to tax revenue, the possibility of raising debt, the provision of key services such as administration and education, and support against rival lords. As a consequence all towns benefitted from the protection and favors of their overlords. In return, overlords bestowed privileges on the towns in their territory (Dijkman 2011: 389–392; van Bavel 2010a: 110–113). These privileges ranged from fairly simple economic benefits such as a trade entrepôt, a weekly local market, or a regional fair, to comprehensive codifications of a town's legal and administrative rules, usually referred to as town charters.

Urban charters resulted from combining the bottom-up shaping of institutions within the towns and by the communities themselves with a top-down contribution from the overlords concerned. However, they also show a third, horizontal factor driving the institutional dynamics of medieval towns, and that is the collaboration and competition between towns. The articles of urban charters were usually lifted from other codifications, resulting in families of related, very similar sets of rules stretching across the Low Countries. There were at least six such families. Some of the more extended networks, like the well-known one fanning out from the Deventer charter first granted in 1123, linked up to fifteen towns together in a common legal framework. This often

transcended the boundaries between territories on purpose, with towns importing charters from elsewhere so as to emphasize their independence, distance themselves from powerful neighbors, and position themselves differently on regional markets (van Engen and Rutte 2008: 74–78). Zutphen, for instance, did not in 1190 adopt the charter from nearby Deventer, but the one from Roermond, more than a hundred kilometers to the south as the crow flies.

Towns not only fashioned their relationship with overlords after each other's examples; their initial emulation also led to a more continuous calibration of institutional arrangements between towns. The links between the members of a charter family were more or less regularly maintained by a custom called *hofvaart*, literally court trip, in which officials from affiliated towns visited their parent town to discuss points of law. Thus magistrates from the island of Texel at the northern tip of Holland would consult their immediate forebear Alkmaar. If that failed to settle the matter, Texel and Alkmaar officials travelled together to Haarlem, the next one up, and if necessary with their Haarlem colleagues to Louvain in Brabant, the parent of them all. Though the *hofvaart* mechanism must have helped to achieve a degree of legal homogeneity between the members of one family, the number of charter families suggests that heterogeneity continued to be the norm. But the point really is that urban officials across the Low Countries knew well enough how things worked elsewhere and had a choice if they wanted to stimulate trade by optimizing local conditions.

Thus the urban charter families are a striking manifestation of the information flows that facilitated the exchange of legal concepts and other institutional arrangements among the diverse regions of the Low Countries. These families were possibly the most important conduit, but definitely not the only one. Overland trade routes were another. Town officials along the Dutch section of the cattle route from Denmark to Cologne and Brabant met regularly to smooth trade flows (Benders 1998: 63, 64, 73, 74; Gijsbers 1999: 33–38). The Church was yet another, different one. Financial techniques like the short-term lease, the *rente* or real estate bond, and the property mortgage spread between monasteries in a way that suggests that these organizations exchanged information on how best to manage resources (Rijpma 2012: 160–167; van Bavel 2009: 192–194; Vercauteren 1947: 226–227). The guilds, on the other hand, do not appear to have organized regular information flows by having trainees travel around, as they did in for instance France or Germany, but given the scale of migration and notably the high mobility of artisans they probably saw no need for formal arrangements (Epstein and Prak 2008: 16–17; Lis and Soly 1997; Lucassen 1987; cf. Stabel 2004: 198–204). Consequently, the

process of administrative harmonization and centralization introduced by the dukes of Burgundy when they began to organize the various principalities of the Low Countries into a more coherent territorial unit during the fifteenth century really came on top of much older structures that had already forged links between them.

Land markets

Though Low Countries land markets were, as elsewhere, somewhat shielded from competition because land cannot be shifted, they were not immune to competitive pressures. The relative ease of communication and the ready availability across the Low Countries of an array of commercial institutions for marketing agricultural produce meant that the economic and social effects of land reclamation, new institutions governing access to land, new crops or farming techniques, new forms of demand, or the opening of new markets would be felt from one region to the next. Throughout the Low Countries farmers stood to gain from specialization but the extent to which commercial opportunities were grasped varied greatly. Differences in soil quality and in social property relations dampened the commercial impact in one region, tweaked the effects in another, leading to wide differences in land markets across the Low Countries (Hoppenbrouwers and van Zanden 2001; van Bavel 2010a: 86–93).

During the early middle ages no such thing as clearly defined and absolute property rights to land existed. As a rule various parties held different kinds of rights to a particular plot, such as the right to exploit it, to use a part or all of it in a particular season or all year round, to receive a share of its produce, to alienate it, to have a say over its alienation amounting to preemption or even retrospective purchase, to have the right of way, or the right to inherit any or some of these rights (Godding 1987: 150–151). Those rights overlapped with each other and might be bundled with similar or other rights to other plots, and they might depend on oral traditions, not on written documents, so transferring them was difficult (van Bavel 2010a: 51–52). The degree of this fragmentation of property rights to land differed across the Low Countries. In some areas, notably parts of Flanders, Brabant, and the Guelders river delta, well-organized lordly manors occupied most or all of the land and claimed possession of most of the rights, or else at least power over them in the form of binding transfer procedures. Elsewhere, Holland for instance, manors were weaker and the fragmentation consequently greater. Or they might be entirely absent, which was the case in Friesland and the sandy regions of

marginal farming in Drenthe, eastern Overijssel, the Veluwe, and the Campine. There rights to land tended to remain undifferentiated, often communal, sometimes until well into the nineteenth century (van Zanden 1991, 1999; cf. however, Bieleman 1990).

From the eleventh century onward the manorial framework declined until by 1400 only a few relics remained, even in areas where manorialism had been strong (van Bavel 2007: 289–290). We do not know all the causes of the manorial decline, but it had at least partly natural origins. Here, soil erosion undermined the manors' economic viability, there flooding wiped their land away, elsewhere subsidence and rising groundwater tables forced farmers to let the land return to wilderness. Contributing factors include the rise of towns, which by offering an escape to hard-pressed peasants siphoned off the manorial labor supply. Aspiring monarchs also strained manors by rolling back feudal prerogatives, for instance setting up public courts to replace the manorial jurisdiction over property disputes. The response of manorial lords to these challenges varied, both in its timing, its precise form, and in its specific consequences, but everywhere it had the same generic effect, that of giving an impetus to properly defining different rights to land, including ownership and tenure, thereby opening up access to land to competitive pressures, that is to say, boosting market-oriented farming by having tenants increase productivity in order to compete for land. We will first analyze why and how lordly responses varied, and then discuss their impact on the emergence of land markets.

The patterns of response, the likely motives behind them, and their effects are best understood by looking at the available options. Large landowners in the middle ages could exploit their holdings in three different ways, analytically alternative modes, though in practice landowners often mixed elements of them (van Bavel 2009: 200–202). First, they could run the land as a manor, recruiting labor by exacting manorial services from the peasants in their territory. Second, they could exploit their land themselves with hired labor. Third, they could lease out their lands to peasants, either in hereditary or in limited tenure. A fourth option crept in through the desire to reclaim land derelict through flooding or rising water tables. In such cases the territorial prince to whom such land had reverted licensed one or more entrepreneurs to reclaim it, granting them full ownership of the soil in return for a token recognition payment. In the Flanders coastal area the reclamation was as often as not undertaken by urban investors who then rented out the plots to peasants on short leases, but the Holland-Utrecht peat lands area was reclaimed and settled by owner occupiers from the eleventh

century onwards (Dekker and Baetens 2010; Thoen 1988; van Bavel 2010a; van der Linden 1956).

The transition from feudalism to market orientation meant that landlords moved increasingly from option one to options two, three, and/or four: they needed to find ways other than the manorial exchange of service for safety to attract labor for exploiting the soil. The short-term lease of option three, and option four, was most conducive to widening the access to land. The spread of short-term leasing is the best proxy we have for gauging when and where landlords moved, and in which direction. Where the manorial system was strong, landlords as a rule stuck to the first and second options as long as they could. But their success in doing so depended rather on circumstances, more specifically on what happened in their immediate surroundings. In urbanized counties such as Artois, Flanders, and Brabant, for instance, landlords moved early towards a mixed exploitation. As often as not they succeeded in reinforcing their position, though sometimes they lost it through disastrous timing. Landlords in parts of southern Flanders and Artois let out their land in hereditary leases at fixed rents before a period of high inflation set in from the late twelfth century, so manorialism in these areas declined quickly without producing the rise of short-term leasing associated with its decline elsewhere (Thoen 2001; van Bavel 2009: 200–201). As a consequence of this and other circumstances the balance between various modes of exploitation differed considerably between the regions and even within regions. By 1500 short-term leasing dominated in coastal Flanders, covering an estimated 80–90 percent of the soil as against only 40–50 percent in inland Flanders – a level similar to that of Brabant (30 percent) and Artois (40–50 percent) (Soens and Thoen 2009: 32–39; van Bavel 2009: 191).

An equally strong difference characterized the Guelders river area. Here the exploitation of peasants through manorial services remained strong in the east, but landlords in the western part faced mounting competition for labor from the free ownership offered to settlers in the nearby Holland-Utrecht reclamation area, so they changed tack and started leasing early (van Bavel 2009: 202). Conversely, Holland's early market orientation is linked to the absence of manorialism and tied to the dominance of peasant ownership (van Bavel and van Zanden 2004). However, the short lease spread slowly there, averaging 30–40 percent by 1500, because landowners found it difficult to enforce such terms in an environment used to hereditary leases or full ownership. Only when the government started backing landowners during the sixteenth century did the short lease find wider adoption (van Bavel 2009: 199–200). Short-time leasing spread widely in one area without manors,

coastal Friesland, where by 1500 it covered 80–90 percent of the land, so the better definition of property rights necessary for increased productivity there did not depend on being derived from feudal origins. But adjoining Groningen, also without manors and with very similar soil conditions, had a totally different land market dominated by hereditary leases and only 30 percent short-term leasing (van Bavel 2009: 191, 199–200). Neither Friesland nor Groningen were urbanized, at least not nearly to the same degree as for instance Flanders or Brabant, so the presence of towns was at most a contributing factor in some cases, not a decisive one.

Summing up, judging by the spread of short-term leasing, manorialism had been replaced by other, more market-oriented forms of exploitation across the entire area by 1500, opening up access to land. This is not to say that the land market worked smoothly everywhere; we simply do not know. Though short-term leasing must have stimulated a better definition of property rights and other rights to land, the sale and purchase of real estate, and especially farm land, often remained difficult until well into the nineteenth century on account of the variety of parties which a transaction might have to involve (Godding 1987: 150). In areas where manorialism had been strong it was expensive, too, landlords putting a levy of 10–16 percent on land transfers. Land sales rose slowly in the early modern era, but even in the most dynamic regions they rarely affected more than 2 percent per year of all land (van Bavel 2003a: 130–131, 134–135). Indeed, perhaps short-term leasing spread because it avoided the complications of transferring ownership. Attitudes toward the buying and selling of land also needed to change, and the pace of change is likely to have differed considerably from one place to the next. Even in a commercial center like Ghent the idea of treating real estate like any other commodity penetrated rather slowly (Howell 2010: 19–42). Our key point is really that, when manorialism disappeared, the social, economic, legal, and geographic diversity of the Low Countries combined to produce wide differences in land markets, even between neighboring areas. The uneven spread of short leases underlines that necessary legal and economic concepts had spread over the entire country, but local conditions determined whether or not they were applied.

We may thus conclude that, while there were plenty of opportunities for market-oriented production throughout the Low Countries, the creation of well-functioning land markets to capture the gains from agricultural specialization depended on a combination of four factors: first, property rights and contracting institutions such as the relative strength of manorialism and legal concepts such as the short-term lease; second, social property relations, say the

power of large landowners or the presence of urban investors on the market; third, conceptions about the nature of land and the proper order of society, for instance the resistance to treating land similarly to movables, or Holland's dominant peasant proprietorship retarding the spread of short leasing; and fourth, local contingencies, like soil quality, environmental constraints, or the unfortunate timing of hereditary leases in parts of southern Flanders and Artois. Different combinations of these four basic determinants produced very different outcomes: in Flanders land reclamation reinforced urban power over the surrounding countryside, while in Holland it bolstered the position of owner occupiers against both feudal lords and neighboring towns. This particular difference in power proved enduring, for Holland's large-scale reclamations during the seventeenth century, though financed by urban merchants, did not really strengthen the position of the cities concerned (van Zwet 2009). However, similar outcomes did not necessarily have similar roots: short-term leasing in Friesland originated in, and led to, social property relations totally different from those in the Guelders river area.

The rise of wage labor

One of the key differences between feudalism and capitalism is the extent to which people work for wages.⁴ Feudal manors and similarly self-supporting economic units such as monasteries usually included a number of artisans and workshops for leatherworking or textile production within their domain, but this labor would be bound to the lord and earned no wages beyond the manor's produce consumed. We can thus gauge the advance of capitalism in the Low Countries by considering the switch from feudal services to labor paid in kind or in money.⁵

From the thirteenth century onwards the importance of wage labor rose steadily everywhere in the Low Countries. Its timing and rate of growth, however, differed markedly between regions and even within regions. During the sixteenth century wage labor had risen to an estimated third of all labor performed in the Low Countries, but its incidence still varied greatly, between peaks of more than 50 percent in Holland and the Guelders river area to at most 25 percent in inland Flanders (van Bavel 2003b). This disparity was largely the result of the way in which property rights to land evolved. In

4 For the rise of wage labor as a key element in the transition debate, compare van Bavel 2010b, with references to the older literature.

5 This may be done by looking at the relative importance of coins minted for wage payments in various regions, as Lucassen 2007 shows.

areas where peasants were able to hold on to land, their holdings fragmented to such an extent that households soon possessed far more labor than their farmsteads required, pushing individual members into other employment for part or most of their time.⁶ These peasant economies possessed a large and hidden labor reserve, the extent of whose employment depended on the fluctuations of business in the wider economy (Hoppenbrouwers 1992: 264–273). Over time the phenomenon of peasants working part time in other sectors disappeared. It characterized the Holland economy until the late sixteenth century, but continued in inland Flanders for another two centuries, in Twente and the northern part of Brabant until after 1800, and in eastern Brabant, Drenthe, and the Veluwe, with their poor sandy soils, later still (Hoppenbrouwers 1992: 498–499, 678; Stabel 2001: 146–147, based on Thoen 1988; van Bavel 2007: 289–294, with references to the older literature).

Textiles, especially linen weaving, dominated inland Flanders, where it may have provided up to 40 percent of the population with additional income, whereas tapestry weaving in the region may have employed another 5 to 10 percent of the rural workforce part time (van Bavel 2003b: 1120–1122). These peasant families combined subsistence grain growing with some marketing of cash crops and work in the manufacturing sector. Tapestry weaving was mostly wage work, but in linen weaving and in the preparation of wool for urban cloth production peasants worked as independent craftsmen with their own capital and tools, though, for reasons that will become clear soon, their remuneration lay considerably below what waged urban craftsmen earned (van Bavel 2003b: 1145–1150). Elsewhere, textile production, though important, dominated to a lesser extent. Brabant, for instance, had an important brick-making industry near Antwerp, and peasant households in the Holland area between Rotterdam, Leiden, and Utrecht also supplemented their income with seasonal employment in brick works (Hollestelle 1961: 38–44; Limberger 2001: 163–165). For a long time Holland's fishing and shipping sectors also provided a ready source of part-time peasant employment (Boon 1996: 150–162). During the eighteenth century thousands of cottagers in the Liège hinterland produced nails (van Bavel 2003b: 1110).

In other areas the decline of feudalism consolidated the land into large farms and eliminated peasant holdings, structuring rural labor in an entirely

6 Underlying this analysis is the distinction between a peasant model and a specialization model, as drawn by de Vries 1974: 4–17. For the various permutations of these two models within the Low Countries: Hoppenbrouwers and van Zanden (2001). In a more detailed study of Brabant in the sixteenth century Limberger (2008) actually finds the coexistence within one region of both models.

different form. The rise of short-term leasing in the Guelders river area, for instance, concentrated leaseholds in the hands of increasingly wealthy tenant farmers and forced the remainder of the rural population off the land and into wage labor (van Bavel 2006). Between the fourteenth and sixteenth centuries wage labor developed similarly in Friesland farming and in the coastal Flanders manufacturing sector. Textiles again drove developments in the south of inland Flanders, employing the rural population of the Nieuwkerke area to produce heavy woolens and at Hondschoote to weave says (thin silk or satin cloths) during the fifteenth and sixteenth centuries (Stabel 2001: 143–146). Some villages even worked their way up to urban settlements on the back of textile production, as happened to Duffel in Antwerp's Brabant hinterland as a result of large-scale serge weaving (Limberger 2001: 161–163). In Holland the switch from an economy based on peasant by-employment to wage labor occurred only during the sixteenth century, when commercialization led to the rise of large-scale and specialized farms employing local landless laborers supplemented by seasonal migrant workers (de Vries 1974; van Bavel 2007: 289–294).

However, property rights to land were not the only factor shaping the labor market structure; the balance of economic and political power between towns and countryside mattered as well (de Vries 1974). Flanders's four major cities, for instance, subjected the labor markets in their hinterlands to their specific interests, which explains the low wages earned by the independent peasant cloth producers. Urban power effectively bridled some of the potential for economic growth and upward mobility in inland Flanders created by its easy access to foreign markets. By contrast, peasants in late medieval Holland also combined subsistence farming with waged work, but they had a much stronger economic position because the regional labor market offered them a range of options in several sectors, from primary production in fishing, dairy farming, and peat digging, via secondary-sector activities in cloth production and brick-making, to the service sector of shipping and even the public sector of digging and dyking. Moreover, the markets for the goods and services produced by peasants were not under urban control. Towns and even small villages competed in creating outlets, a key characteristic of Holland's rural economy that offered peasants a good chance to maintain themselves as independent producers and service providers (Dijkman 2011; van Bavel 2003: 1124, 1143).

The continuing importance of peasant production was one of the reasons why, until well into the early modern era, most people were self employed, whether as farmers, artisans, service providers, skilled or unskilled workers, at

least part of their time (Brenner 2001; Du Plessis and Howell 1982; van Zanden 1993). When needed they would supplement that with wage labor or work swapped for one thing or another: payments in kind or in services, such as access to a piece of land, or the use of a cart, a boat. Thus, wage labor formed only a part of the way in which people earned their living, and they would switch in and out of it, depending on the availability of work, the wage offered, other opportunities, and personal circumstances such as family composition or specific needs (Lucassen 1982: 327–329).

From the later sixteenth century economic growth in the northern Low Countries boosted demand for wage labor. The maintenance of dykes and sluices had always absorbed some peasant labor, but now a series of ambitious land reclamation projects recruited large numbers of wage-laborers (van Bavel 2007: 297; van Zwet 2009). Shipping also scaled up. The sector had always been strong in the northern Low Countries, based on the comparative advantages of the rural labor surplus, a widespread willingness to invest private savings in *partenrederijen* or shipping companies, and the need to import grain to make up for the lack of local supplies caused by deteriorating soil conditions. By 1650 Holland boasted the largest merchant fleet of Europe with over three thousand ships connecting ports from Archangel in northern Russia to Constantinople and Aleppo in the Levant. Ocean shipping had become a multimillion guilder business employing thousands of sailors drawn from all over the northern Low Countries, and also drawing migrant workers from Germany and Scandinavia (Van Lottum 2007). Employment in fishing, whaling, and in river transportation also numbered thousands of workers (van Bochove 2009: 213; van Bochove and van Zanden 2006: 564).

Concentrated in the ports of the Meuse estuary around Rotterdam, the ports on the western side of the Zuider Zee, and the coastal towns of Friesland and Zeeland, the maritime labor market also had to meet a strong demand for sailors and soldiers from the navy and from the Dutch East India Company (VOC) (Bruijn and Lucassen 1980; Van Lottum 2007). During the initial stages of the Dutch Revolt the breakaway provinces in the north could still successfully defend their independence with a motley fleet of fishing vessels and merchantmen modified for warfare, but in the seventeenth century the republic built a navy manned by regular sailors and soldiers. Supplemented in wartime with converted merchant ships, employment could peak at some 20,000–24,000 men in the sixty out of a hundred years of armed conflict involving the Dutch during the seventeenth century (Bruijn 1993: 131). The Republic's standing army numbered about 30,000–40,000 men in peacetime,

which could rise to 90,000 during war (Israel 1995: 263, 479, 498–499, 507, 602–603, 970; van Nimwegen 2010: 46).

The VOC also exerted a continuous, high demand for manpower. During the seventeenth century the company operated a fleet of eighty to a hundred ships, many of which were stationed in Asian waters (Parthesius 2010). Together with the men sent out to staff the numerous trading posts this required 3,000–4,000 men embarking annually in Dutch ports on company ships (Bruijn, Gaastra, and Schöffner 1987: 156). Between 1602 and 1795 the VOC employed a total of 975,000 men. Though aggregate maritime demand for labor was thus very high, the sector was not labor intensive. The ton-per-man ratio of merchant ships and fishing boats was very high and continued to rise, with only twelve to fourteen hands on herring busses and crews of similar size on merchant ships sailing to the Baltic around 1700 (de Vries and Van der Woude 1997: 250; Lucassen and Unger 2000: 130). Barges on the busy inland transportation network of towboats were typically run by a shipmaster and one helper, with a single urban official keeping tabs on income and expenditure (de Vries 1978: 139).

The industrial sector that rose in tandem with the Republic's commercial expansion also exerted a growing demand for labor, notably in the processing of imported foodstuffs and raw materials (de Vries and Van Der Woude 1997: 522). By the mid sixteenth century timber, beer, herring, and salt were well-established sectors, soon followed by newer branches such as sugar, diamonds, dyewoods, silk, a little later also coffee, tobacco, and import substitution industries such as madder (Priester 1998: 323–374). Processing industries were economically the most dynamic sectors in the northern Low Countries, and at the same time the most vulnerable. From about 1650 their competitive edge in the export markets for low-quality manufactures was blunted by the adoption of mercantilist trade protectionism by Britain and France. Some sectors successfully changed tack by transferring production to the countryside of Twente and Brabant and reorganizing it as putting-out networks to cut cost. Others, such as those grafted on the colonial trade and on specialized farming, continued to thrive in urban environments, entrepreneurs seeking to cut wage bills with new technology. By contrast, textile manufacturing in the southern Low Countries responded entirely differently to the rise of trade protection. Producers consolidated and switched successfully to luxury fabrics for both domestic and foreign markets (van der Wee 1988: 324–327, 330–335, 368–370). During the sixteenth century Oudenaerde tapestry weaving stood out, workshops counting scores of workers coexisting with single-worker units (Stabel 2001: 151), but with consolidation fairly large production units

staffed with wage labor became the norm (De Peuter 1999: 244–248; Lis and Soly 1987: 30–40).

The growth of wage labor changed the structure and organization of the labor market. Farm owners found they could reduce the number of regularly employed hands and hire casual workers, usually on a seasonal basis, a contrast with the market for maritime labor which came to offer more steady employment to sailors who could now sign with the same shipmaster year after year and sometimes even for a full year. In the processing industry, the owners of production units typically relied on a workforce of casual laborers headed by trained artisans. At the same time the scale of production units remained small. Until the late eighteenth or, in many areas, even the mid nineteenth century the world of work consisted overwhelmingly of small businesses, typically consisting of a self-employed owner working with two or three employees plus an apprentice or so. Amsterdam bakers seldom had more than two or three extra hands (Kuijpers 2008: 225–248). Firms employing ten or twenty people were rare. Even the largest and most capital-intensive Holland industries such as brewing and sugar refining seldom counted more than ten workers. In some sectors, notably textile production, arms manufacturing, and clock-making, subcontracting could create integrated supply chains with large numbers of workers, but these were formally self employed, if often totally dependent on an entrepreneur (Lis and Soly 2008).

Indeed, self-employment continued at a high level, even as wage labor became more important. Until well into the early modern era most people were, at least part of their time, self-employed, whether as farmers, artisans, service providers, skilled or unskilled workers. The three successive industrial growth phases in the southern Low Countries were all buoyed up by self-employed artisans, be it Flemish cloth manufacturing during the thirteenth and fourteenth centuries, the Brabantine and Flemish industry during the two following centuries, or the luxury weaving of the seventeenth and eighteenth centuries (Lis and Soly 1997b: 219–221; Ryckbosch 2012; van Damme 2007).

Services also offered widespread opportunities for self-employed labor, and not just in highly commercialized provinces such as Holland. During the first half of the seventeenth century, for instance, Amsterdam numbered some 8,600 self-employed merchants, retailers, artisans, and other independent producers of goods and services out of a population of 120,000. If we take each of these entrepreneurs as heading a household of four people, self-employment was a major source of income for at least a quarter of all households in Amsterdam (Gelderblom 2009). This will not have been much lower in the numerous small towns and large villages that characterized

the Low Countries. As a rule local amenities included not just a baker, carpenter, and smith, but a much wider group of retailers and artisans (de Vries and Van der Woude 1997: 509–510, 522–523; cf. also van Deursen 1994; for the southern Low Countries: Blondé 1999). Indeed, the comparatively high level of locally available skills combined with a surplus of unskilled workers to give the countryside a comparative advantage in competing with towns for high-quality work (Lis and Soly 1997b: 219–221; Munro 1990 cited in Lis and Soly 1997b: 226). As a result town and countryside developed different employment structures over time, towns concentrating on skilled and continuous work, the countryside on low- or unskilled and discontinuous, that is to say seasonal, work, so in the end the relocation of production facilities to the countryside remained limited to sectors which fit its employment pattern (Lis and Soly 1997b: 224–225).

However, these employment patterns differed in degree, and not in kind. The boundary between waged work and self-employment was a fuzzy one, many people combining the two categories or switching between them on a more or less permanent basis in an economy of makeshift. Many waged jobs, notably in farming, but also in shipping, the army, public works, churches, and in urban defense, did not entail permanent and full-time employment, forcing men and women to combine several jobs or generate income with self-employment (e.g. Kuijpers 2009; Soens 2009; Soly 1977; van Tielhof and van Dam 2006; van Wijngaarden 2000; van Zwet 2009). This included petty farming, landless laborers with a right to use the commons for grazing some animals or collecting firewood. Even urban dwellers hung on to small plots of land outside the town walls to supplement their income (Stabel 2001: 150). Conversely, if and when needed self-employed producers of goods and services would supplement their income with wage labor. Moreover, many jobs were waged at least partly in kind. Seasonal farm workers, domestic servants, sailors, and soldiers all received a considerable part of their wages in the form of board and lodging (Vermeesch 2006).

We might consider constantly shifting work arrangements as beneficial in providing the economy with a large and flexible pool of labor. This certainly was the case for the seasonal migration of farm hands and of sailors to join the merchant navy or the VOC, and also for authorities looking to mobilize large numbers of workers for emergency public works (Lucassen 1987; van Zanden 1993). But the flip side was a precariousness for household income that reduced labor mobility. Wage-dependent workers needed social networks for survival and such networks, once ruptured, could not easily be rebuilt somewhere else. Moving a household required finding work for its individual

members all at once if income levels were to be sustained, difficult for people holding the usual combination of jobs (Kuijpers 2009: 254). The social welfare system did nothing to reduce precariousness, indeed, it was geared to prolong it. Rather than paying full benefits to those staying at home, charities tended to supplement the wage incomes of other household members while trying to cut out the very poorest of society, people without a fixed residence, a regular job, and therefore hardly any social network to fall back on (e.g. Van Wijngaarden 2000). In the southern Low Countries poverty relief was tailored to keeping wages down by forcing women and children to accept manufacturing work (Lis and Soly 1997b: 225). Thus, the economy of makeshift within which poor households fought to survive explains why, in an otherwise highly integrated economy, where goods flowed freely between regions, fairly large wage differentials continued to exist, notably for unskilled labor (Aerts 2004: 217; van Zanden 1999). In that sense the Low Countries economy during the early modern age was not really modern or fully capitalist.

Commerce and capitalism

Commodity markets appeared early in different parts of the Low Countries. Norse and Frisian traders pioneered overseas trade during the eighth to tenth centuries and by the turn of the first millennium settlements existed with a regular trade, protected by rulers. This is also best understood from favorable geographic factors. The area's infrastructure favored both farming specialization and local and regional trade while the ubiquity of navigable waterways kept transportation costs low. Food, building materials, and fuel could thus be easily shipped, lowering the threshold for urbanization.⁷ The countries' central location also helped to bring about an early integration with other parts of Europe. Regular exchange across the North Sea with northern France, eastern England, northern Germany, and Denmark existed as early as the year 1000. In addition rivers facilitated trading links with the Rhineland and down the Meuse valley, which, from the twelfth century, extended as far as the Champagne fairs, where Flemish fabrics were exchanged for Italian luxury products (Blockmans 2010b: 73–123).

These factors combined to produce a dense scattering of market towns, first of all in Flanders, where scores of small towns developed into specialized cloth production centres tied to regional and interregional trade flows through a fair

7 Cf. on the impact of transportation costs on the cost of living in cities: Ballaux and Blondé 2007: 62–63, 76–79.

cycle which competed for business with the Champagne fairs (Stabel 1997). In neighboring Brabant, Antwerp was the first among at least a dozen towns involved in regional and international trade. In the north, towns on the Zuider Zee rim and along the IJssel traded with the German hinterland from the thirteenth century. Holland's trade emerged a century later, fostered by the worsening ecological conditions that forced its inhabitants down the road of marked economic specialization. They switched from growing bread grains to importing them, first from southern Flanders and northern France, then by the second half of the fifteenth century increasingly from the Baltic. Instead of grain, farms started producing dairy goods, flax, and hemp, while surplus farm labor found work in fishing and transportation services (van Bavel and van Zanden 2004).

The most striking aspect of the way in which Low Countries commodity markets developed is the apparent ease with which aspiring market towns succeeded in obtaining a position in regional or international trade. Other European towns and regions profited from the medieval rise of long-distance overland trade, but the high degree of urban autonomy in Low Countries combined with the intensity of interurban competition to produce dynamic institutional development. Here and there feudal lords organized annual fairs, as successive heads of the Wassenaar family did, but the development of commodity markets was primarily driven by town magistrates, who could shape their town's economic destiny in response to perceived threats and opportunities elsewhere. They were more or less free to do so, having obtained substantial legal and fiscal autonomy from their sovereign overlords in return for successive donations of money (Blockmans 2010b; Dijkman 2011).

This enabled town councils to promote trade by every means: by maintaining a legal infrastructure to support private contracting, by offering protection to itinerant and resident merchants, by creating market spaces or dedicated halls, by building port facilities, offering residential accommodation to groups of merchants, granting privileges, setting up institutions such as exchange banks, or even by paying premiums to individuals moving in (Gelderblom 2013). Magistrates monitored the work of local service providers, defined rules for payment, credit and the registration of credit, and set up courts to resolve disputes. The urban charter families offered practical frameworks for devising institutional solutions, as did the Hanseatic League for the towns on the Zuider Zee rim, because the towns united in the League bound themselves to common rules and norms about the organization of commercial transactions. At times these frameworks also served to facilitate a degree of regional coordination and collaboration. Towns coordinated the timing of

their local, periodic trade fairs into cycles so as to create quasi-permanent markets, and also joined together in promoting the interests of their merchants abroad (Gelderblom 2004). Flemish cities united in supporting merchants traveling to Britain or to the Champagne fairs as early as the eleventh century, the IJssel towns formed a support network from the twelfth century, Holland towns did the same for their Hanseatic traders from the fifteenth century.

However, competition remained the norm and its intensity was rooted in the Low Countries' geography. Every town strove to maintain or improve its market position in the face of nearby competitors with access to virtually the same production areas and outlets (de Vries and Van der Woude 1997: 172–174). At times towns succeeded in buttressing a favorable location with commercial privileges obtained from overlords to establish a market monopoly. Dordrecht maintained a general staple privilege on the Meuse and Rhine trade for a considerable time during the fourteenth through sixteenth centuries, although, as we shall see, with variable success, and Middelburg had a wine staple for the Zeeland–north Flanders area during the sixteenth century (Dijkman 2011: 159–200; Wijffels 2003). But, as a rule, producers and traders possessed alternatives. They could sell or purchase elsewhere in another town, or avoid one market's commercial privileges by taking an alternative route to another market, knowing that one town's rights were not easily enforced in others. Some markets, such as those for horses and cattle, were highly mobile anyway and thus easily poached by local rulers wanting to stimulate trade (Gijsbers 1999; van der Wee and Aerts 1979).

The pressure of competition drove cities to mobilize every means available, political, legal, fiscal, and if necessary armed force, to secure their position. Bruges repeatedly sent armed men to stop business seeping away to its outport, Sluys, and in 1356 cajoled the count of Flanders to subject Antwerp to its rule (Murray 2005: 35–7, 253). Ghent resorted to arms in order to prevent trade being diverted by the digging of a new canal in 1379, Haarlem did so in 1513 to frustrate the building of a lock obstructing traffic (Blockmans 2010b: 280–281; van Dam 1998: 46–47). In Flanders the three dominant cities Bruges, Ypres, and Ghent managed over time to subject the countryside to their interests and stifle the growth of smaller towns. Groningen in the far north also wielded considerable political and economic power over its surrounding countryside, the Ommelanden (de Vries and Van der Woude 1997: 509). At different points in time, Aalst, Antwerp, and Rotterdam suffered serious trade restrictions imposed by neighboring towns (Dijkman 2011: 147; Gelderblom 2013). When the Holland economy entered its climacteric during the late

seventeenth century, hitting the local beer industry, urban magistrates responded with prohibitive tariffs on imports from elsewhere (Yntema 2009). For a time, political centralization limited the impact of urban rent-seeking. Once the duke of Burgundy had gained control over Brabant in 1406, he halted Bruges's check on the development of Antwerp. From the mid fifteenth century towns could challenge urban rivals thwarting their economic ambitions before a central court instituted by the duke. This court ruled in favor of Antwerp when it fought Middelburg's wine staple, and Rotterdam won a similar case against Dordrecht's general staple. Here again the Revolt cut across centralization. In the southern Low Countries the supreme court's power remained undiminished, but it could not break the iron grip of the leading Flemish cities over their province. The Dutch Republic failed to establish a central supreme court, though litigants in Holland and Friesland could appeal against verdicts of their respective provincial courts to a joint *Hoge Raad* or Supreme Court (Verhas 1997).

However, the key point about urban rent-seeking is that its success varied greatly from one region to the next, creating marked structural differences between markets. The three Flemish cities succeeded in controlling the countryside economy, resulting in commodity markets, notably those for grain and textiles, being sharply tilted in their favor, just like the labor markets noted above. By contrast, similar control attempts in Holland largely failed. Dordrecht's comprehensive staple right in the river delta faced continuous and often successful challenges from small, downriver ports vying to poach trade away, until nearby Rotterdam's irresistible rise effectively ended the monopoly (Dijkman 2011). Small towns and villages got away with dodging the market privileges of nearby cities because the count would not risk siding with the cities and incurring the wrath of these smaller communities (Dijkman 2011). When the Amsterdam council, pressed by labor unrest, imposed restrictions on timber processing, the industry simply left town and moved north to the Zaan, drawing ship-building in its wake (de Vries and Van der Woude 1997: 301–302). With cities unable to gain grip, Holland's labor and commodity markets remained much more flexible and responsive than the corresponding ones in Flanders.

It was also the inter-urban competition that from the thirteenth century propelled the Low Countries into dominating international trade.⁸ The hub function which Bruges, Antwerp, and Amsterdam successively assumed for European commodity flows could have been exercised equally well by

8 This paragraph and the next are based on Gelderblom 2013.

ports in neighboring Britain, France, or Germany. However, those ports all occupied commanding positions in relation to their hinterlands, large areas possessing little or nothing in the way of alternative access to super-regional markets. This situation was conducive to a fiscal exploitation of trade and to institutional sclerosis, at the same time reducing the hinterland's economic scope to low-value activities in the production of basic foodstuffs and manufactures. Leading ports in the Low Countries always attempted to obtain similar power over their hinterlands, and they sometimes succeeded in getting it, but they always needed to reckon with the high urban potential of neighboring regions giving producers and consumers alternative markets. They also had to compete to attract international traders from around Europe, essentially a footloose crowd easily persuaded to move elsewhere if conditions there suited them better. The Bruges market was highly dependent on the German Hanse and on Italian and Spanish merchants, for instance, Antwerp on Rhine merchants, English cloth merchants, and on Portuguese spice traders. If one of those groups moved the others might do so, too, which rendered local councils responsive to demands for better facilities.

The contribution of foreign merchants to the growth of international trade in the Low Countries is usually expressed in terms of their particular product specialization and business expertise. This, however, fails to capture the essence. The real importance of foreign merchants lay in their promoting a continuous adaptation of institutional arrangements to changing economic needs, first as a corporate body, but increasingly, in Antwerp after 1490 and subsequently also in Amsterdam, as individuals. As more and more foreigners used the commercial, legal, and financial infrastructure, town councils strove to optimize conditions, building dedicated market amenities and residential accommodation, promoting good contracting institutions, incorporating foreign customs into law, and adapting legal proceedings to commercial needs. It was this interaction between local markets and foreign merchants that stimulated the spread of commercial institutions such as double-entry bookkeeping and maritime insurance, instruments such as the bill of exchange, public and private bonds, and money market techniques such as bill discounting, securities trading, repos, forwards, futures, and derivatives.

Moreover, the inter-urban competition combined with the ease of communication to ensure that best practices spread quickly from the commercial centers outwards to satellite towns. Foreign merchants could therefore credibly threaten to leave a town, or leave in fact, and they frequently did one or the other. This combination of footloose traders and the determination of urban magistrates to facilitate their commercial transactions also explains the

relative ease with which commercial primacy shifted from Bruges to Antwerp in the late fifteenth century, and from Antwerp to Amsterdam following the Dutch Revolt.

The colonial challenge

The keen inter-urban competition also manifested itself in the intercontinental trade, with surprising and innovative results. From the 1560s Flemish merchants seized part of the sugar trade with the Canary Islands and Madeira, but the Crowns of Portugal and Spain kept them out of trading with the Americas, Africa, and Asia. Once the fall of Antwerp in 1585 had removed this obstacle merchants in the northern Low Countries started sending out expeditions to west Africa, to the Caribbean, and, from 1595, to Asia. For the African and the Caribbean trade the traditional forms of business organization sufficed, that is to say, ships run as private companies that coordinated their movements when necessary. But the Asian trade posed a different set of challenges. The initial expeditions during the 1590s were initiated by special-purpose partnerships between merchants running the venture and investors recruited to provide capital, with local and provincial governments providing subsidies in the form of military hardware. Sent out from rival ports, these Dutch expeditions competed with each other and non-Dutch rivals, sending product prices up in Asia and down in Europe, at the same time undermining the fragile Dutch Republic in its fight for independence from the Spanish empire. Without coordination the Dutch stood to lose out against the Portuguese and Spanish traders, already firmly established and backed by the same state power that tried so hard to crush the Dutch Republic. These considerations led the Estates General to push for a merger between competing intercontinental trade interests under its auspices.

Chartered in March 1602 with a capital of 6.4 million guilders, the United Dutch East India Company or VOC obtained a monopoly on the Asian trade and therefore ended private enterprise in that line of business. It marked a step up from the preceding special-purpose partnership in having a clear separation between ownership and management, transferable shares, and limited liability for shareholders. Corporations with such characteristics only became the norm during the nineteenth century, so historians have hailed the VOC as a remarkable achievement of Dutch capitalism. However, we must question whether the company's 1602 design was indeed as modern as is sometimes claimed, because it was tailored to the specific needs of the Asian trade at a particular moment in time, and was not generally adaptable to other types of business.

The VOC was a curious hybrid, indeed an anomaly. For one thing, the Estates General were its principal. It did not have formal representatives on the board of directors, but the 1602 charter did give the Estates the right to overturn decisions of the board, so military considerations, more specifically the demands of carrying the war against Spain overseas by gaining a firm foothold in Asia, came first, business second, shareholders last (Gelderblom, de Jong, and Jonker 2011). For another, to placate competing local interests company operations had to be spread over separate departments or chambers in six cities, and it took the board some twenty years to weed out the most glaring inefficiencies of that decentralization (Schalk, Gelderblom, and Jonker 2012).

Admittedly, the VOC did acquire two other defining characteristics of modern corporations, permanence and limited liability for managers, but this had never been the founders' intention. Rather, it was an inescapable remedy to structural flaws in its corporate finance (Gelderblom, de Jong, and Jonker 2013). The company's first ten-years' account faced statutory liquidation in 1612. It would then be replaced with a second ten-years' account, giving shareholders the option to either take their money back or roll it over to the successor. But the investment required by the overseas presence in the first decade of the company's existence starved shareholders of dividends, so directors realized that the statutory liquidation needed lifting to secure the continuity of the Asian trade. In July 1612 they obtained the necessary waiver from the Estates General, giving the VOC *de facto* though not *de jure*, permanence.

Moreover, the 6.4 million guilder capital had been conceived as a revolving fund to be replenished from sales revenues as ships returned. The six chambers were individually responsible for running their part of the combined operations and they remained suspicious of each other's doings, which restricted the scope for a mutual bridging of periodic shortfalls between income and expenses. Large chambers such as Amsterdam could easily raise debt locally, but the smaller ones faced bankruptcy if their ships failed to return in time. In a process of slow, piecemeal engineering the board built sufficient confidence between the chambers to allow first the circulation of surplus commodities to help out needy chambers, then debts in current accounts, and finally a centralized financial policy tied to managers' limited liability for debt (Gelderblom, de Jong, and Jonker, 2013; Schalk, Gelderblom, and Jonker 2012).

At the end of the day the VOC's permanence and managerial limited liability resulted from a triumph of might over right, and not from the judicious balancing of stakeholders' interests that otherwise characterized

Dutch business. The shareholders were not consulted about the blatant breach of the charter and their rights in 1612, but fobbed off with a dividend in kind at rigged prices. Shareholders who refused the goods had to wait years before the company finally gave them the money. As a result, the 1621 charter lapse turned into an epic fight over shareholder rights, which the shareholders lost because the VOC directors, hand-in-glove with local and provincial authorities, could mobilize the Estates of Holland in support (de Jongh 2011). In 1623 the directors, emboldened by years of getting their way, unilaterally discarded their unlimited liability for debt simply by dropping the clause which referred to it from the preprinted bond forms in 1623 (Gelderblom, de Jong, and Jonker, 2013).

Though the investor protests failed to steer the VOC in the right direction, they did succeed in materially altering the design of its sister intercontinental trading company, the West India Company or WIC, launched in 1621 to take the war against the Luso-Spanish empire to South America and the Caribbean. Its original charter was a copy of the VOC's, so despite vigorous canvassing by the authorities subscriptions remained paltry because by now investors knew that a company combining warfare with trade under political direction made no commercial sense. Bowing to the obvious, the board amended the charter and gave shareholders more power over the company, after which subscriptions closed quickly on a total of 7.1 million guilders (de Jong, Jonker, and Röell, 2013). But then, while the VOC after its rocky start became a distinct commercial success, paying regular, high dividends from the mid-1630s, the WIC faltered following a disastrous attempt to wrest Brazil away from Portugal. By the mid-1640s the heavily indebted company had become an agency licensing its monopoly to private merchants.

Comparison of the VOC and the WIC highlights the fact that corporations working on a large scale possessed no trade advantage unless they succeeded in duping investors into mobilizing the heavy investment needed to build a large territorial presence, as the VOC had done. Both companies remained anomalies in Dutch business by their hybrid corporate form, their scale, and their monopoly. Their size lent their operations some impact on society in the form of a standardization of product specifications, the organization of sales such as auctions, the labor market, and coin production, but they were otherwise dwarfed by other sectors. As a rule the intra-European trade, entirely in the hands of sole proprietors and partnerships of various kinds, amounted to more than 70 percent of total trade (Jonker and Sluycerman 2000: 62, 81). The Dutch economy offered neither the scope nor the need for large-scale ventures, and investors fully realized this. As a result, the attempts in 1720

to inflate a bubble following the examples in Paris and London misfired completely, and investors judiciously picked the one or two projects that offered some commercial prospects from the speculative rest (Gelderblom and Jonker, forthcoming). It was only during the 1740s that larger businesses with a longer lifespan and transferable shares made their appearance as a result of consolidation in processing industries such as brewing and sugar refining (de Jong, Jonker, and Röell, 2013).

The impact of colonial enterprise on the Low Countries' economy remained limited in other respects as well. The VOC was sufficiently well organized to seize a leading role in the European competition over the Asian trade and the very modern-looking labor market formed an integral part of its strength. That provided a marked difference from the organization of labor in agriculture, manufacturing, and services, which did not have a large and mobile labor supply because the self-employment component remained high, businesses were small, highly skilled workers remained strongly tied to their employers, and precariousness of income prevented low-skilled workers in both rural and urban settings from moving. The qualitative economic transformation effected by the colonial trade did not stretch beyond the processing industries concerned and, in some cases, like tobacco, madder, and earthenware, the production of local substitutes for exotic goods. Throughout the Low Countries the main engines of growth were, depending on the region, textile manufacturing, commercial agriculture, and shipping, and, in the cities, retailing and other urban services.

Financial markets

The arrested development of the joint-stock corporation in the Dutch Republic warrants two seemingly opposite conclusions. On the one hand, it is clear that the commercial orientation of local rulers in the Low Countries stimulated the development of important, new contractual forms. On the other hand, the limited use of these new forms shows an essentially Smithian economy, in which growth depended on the efficient circulation of labor, capital, and goods. The concomitant dominance of floating over fixed capital, in turn, determined the structure of financial markets.

Financial markets in the Low Countries reveal a high degree of dynamism and variation from very early on. Financial techniques spread throughout the Low Countries with the same ease as other types of information. As early as the eleventh century, for instance, the property mortgage appeared in the Meuse valley, then economically the most dynamic region (Vercauteren 1947).

From there it travelled first to Flanders and Hainaut, when economic growth began to manifest itself there, and from there to other provinces (van Werveke 1929). By the fourteenth century the mortgage had become the instrument of choice for territorial lords wishing to raise money by mortgaging assets ranging from land to tolls, offices, and fiscal resources (van Bavel 2010a: 182–183, 266–267; Vercauteren 1947).

The settlement pattern of Lombard moneylenders differed from the spread of mortgages. They started their activities not in the Meuse valley, but in the Flanders–Artois–Hainaut region during the first half of the thirteenth century (Bigwood 1921: 319–320). By 1250 they were active in Oudenaerde, Tournai, Courtrai, Furnes, Poperinghe, Mons, Ypres, and Bruges, by the late 1260s also in Brussels, Louvain, and Utrecht, where in 1267 a mob chased three Italian moneylenders into the cathedral and killed them (Tihon 1961: 340, 342, 345; van Bavel 2010a: 185). Some of these Italian bankers formed syndicates to operate licensed pawnshops, the count of Flanders granting licenses for no fewer than fourteen towns during 1280–1282 (Tihon 1961: 348). The duke of Brabant gave blanket permits for his entire territory, where some forty Lombard businesses operated in 1309 (Tihon 1961: 350). By that date Lombards were active in nearly all major towns in the southern Low Countries, and in most major towns in the western part of the northern provinces (Maassen 1994: 41–43).

Though occasionally prosecuting moneylenders for usury, the Church clearly lacked the power to stop them from expanding their businesses across the Low Countries (van Bavel 2010a: 184–185; Wyffels 1991). The increasing use of alternatives that sidestepped the ban on usury rendered clerical objections redundant anyway. In 1228–1229 Tournai issued what are likely to have been the first public life annuities, perpetual annuities following close behind (Tracy 2003). Some twenty years later the practice had reached Ghent, by 1300 it was engrained in both Holland and Brabant. Indeed, towns in the former county had already become so familiar with annuities that they clubbed together to underwrite annuities on behalf of their overlord, thereby laying the foundations for the province's later famously capacious credit (Zuijderduijn 2010: 341, 345ff.). Such paper possessed a fair degree of security for creditors because the law of reprisal allowed them to arrest any burghers of a defaulting town for arrears. As a result annuities were often held at a surprising distance from the issuing town (Zuijderduijn 2009).

We have noted above the spread of wage labor which occurred across the Low Countries during the high and late middle ages, familiarizing increasing numbers of people with the concept of money as a standard of value. However, recurrent deficiencies in the coin supply restricted the extent to

which money could be used as a means of payment in the medieval as well as the early modern period. Though no doubt impractical in many instances, coin shortages do not appear to have harmed the economy unduly. People possessed a wealth of alternatives to settle transactions, as often as not through barter or clearing (van der Wee 1979: 101). Intermediaries appeared for squaring multiple transactions. The fragmentary administration of one such intermediary, a cloth merchant active in the eastern Twente region during the first half of the seventeenth century, shows him operating a form of multilateral clearing over considerable distances, compensating, say, goods sold by him with services rendered by one person and debts of a second one to yield a single claim on a third person (Hesselink, Kuiper, and Trompeter 2008). Individual items were always priced in money, but the final tally was usually carried over and not paid with coin. Some debts and claims carried interest, others did not, without apparent connection to other aspects of transactions, for instance the duration of credit or the amount of money involved.

We do not know how common intermediaries such as this merchant were, but given the fact that early modern society revolved around credit they were probably very common indeed. Presumably their scope decreased with the onset of more ordered coinage conditions, in the Dutch Republic during the later seventeenth century and in the southern Low Countries, by then part of the Austrian empire, from 1749. The availability of coin clearly stimulated cash transactions and thus reduced credit; Antwerp estates show a rising proportion of cash to debts plus claims during the eighteenth century (Willems 2009). Even so most people held comparatively little cash long after the arrival of more ordered coinage conditions, so they continued to prefer settling transactions with means other than money.

Members of the aristocracy appear to have been exceptional in keeping surprisingly large amounts of cash in times of coin shortages, that is to say the late fifteenth and early sixteenth century (Spufford 2008). Given the nobility's stereotypical reputation for poor payment of suppliers such sums presumably did not represent the kitty for household expenses and may say more about the need for status-enhancing gestures such as conspicuous largesse. Aristocrats may also have avoided alternative modes of settlement such as clearing, either because counterparties would likely be social inferiors, or because they preferred to let debts hang until ripe for bargaining.

By contrast, a merchant's reputation depended on prompt payments, but preferably not in coin. Merchants employed various means of settlement to minimize both their cash holdings and the need to use coin (Spufford 2008). They cleared claims and debts via current accounts with each other or with

cashiers, moneychangers, or bankers, they wrote bills of exchange and IOUs to pay debts, and as often as not they circulated each other's paper. In this they were aided by local councils, which defined terms for accepting business records as legal proof and for endorsing commercial paper. Antwerp provided a key contribution by shaping regulations concerning endorsement to bearer, resulting in a great expansion of commercial credit because paper could now circulate more widely. From at least the mid 1530s bills of exchange were also discounted, that is to say, sold before term to a third party (van der Wee 1978: 102–104). At the end of the 1530s the Emperor Charles V decreed the Antwerp rules about commercial paper-binding for the entire Low Countries (De Smedt 1940–1).

Even so the speed with which commercial payment and credit techniques spread depended less on the adoption of particular legal clauses or new instruments than on the scale and character of business. The Bruges market served as the testing ground for most of them during the thirteenth and fourteenth centuries, and Antwerp's endorsement clauses put in the capstone (Murray 2005; van der Wee 1978).⁹ But traders elsewhere adopted these techniques only if and when business warranted it. The basic legal framework governing bills of exchange, for instance, was sufficiently clear for them to spread, but their actual use depended on the availability of highly specific information about trade flows, commodity prices, interest and exchange rates, and about counterparties, all of these at home and abroad. Consequently bills of exchange only spread beyond commercial centers like Bruges or Antwerp if and when foreign trade reached a scale sufficient to repay the gathering and dissemination of such information. Antwerp already reached this position by the late fifteenth century, but more than a century later Amsterdam traders, though already conducting a large and fast-growing international business, showed themselves still wary of being paid with bills (Jonker and Sluyterman 2000; van der Wee 1963).

The bill market's reach was thus determined by the balance between the cost and benefits of collecting the information required, which turned positive only for the top of the commercial and financial hierarchy. However, that reach appears to have widened over time, the fairly small number of international bankers active in Bruges growing first into a large community of brokers, international traders, and bankers at the Antwerp exchange, and

9 Amsterdam's late seventeenth-century innovation of turning bills of exchange into acceptances may have been an exception, but at present we simply know too little about the origins and economic importance of this innovation to make a firm statement. (Houwink 1929; Wallert 1996).

then into the specialized and articulated crowd of bill brokers, traders, and merchant bankers that turned Amsterdam into Europe's leading settlement center once the Iberian trade and finance had left Antwerp for its northern rival following the Peace of Westphalia in 1648 (Baetens 1976; Jonker forthcoming).

The arrival of this key business coincided with a period of profound reorientation at Amsterdam's *Wisselbank* or Exchange Bank (Dehing 2012; Gillard 2004; van Nieuwkerk 2009). Modeled on a famous Venetian example and set up in 1609, seven years after the launch of the VOC and two years before the opening of the city's first commodity exchange, the bank initially served three purposes: first, defending the guilder against the inferior coins flooding in; second, providing merchants with a stable means of payment in the form of *banco* money; and third, holding a stock of quality coins available for merchants having to pay cash overseas. Existing intermediaries such as cashiers already ran a payments circuit and supplied coins for export. They might well have continued doing so, as their Bruges and Antwerp colleagues had done before, thereby obviating the need for a central clearance institute (Aerts 2011; van der Wee 1978: 104). However, in the Dutch Republic a powerful coalition sought to achieve a higher degree of monetary coordination than Amsterdam's fledgling cashiers could muster. The city council, Holland's Estates, and the Estates General wanted to assert control over the currency, and the VOC needed large amounts of silver for export to Asia. These interests combined to launch the *Wisselbank* as a strong public body, but the intention of replacing the cashiers failed, their services having become indispensable to merchants. Over time a division of labor emerged, the cashiers becoming the hinge between the *Wisselbank* and the Amsterdam market, an essential and, one assumes, remunerative function, but one that prevented their further evolution to fully fledged bankers in the way some of their Antwerp colleagues did.

By 1650 the *Wisselbank* had succeeded in stabilizing the guilder sufficiently to render that part of its function redundant to merchants, so deposits stagnated. Casting around for new ways to attract business, the directors came up with a new type of instrument, the *recepis* or tradable depositary receipt for bullion deposited with the *Wisselbank*. In essence cheap options on gold and silver, the *recepissen* boosted deposits and transformed operations by handing directors a tool for macroeconomic policies by leveraging the money supply (Quinn and Roberds 2010). Consequently, though conservative in the sense of not providing credit or issuing notes, the bank was highly modern in pioneering functions that most central banks adopted only during the late

nineteenth century. The *recepissen* also reinforced the Amsterdam market's already highly developed facilities to attract gold and silver, lowering the price for obtaining liquidity to levels unobtainable elsewhere and giving the city a competitive edge in the routing of international payments. The further refinement of bills into acceptances, which cut the risk of non-payment and thus the cost of bills on Amsterdam, helped to keep that edge sharp. Consequently the money market enabled Dutch merchants both to hold on to commodity flows, propping up the Republic's foreign trade in the face of mounting competition, and to reinvent themselves as merchant bankers, pioneering a burgeoning foreign loan business on the back of their commodity trade and acceptance dealing (Jonker and Sluyterman 2000).

The character of Amsterdam's financial market must therefore be understood from the huge pool of liquidity at its heart. Foreign merchants rushed in to profit from that liquidity and the low interest rates associated with it, swelling the Wisselbank deposits. By the mid-eighteenth century bills on Amsterdam financed grain traders in Berlin and cotton manufacturers in Brussels (de Jong-Keesing 1939; De Peuter 1999; Schnabel and Shin 2004). The origins of that liquidity can be traced back to the formation of the VOC in 1602. Trading in the company's shares started almost immediately upon the closing of subscriptions, with forwards and options following in its wake (Gelderblom and Jonker 2004, 2005; Petram 2011). By the 1680s one allied transaction, *prolongatie* or repo lending on collateral of securities, had become a standard technique for short-term credit, which it was to remain until 1914 (Jonker 1996). However, this was not the VOC's only contribution to the Dutch market's facilities. In 1608 its directors devised a system of transferable IOUs with which sailors and soldiers could obtain an advance on future pay so as to either buy food and lodging while awaiting embarkation, or to provide for their family during the tour of duty. As often as not debtors sold these bonds, discounted by the going interest rate plus a mortality risk premium, to specialized intermediaries who by grouping them managed to offset the individual mortality risks and thereby keep debtors' costs relatively low.

This system did not remain limited to Amsterdam. All six of the VOC's local chambers operated it and the Dutch navy, equally rooted in local admiralties, adopted something similar (van Bochove and van Velzen 2011). By at least 1670 the kind of intermediation on which the VOC's IOUs depended had also spawned a private IOU system in Amsterdam, which the city council sanctioned that year by defining a standard format and giving legal preference in case of default to claims on officially stamped paper (van Bochove and Kole 2013). We have no idea how widely such paper was used,

but surviving specimens suggest that it filled a key gap between the informal credit common at the lower end of the market and the techniques such as bills and repos used by the upper end. By the end of the eighteenth century private, preprinted IOU forms were also sold by Leeuwarden stationers (van Bochove and Kole 2013). The two types of IOU were important innovations because they extended the market's reach further down the social ladder and as such they underline that Amsterdam possessed a highly articulated market meeting a wide variety of needs, ranging from the high volumes of debt raised by the government and the colonial trading companies to small-scale private loans. Consequently, though having a large bank at its center, Amsterdam finance was not bank oriented but fully market oriented (contrary to Carlos and Neal 2011). It was the market, not the Wisselbank, which supplied all credit, and key credit techniques such as *prolongatie* were market based and survived the bank's demise at the end of the eighteenth century for over a hundred years.

The circulation of formalized IOUs highlights another structural aspect typical of northern markets. A fairly wide public of savers willing to buy paper claims appears to have existed from quite early on, long before Holland's upswing. Data from a community north of Amsterdam show people of modest means holding shares in ships and government annuities during the 1530s (De Moor, van Zanden, and Zuijderduijn 2009). Those shares and annuities were clearly available in small denominations, presumably a consequence of the need to mobilize money for investments among a population where wealth was both relatively scarce, compared to Flanders or Brabant, and distributed more evenly (van Dillen 1941). Mobilizing money therefore required mechanisms for getting small contributions from many people rather than large ones from a few. Shipping shares were commonly split into fractions of 1/64th or even smaller. Until the switch to excises as the main source of fiscal revenue at the end of the sixteenth century taxes were raised by allotting each community its share in the total burden, after which community officials spread that share over households using periodic detailed assessments of individual wealth. Holland's public loans were similarly apportioned to communities and households until the 1550s, when officials discovered that investors would buy them willingly (Gelderblom and Jonker 2011). The dispersed placing of loans continued, however, with eighteen local tax receivers doubling as agents for selling debt and paying interest. This had the dual effect of widening the province's access to investors and avoiding the concentration of debt in the hands of a narrow elite.

Consequently Amsterdam differed from Bruges and Antwerp in not being the central market for public debt in the Dutch Republic or even in Holland.

The Antwerp exchange functioned as the hub of Charles V's finances, raising the huge sums needed for bribing German princes into electing him emperor and floating short-term debt, both for his government in the Low Countries and also for the Spanish Crown in the form of *asientos* or short-term bonds (Blanchard 2009; Tracy 2002). The *asientos* cemented the Brabant city firmly at the heart of a European settlement network, which cleared commercial credit, public debt, and bullion flows with each other (Aerts 2004: 222–223). Antwerp possessed a large group of merchants and bankers who could carry out such transactions and absorb debt, while the Brabant aristocracy also tended to invest heavily in it (Tracy 1985). Fiscal centralization under Charles V and Philip II brought about a gradual harmonization of taxation and debt policy across the Low Countries, but following the Dutch Revolt two distinct patterns emerged (Gelderblom and Jonker 2013). The breakaway provinces in the north adopted a fiscal system relying chiefly on indirect taxes levied by provincial governments, supplemented by debt issued on their own credit, and secured on future tax receipts. Combined with a soaring economy this enabled the seven provinces to raise very high amounts of debt to achieve and then defend their independence.

However, in the south the trend toward greater fiscal autonomy for the provinces reversed as the representative assemblies that should have assumed responsibility fell apart into their constituent factions, which continued to assert their fiscal privileges against each other and against the Spanish and, from 1715 on, the Austrian government in Brussels. This had three major consequences. First, taxation and debt remained comparatively low in the southern Low Countries, both at the provincial and at the central level. Second, fiscal policy remained firmly in the hands of local and provincial elites, who kept debt issues largely to themselves. Third, key parts of public financial services such as tax collecting and organizing payments were bestowed as favors on well-connected businessmen. During the eighteenth century prominent banking houses emerged in the southern Low Countries, growing out of payments services, fiscal services, or both (Baetens 1976; Bronne 1969; Degryse 2005; De Peuter 1999; Houtman-De Smedt 1982, 1983). Those fertile substrata were absent in the north, because the *Wisselbanken* served the commercially most important part of the payments system and frequent public auctions kept profit margins on tax farms at a minimum. Banking houses did emerge, but, rooted as they were in trade finance and the securities market, they concentrated on short-term lending and eschewed longer-term commitments. Conversely, the southern Netherlands market structure appears to have favored financiers accumulating capital for allocation in just such commitments. Thus when, during the early

nineteenth century, Belgium's industrialization really took off, its financial market structure could facilitate the concomitant rise in demand for fixed capital.

That said, financial markets in the north and in the south never reached the vast majority of people, whose low income effectively locked them out of all formal financial services except for the occasional pawning of whatever possessions they could offer as collateral. The IOUs might have given the Amsterdam market a somewhat wider reach than those in Antwerp or Bruges, but that was a difference in degree, not kind. From the same point of departure and using highly similar instruments markets in north and south developed very different institutions and forms of intermediation, but this mattered for the few at the top, not for the many at the bottom.

Conclusion

The most striking aspect of capitalism in the Low Countries is its variety, that is to say, the marked differences in the actual organization of transactions between ostensibly similar, free markets driven by supply and demand in which people participated willingly. On the one hand, there clearly did not exist a specific set of preconditions or circumstances, or a particular institutional framework necessary for the development of product and factor markets; on the other, local circumstances continued to shape markets throughout the period under consideration.

The variety had its roots in the area's diversity of soil conditions and natural resources which, transformed into specific social property relations, ultimately determined the distribution of income and wealth, structured the power of local and central authorities, and shaped the contracting institutions organizing agriculture, trade, and industry. However, the relative ease of trade and communication combined with the inter-urban competition to produce a fairly rapid diffusion of information, production techniques, legal concepts, and ways of organizing transactions from one region to the next, the autonomy of local rulers allowing economic actors to choose the institutions that best suited them. The power and wealth of aristocratic magnates, monasteries, and other Church institutions, towns, individual merchants, and artisan guilds might look impressive, but there were always limits, barriers, and countervailing forces preventing any one of them or even coalitions between them from achieving long-term dominance over wide areas and using their vested interests to stifle innovation. Moreover, the keen intercity rivalry prodded elites to embrace innovation when at all possible, since failing

to keep up might make business move away to places where perceived restrictions did not apply, to rival cities, or into the countryside.

Now of course capitalism did not develop smoothly everywhere all the time. Opportunities were missed or passed up for one reason or another, innovations were dropped when they failed to live up to expectations, and a few pockets long succeeded in resisting the pressures of change, usually because poor soil conditions cemented the social and political balance. The point is, rather, that as a result of the balance between rulers, economic actors, and local circumstances the structure and shape of factor markets, notably those for labor and for capital, did not become more uniform across the Low Countries, but increasingly different, with a great variety of contracting institutions.

Thus it was not, as is often argued, the early decline of feudalism that stimulated successive phases of economic growth, but the interaction between resource endowments, infrastructure, and political and legal fragmentation. It was this continuous interaction that produced both a dynamic evolution of contracting institutions to govern market exchange, and the creation of political and legal constraints on local and central executives. As such it explains why the Low Countries' political and legal fragmentation did not end in economic stagnation, as it did in northern Italy, why violent disruptions such as social upheaval or political strife remained isolated instances, and why cities or rulers rarely succeeded in harming competitors' trade whether by monopolies, punitive tolls or taxes, or armed force.

In the final balance it was the split between north and south which put the Low Countries at a disadvantage within Europe by drastically reducing both the scope for regional interaction and the size of the internal market. As a result neither half reaped the full benefits of economic growth in the other part, be it the north's seventeenth-century Golden Age, or the south's renewed dynamism feeding into early industrialization during the eighteenth century. The protectionist policies of England and France, countries with much bigger internal markets, made matters worse. However, both halves of the Low Countries retained the long-term legacy of the area's political and legal fragmentation: when international markets opened up in the nineteenth century growth resumed, grafted not just on to the social, human, and financial stock accumulated over time, but also on the accumulated stock of institutions. This really amounted to an oversupply: not only did individual areas possess alternative rules for organizing specific transactions, as for instance the international commodity trade showed, but economic actors in most regions were familiar with a much bigger set of contracting institutions

for them to adopt if and when economic opportunities presented themselves. As a result the Low Countries were at the same time resilient enough to absorb exogenous shocks and sufficiently flexible to seize new opportunities. This showed for instance in even the more peripheral areas adopting in the course of the nineteenth century, with apparent ease, modern institutions such as savings and loan banks for middle-class groups, mutual insurance schemes and other forms of risk management, paper money, various forms of investment, and new corporate forms such as the limited liability company.

References

- Acemoglu, D., S. Johnson, and J. Robinson (2005). "The Rise of Europe: Atlantic Trade, Institutional Change, and Economic Growth," *American Economic Review* 95(3): 546–79.
- (2012). *Why Nations Fail: The Origins of Power, Prosperity, and Poverty*. London: Profile Books.
- Aerts, E. (2004). "Économie, monnaie, et société dans les Pays-Bas méridionaux de Charles Quint," in W. Blockmans and N. Mout (eds.), *The World of Emperor Charles V*. Amsterdam: University of Chicago Press, pp. 201–226.
- (2011). "The Absence of Public Exchange Banks in Medieval and Early Modern Flanders and Brabant (1400–1800): A Historical Anomaly to be Explained," *Financial History Review* 18: 91–117.
- Ballaux, B. and B. Blondé (2007). "Landtransportprijzen en de economische ontwikkeling van Brabant in de lange zestiende eeuw," *Tijdschrift voor Sociale en Economische Geschiedenis* 4(2): 57–85.
- Baetens, R. (1976). *De nazomer van Antwerpens welvaart. De diaspora en het handelshuis De Groote tijdens de eerste helft der 17e eeuw*, 2 vols. Brussels: Gemeentekrediet van België.
- Bavel, B. J. P. van (2003a). "The Land Market in the North Sea Area in a Comparative Perspective, 13th–18th Centuries," in S. Cavaciocchi (ed.), *Il Mercato della Terra Secc. XIII–XVIII. Atti della "Trentacinquesima Settimana di Studi"*, 5–9 Maggio 2003. Prato: Istituto Internazionale di Storia Economica "Fondazione Datini," pp. 119–145.
- (2003b). "Early Proto-Industrialization in the Low Countries? The Importance and Nature of Market-Oriented Non-Agricultural Activities in the Countryside in Flanders and Holland, c. 1250–1570," *Revue Belge de Philologie et d'Histoire* 81(4): 1119–1165.
- (2006). "Rural Wage Labor in the Sixteenth-century Low Countries: An Assessment of the Importance and Nature of Wage Labor in the Countryside of Holland, Guelders, and Flanders," *Continuity and Change* 21(1), 37–72.
- (2007). "The Transition in the Low Countries: Wage Labor as an Indicator of the Rise of Capitalism in the Countryside, 1300–1700," *Past and Present* 195, Suppl. 2: 286–303.
- (2009). "The Emergence and Growth of Short-Term Leasing in the Netherlands and Other Parts of Northwestern Europe (11th–16th Centuries): A Tentative Investigation into its Chronology and Causes," in B. J. P. van Bavel and P. Schofield (eds.), *The Development of Leasehold in Northwestern Europe, 1200–1600*. Turnhout: Brepols, pp. 179–213.

- (2010a). *Manors and Markets: Economy and Society in the Low Countries, 500–1600*. Oxford University Press.
- (2010b). “The Medieval Origins of Capitalism in the Netherlands,” *Low Countries Historical Review* 125: 45–79.
- Bavel, B. J. P. van and J. L. van Zanden (2004). “The Jump-start of the Holland Economy during the Late-medieval Crisis, c. 1350–c. 1500,” *Economic History Review* 57: 503–532.
- Beekman, A. A. and P. J. Blok (1915). *Geschiedkundige Atlas van Nederland. De Bourgondische Tijd. De Noordelijke Nederlanden in 1476. Het Bourgondische Rijk in 1476*. The Hague: Nijhoff.
- Benders, J. (1998). “Over ossen en keurslagers. De stad Groningse, Overijsselse en Gelderse veehandel tussen 1350 en 1550,” in D. E. H. de Boer, R. W. M. van Schaik, and R. Nip (eds.), *Het Noorden in het midden. Opstellen over de geschiedenis van de Noord-Nederlandse gewesten in Middeleeuwen en Nieuwe Tijd*. Assen: Van Gorcum, pp. 61–86.
- Bieleman, J. (1990). “De verscheidenheid van de landbouw op de Nederlandse zandgronden tijdens ‘de lange zestiende eeuw’,” *Bijdragen en mededelingen betreffende de geschiedenis der Nederlanden* 105: 537–552.
- Bigwood, G. (1921). *Le régime juridique et économique du commerce de l’argent dans la Belgique du Moyen Âge*. Brussels: Académie Royale, pp. 319–320.
- Blanchard, I. (2009). *The International Economy in the Age of Reason: Antwerp and the English Merchants’ World*. Stuttgart: Steiner, pp. 19–78.
- Blockmans, W. P. (2010a). “Inclusiveness and Exclusion, Trust Networks at the Origins of European Cities,” *Theory and Society* 39: 315–326.
- (2010b). *Metropolen aan de Noordzee. De geschiedenis van Nederland, 1100–1560*. Amsterdam: Bert Bakker.
- Blondé, B. (1999). *Het Brabantse stedelijke netwerk (ca. 1750 – ca. 1790)*. Brussels: Koninklijke Vlaamse Academie van België voor Wetenschappen en Kunsten.
- Bochove, C. J. van (2004). “De Hollandse haringvisserij tijdens de vroegmoderne tijd,” *Tijdschrift voor sociale en economische geschiedenis* 1(1): 3–27.
- (2009). “The ‘Golden Mountain’: An Economic Analysis of Holland’s Early Modern Herring Fisheries,” in L. Sicking and D. Abreu-Ferreira (eds.), *Beyond the Catch: Fisheries of the North Atlantic, the North Sea and the Baltic, 900–1850*. Leiden/Boston: Brill, pp. 209–243.
- Bochove, C. J. van and H. Kole (2013). “The Private Credit Market of Eighteenth-Century Amsterdam,” forthcoming in *Tijdschrift voor Economische- en Sociale Geschiedenis*.
- Bochove, C. J. van and T. van Velzen (2011). “Loans for Salaried Employees: The Case of the Dutch East India Company, 1602–1795.” Unpublished paper.
- Bochove, C. J. van and J. L. van Zanden (2006). “Two Engines of Early Modern Economic Growth? Herring Fisheries and Whaling during the Dutch Golden Age (1600–1800),” in S. Cavaciocchi (ed.), *Ricchezza del mare, ricchezza dal mare. Secoli XIII–XVIII*. Prato: Fondazione Istituto Internazionale di storia Economica/Fondazione Datini, pp. 557–574.
- Boon, P. A. (1996). *Bouwers van de zee, zeevarenden van het Westfriesse platteland, c. 1680–1720*. Stichting Hollandse Historische Reeks.
- Boone, M., K. Davids, and P. Janssens, eds. (2003). *Urban Public Debts: Urban Government and the Market for Annuities in Western Europe (14th–18th centuries)*. Turnhout: Brepols.
- Brandon, P. (2013). “Masters of War: State, Capital, and Military Enterprise in the Dutch Cycle of Accumulation (1600–1795).” Ph.D. thesis, University of Amsterdam.

- Braudel, F. (1949). *La Méditerranée et le monde méditerranéen à l'époque de Philippe II*. Paris: Colin.
- (1979). *Civilisation Matérielle, économie et capitalisme, XVIe–XVIIIe siècles*, 3 vols. Paris: Colin.
- Brenner, R. (2001). "The Low Countries in the Transition to Capitalism," in Hoppenbrouwers and van Zanden (eds.), pp. 275–338.
- Bronne, C. (1969). *Financiers et comédiens au XVIIIe siècle. Madame Nettine banquière des Pays Bas suivi d'Hannetaire et ses filles*. Brussels: Goemaere.
- Bruijn, J. R. (1993). *The Dutch Navy of the Seventeenth and Eighteenth Centuries: Studies in Maritime History*. Columbia: University of South Carolina Press.
- Bruijn, J. R. and J. Lucassen, eds. (1980). *Op de schepen der Oost-Indische Compagnie. Vijf artikelen van J. de Hullu, ingeleid, bewerkt en voorzien van een studie over de werkgelegenheid bij de VOC*. Groningen: Historische Studies Instituut voor Geschiedenis der Rijksuniversiteit Utrecht.
- Bruijn, J. R., F. S. Gaastra, and I. Schöffer, eds. (1987). *Dutch-Asiatic Shipping in the 17th and 18th Centuries*. Vol. 1: *Introductory Volume*. The Hague: Martinus Nijhoff.
- Brusse, P. (1999). *Overleven door ondernemen, de agrarische geschiedenis van de Over-Betuwe 1650–1850*. Arnhem: Vereniging Gelre.
- Carlos, A. and L. Neal (2011). "Amsterdam and London as Financial Centers in the Eighteenth Century," *Financial History Review* 18: 21–46.
- Dam, P. J. E. M. van (1998). *Vissen in veenmeren. De sluisvisserij op aal tussen Haarlem en Amsterdam en de ecologische transformatie in Rijnland 1440–1530*. Hilversum: Verloren.
- Damme, I. van (2007). *Verleiden en verkopen. Antwerpse kleinhandelaars en hun klanten in tijden van crisis (ca. 1648–ca. 1748)*. Amsterdam: Aksant.
- Davids, C. A. (1996). "Neringen, hallen en gilden. Kapitalisten, kleine ondernemers en de stedelijke overheid in de tijd van de Republiek," in C. A. Davids, W. Fritschy, and L. A. van der Valk (eds.), *Kapitaal, ondernemerschap en beleid. Studies over economie en politiek in Nederland, Europa en Azië*. Amsterdam: NEHA, pp. 95–119.
- Degryse, K. (2005). *De Antwerpse fortuinen. Kapitaalaccumulatie, -investering en -rendement te Antwerpen in de 18de eeuw*. Antwerp: Genootschap voor Antwerpse Geschiedenis.
- Dehing, P. W. N. M. (2012). *Geld in Amsterdam. Wisselbank en wisselkoersen, 1650–1725*. Hilversum: Verloren.
- Dekker, C. and R. Baetens (2010). *Geld in het water. Antwerps en Mechels kapitaal in Zuid-Beveland na de stormvloeden in de 16e eeuw*. Hilversum: Verloren.
- De Moor, T., J. L. van Zanden, and J. Zuijderduijn (2009). "Micro-Credit in Late Medieval Waterland: Households and the Efficiency of Capital Markets in Edam and De Zeevang, 1462–1563," in S. Cavachiocci (ed.), *La famiglia nell'economia europea secoli XIII–XVIII [The Economic Role of the Family in the European Economy from the 13th to the 18th Centuries]*. Florence University Press, pp. 651–668.
- Dennison, T. (2011). *The Institutional Framework of Russian Serfdom*. Cambridge University Press.
- De Peuter, R. E. M. A. (1999). *Brussel in de achttiende eeuw. Sociaal-economische structuren en ontwikkelingen in een regionale hoofdstad*. Brussels: VUB Press.
- De Smedt, O. (1940–1941). "De keizerlijke verordeningen van 1537 en 1539 op de obligaties en wisselbrieven," *Nederlandsche historischebladen* 3: 15–35.
- Deursen, A. Th. van (1994). *Een dorp in de polder. Graaf in de zeventiende eeuw*. Amsterdam: Bakker.

- Dijkman, J. (2011). *Shaping Medieval Markets: The Organisation of Commodity Markets in Holland, c. 1200–c. 1450*. Leiden: Brill.
- Dillen, J. G. van (1941). *Amsterdam in 1585. Het kohier der capitale impositie 1585*. Amsterdam.
- DuPlessis, R. S. and M. C. Howell (1982). "Reconsidering the Early Modern Urban Economy: The Cases of Leiden and Lille," *Past and Present* 94: 49–84.
- Epstein, S. (2000). *Freedom and Growth: The Rise of States and Markets in Europe, 1300–1750*. London: Routledge.
- Epstein, S. R. and M. R. Prak, eds. (2008). *Guilds, Innovation and the European Economy, 1400–1800*. Cambridge University Press.
- Engen, H. van and R. Rutte (2008). *Stadswording in de Nederlanden. Op zoek naar overzicht*. Hilversum: Verloren.
- Gelderblom, O. (2004). "The Decline of Fairs and Merchant Guilds in the Low Countries, 1250–1650," *Jaarboek voor Middeleeuwse Geschiedenis* 7: 199–238.
- (2013). *Cities of Commerce: The Institutional Foundations of International Trade in the Low Countries, 1250–1650*. Princeton University Press.
- Gelderblom, O. and J. Jonker (2004). "Completing a Financial Revolution: The Finance of the Dutch East India Trade and the Rise of the Amsterdam Capital Market, 1595–1612," *Journal of Economic History* 64(3): 641–72.
- (2005). "Amsterdam as the Cradle of Modern Futures Trading and Options Trading, 1550–1650," in W. G. Goetzmann and K. G. Rouwenhorst (eds.), *The Origins of Value: The Financial Innovations that Created Modern Capital Markets*. Oxford University Press, pp. 189–205.
- (2011). "Public Finance and Economic Growth: The Case of Holland in the Seventeenth Century," *Journal of Economic History* 71: 1–39.
- (2013). "Low Countries Finance, 1348–1700," in G. Caprio (ed.), *Handbook of Key Global Financial Markets, Institutions, and Infrastructure*, Vol. 1. Oxford: Elsevier, pp. 175–183.
- (forthcoming). "Mirroring Different Follies: The Character of the 1720 Bubble in the Dutch Republic," in C. Labio, W. Goetzmann, K. Rouwenhorst, and T. Young (eds.), *The "Great Mirror of Folly": Finance, Culture, and the Crash of 1720*. New Haven: Yale University Press.
- Gelderblom, O., A. de Jong, and J. Jonker (2011). "An Admiralty for Asia, Business Organization and the Evolution of Corporate Governance in the Dutch Republic, 1590–1610," in J. Koppell (ed.), *The Origins of Shareholder Advocacy*. New York: Palgrave Macmillan, pp. 29–60.
- (2013). "The Formative Years of the Modern Corporation: The Dutch East India Company VOC, 1602–1623," forthcoming in *The Journal of Economic History*.
- Gijsbers, W. M. (1999). *Kapitale ossen. De internationale handel in slachtvee in Noordwest-Europa (1300–1750)*. Hilversum: Verloren.
- Gillard, L. (2004). *La Banque d'Amsterdam et le florin européen au temps de la République néerlandaise (1610–1820)*. Paris: Éditions de l'EHESS.
- Godding, P. (1987). *Le droit privé dans les Pays-Bas méridionaux, du 12e au 18e siècle*. Brussels: Académie Royale de Belgique.
- Grafe, R. (2012). *Distant Tyranny: Markets, Power, and Backwardness in Spain, 1650–1800*. Princeton University Press.
- Groeneveld, F. P. (1940). *De economische crisis van het jaar 1720*. Groningen: Noordhoff.

- Hesselink-Van der Riet, T., W. Kuiper, and C. Trompetter (2008). *Het schuldboek van Arend Kenkhuis*. Amsterdam University Press.
- Hoffman, P. T. (1996). *Growth in a Traditional Society: The French Countryside, 1450–1820*. Princeton University Press.
- Hollestelle, J. (1961). *De steenbakkerij in de Nederlanden tot omstreeks 1560*. Assen: van Gorcum.
- Hoppenbrouwers, P. C. M. (1992). *Een middeleeuwse samenleving. Het land van Heusden (ca. 1360- ca. 1515)*, 2 vols. Wageningen: Afdeling Agrarische Geschiedenis.
- Hoppenbrouwers, P., and J. L. van Zanden, eds. (2001). *Peasants into Farmers? The Transformation of Rural Economy and Society in the Low Countries (Middle Ages–19th Century) in light of the Brenner Debate*. Turnhout: Brepols.
- Houtman-De Smedt, H. 1982. "Charles Proli als ondernemer," *Economisch en sociaalhistorisch jaarboek* 44: 84–92.
- (1983). *Charles Proli. Antwerps zakenman en bankier, 1723–1786, een biografische en bedrijfs-historische studie*. Brussels: Paleis der Academiën.
- Houwink, A. (1929). *Acceptcrediet: economische en bankpolitieke beschouwingen over den in het bankaccept belichaamden credietvorm*. Amsterdam.
- Howell, M. C. (2010). *Commerce before Capitalism in Europe, 1300–1600*. New York: Cambridge University Press.
- Israel, J. I. (1995). *The Dutch Republic: Its Rise, Greatness, and Fall 1477–1806*. Oxford: Clarendon Press.
- Janssens, V. (1957). *Het geldwezen der Oostenrijkse Nederlanden*. Brussels: Paleis der Academiën.
- Jong, A. de, J. Jonker, and A. Roëll (2013). "Dutch Corporate Finance, 1602–1850," in G. Caprio (ed.), *Handbook of Key Global Financial Markets, Institutions, and Infrastructure*, Vol. 1. Oxford: Elsevier, pp. 73–83.
- Jong-Keesing, E. E. de (1939). *De economische crisis van 1763 te Amsterdam*. Amsterdam: Internationale Uitgevers- en Handelmaatschappij.
- Jongh, M. de (2011). "Shareholder Activists *avant la lettre*: The 'complaining participants' in the Dutch East India Company, 1622–1625," in J. Koppell (ed.), *The Origins of Shareholder Advocacy*. New York: Palgrave Macmillan, pp. 61–88.
- Jonker, Joost P. B. (1996). *Merchants, Bankers, Middlemen: The Amsterdam Money Market during the First Half of the 19th Century*. Amsterdam: NEHA.
- (forthcoming). "Wedge between the Market and the World: The Amsterdam Haute Banque, 1650s-1914," in R. Darteville (ed.), *La Haute Banque en Europe*.
- Jonker, J. P. B. and K. E. Sluyterman (2000). *At Home on the World Markets: Dutch International Trading Companies from the 16th Century until the Present*. The Hague: Sdu Uitgevers.
- Kuijpers, E. (2005). *Migrantenstad, immigratie en sociale verhoudingen in 17e-eeuws Amsterdam*. Hilversum: Verloren.
- (2009). "Who Digs the Town Moat? The Public Works of Leyden and the Performance of the Markets for Labour and Capital in Late Medieval Holland." Unpublished paper, <http://vk.library.uu.nl/vkc/seh/research/Lists/Working%20Papers/Attachments/24/Who%20digs%20the%20townmoat%20working%20paper.doc.pdf>.
- Limberger, M. (2001). "Early Forms of Proto-industries in the Backyard of Antwerp? The Rupel Area in the 15th and 16th Centuries," in B. Blondé, E. Vanhaute, and M. Galand

- (eds.), *Labor and Labor Markets between Town and Countryside (Middle Ages–19th Century)*. Turnhout: Brepols, pp. 158–174.
- (2008). *Sixteenth-century Antwerp and its Rural Surroundings: Social and Economic Changes in the Hinterland of a Commercial Metropolis*. Turnhout: Brepols.
- Lis, C. and H. Soly (1987). *Een groot bedrijf in een kleine stad. De firma De Heyder en Co. te Lier, 1757–1834*. Lier: Liers Genootschap voor Geschiedenis.
- (1997a). *Werelden van verschil, ambachtsgilden in de Lage Landen*. Brussel: VUB Press.
- (1997b). “Different Paths of Development: Capitalism in the Northern and Southern Netherlands during the Late Middle Ages and the Early Modern Period,” *Review: Fernand Braudel Center for the Study of Economies, Historical Systems, and Civilizations* 20(2): 211–242.
- (2008). “Subcontracting in Guild-based Export Trades, Thirteenth–Eighteenth Centuries,” in Epstein and Prak (eds.), pp. 81–113.
- Lucassen, J. M. W. G. (1982). “Beschouwingen over seizoensgebonden trekarbeid naar het westen van Nederland, ca. 1700–ca. 1800,” *Tijdschrift voor sociale geschiedenis* 8: 327–358.
- (1987). *Migrant Labor in Europe: The Drift to the North Sea*. London: Croom Helm.
- (1995). “Labour and Early Modern Economic Development,” in K. Davids and J. Lucassen (eds.), *A Miracle Mirrored: The Dutch Republic in European Perspective*. Cambridge University Press, pp. 367–409.
- Lucassen, J. and R. W. Unger (2000). “Labour Productivity in Ocean Shipping, 1450–1875,” *International Journal of Maritime History* 12(2): 127–141.
- (2007). “Wage Payments and Currency Circulation in the Netherlands from 1200 to 2000,” in J. M. W. G. Lucassen (ed.), *Wages and Currency: Global Comparisons from Antiquity to the Twentieth Century*. Berne: Lang.
- Maassen, H. A. J. (1994). *Tussen commercieel en sociaal krediet, de ontwikkeling van de bank van lening in Nederland van lombard tot gemeentelijke kredietbank 1260–1940*. Hilversum: Verloren.
- Mokyr, J. (1976). *Industrialization in the Low Countries, 1795–1850*. New Haven: Yale University Press.
- Murray, J. M. (2005). *Bruges, Cradle of Capitalism 1280–1390*. Cambridge University Press.
- Nieuwkerk, M. van (ed.) (2009). *The Bank of Amsterdam: On the Origins of Central Banking*. Arnhem: Sonsbeek.
- Nimwegen, O. van (2010). *The Dutch Army and the Military Revolutions, 1588–1688*. Woodbridge: The Boydell Press.
- Parthesius, R. (2010). *Dutch Ships in Tropical Waters: The Development of the Dutch East India Company (VOC) Shipping Network in Asia 1595–1660*. Amsterdam University Press.
- Petram, L. (2011). “The World’s First Stock Exchange. How the Amsterdam Market for Dutch East India Company Shares Became a Modern Securities Market, 1602–1700.” Ph.D. thesis, University of Amsterdam.
- Prak, M. R. (2005). *The Dutch Republic in the Seventeenth Century: The Golden Age*. Cambridge University Press.
- Priester, P. (1998). *Geschiedenis van de Zeeuwse Landbouw circa 1600–1910*. Wageningen: Afdeling Agrarische Geschiedenis Landbouwuniversiteit.
- Quinn, S. and W. Roberds (2010). “How Amsterdam got Fiat Money.” Unpublished paper. Texas Christian University 2010(17).
- Rijppma, A. (2012). “Funding Public Services through Religious and Charitable Foundations in the Late-medieval Low Countries.” Ph.D. thesis, Utrecht University.

- Ryckbosch, W. (2012). "A Consumer Revolution under Strain: Consumption, Wealth and Status in Eighteenth-century Aalst (Southern Netherlands)." Ph.D. thesis, University of Antwerp.
- Schalk, R., O. Gelderblom, and J. Jonker (2012). "Schipperen op de Aziatische vaart. De financiering van de VOC kamer Enkhuizen, 1602–1622," *Low Countries Historical Review* 127(4): 3–27.
- Schnabel, I. and H. S. Shin (2004). "Liquidity and Contagion: The Crisis of 1763," *Journal of the European Economic Association* 6: 929–968.
- Soens, T. (2009). *De spade in de dijk? Waterbeheer en rurale samenleving in de Vlaamse kustvlakte (1280–1580)*. Ghent: Academia Press.
- Soens, T. and E. Thoen (2009). "The Origins of Leasehold in the Former County of Flanders," in B. J. P. van Bavel and P. Schofield (eds.), *The Development of Leasehold in Northwestern Europe, 1200–1600*. Turnhout: Brepols, pp. 31–55.
- Soly, H. (1977). *Urbanisme en kapitalisme te Antwerpen in de 16de eeuw. De stedenbouwkundige en industriële ondernemingen van Gilbert van Schoonbeke*. Brussels: Gemeentekrediet van België.
- Spufford, P. (2008). *How Rarely did Medieval Merchants Use Coin?* Utrecht: Geldmuseum.
- Stabel, P. (1997). *Dwarfs among Giants: The Flemish Urban Network in the Late Middle Ages*. Leuven: Garant.
- (2001). "Urban Markets, Rural Industries and the Organisation of Labor in Late Medieval Flanders: The Constraints of Guild Regulations and the Requirements of Export Oriented Production," in B. Blondé, E. Vanhaute, and M. Galand (eds.), *Labor and Labor Markets between Town and Countryside (Middle Ages–19th Century)*. Turnhout: Brepols, pp. 140–157.
- (2004). "Guilds in Late Medieval Flanders: Myths and Realities of Guild Life in an Export-oriented Environment," *Journal of Medieval History* 30: 187–212.
- Thoen, E. (1988). *Landbouweconomie en bevolking in Vlaanderen gedurende de late middeleeuwen en het begin van de moderne tijden. Testregio. De kasselrijen van Oudenaarde en Aalst, eind 13de – eerste helft van de 16de eeuw*, 2 vols. Ghent: Belgisch centrum voor landelijke geschiedenis.
- (2001). "A 'Commercial Survival Economy' in Evolution: The Flemish Countryside and the Transition to Capitalism (Middle Ages–19th century)," in Hoppenbrouwers and van Zanden (eds.), pp. 102–157.
- Tielhof, M. van and P. J. E. M. van Dam (2006). *Waterstaat in stedenland. Het hoogheemraadschap van Rijnland voor 1857*. Utrecht: Matrijs.
- Tielhof, M. van and J. L. van Zanden (2009). "Roots of Growth and Productivity Change in Dutch Shipping Industry, 1500–1800," *Explorations in Economic History* 46: 389–403.
- Tihon, C. (1961). "Aperçus sur l'établissement des Lombards dans les Pays Bas aux XIIIe et XIVe siècles," *Revue Belge de Philologie et Histoire* 39: 334–364.
- Tracy, J. D. (1985). *A Financial Revolution in the Habsburg Netherlands: Renten and Renteniers in the County of Holland, 1515–1565*. London: University of California Press.
- (2002). *Emperor Charles V, Impresario of War: Campaign Strategy, International Finance, and Domestic Politics*. Cambridge University Press.
- (2003). "On the Dual Origins of Long-term Public Debt in Medieval Europe," in M. Boone, K. Davids, and P. Janssens (eds.), *Urban Public Debts: Urban Government*

- and the Market for Annuities in Western Europe (14th–18th centuries)*. Turnhout: Brepols, pp. 13–26.
- Van der Linden, H. (1956). *De cope. Bijdrage tot de rechtsgeschiedenis van de openlegging der Hollands-Utrechtse laagvlakte*. Assen: Van Gorcum.
- Van Lottum, J. (2007). *Across the North Sea: The Impact of the Dutch Republic on International Labor Migration, c. 1550–1850*. Amsterdam: Uitgeverij Aksant.
- Vercauteren, F. (1947). “Note sur l’origine et l’évolution du contrat de mortgage en Lotharingie, du IXe au XIIIe siècle,” *Historische bijdragen aangeboden aan Leo van der Essen*. Brussels: Éditions universitaires, pp. 218–227.
- Verhas, C. M. O. (1997). *De beginjaren van de Hoge Raad van Holland, Zeeland en West-Friesland: . . . tot onderhoudinge van de Politieke orde ende staet der Landen van Hollandt, Zeelandt, Vriesslant*. The Hague: Algemeen Rijksarchief.
- Vermeesch, G. (2006). *Oorlog, steden en staatsvorming. De grenssteden Gorinchem en Doesburg tijdens de geboorte-eeuw van de Republiek (1572–1680)*. Amsterdam University Press.
- Vries, Jan de (1974). *The Dutch Rural Economy in the Golden Age, 1500–1700*. New Haven: Yale University Press.
- (1978). *Barges and Capitalism: Passenger Transportation in the Dutch Economy, 1632–1839*. Wageningen: Landbouwhogeschool.
- Vries, J. de and A. Van der Woude (1997). *The First Modern Economy: Success, Failure, and Perseverance of the Dutch Economy, 1500–1815*. Cambridge University Press.
- (2001). “Economic Growth before and after the Industrial Revolution: A Modest Proposal,” in M. Prak (ed.), *Early Modern Capitalism, Economic and Social Change in Europe, 1400–1800*. London: Routledge, pp. 177–194.
- Wallert, J. A. F. (1996). “Ontwikkelingslijnen in praktijk en theorie van de wisselbrief 1300–2000.” Ph.D. thesis, Nijmegen University.
- Wee, H. van der (1963). *The Growth of the Antwerp Market and the European Economy (14th–16th centuries)*, 3 vols. The Hague: Nijhoff.
- (1979). “Geld-, krediet- en bankwezen in de Zuidelijke Nederlanden,” P. Blok et al. (eds.), *Algemene geschiedenis der Nederlanden*, Vol. vi. Haarlem: Fibula-Van Dishoeck, pp. 98–108.
- (1988). “Industrial Dynamics and the Process of Urbanization and De-urbanization in the Low Countries from the Late Middle Ages to the Eighteenth Century: A Synthesis,” in H. van der Wee (ed.), *The Rise of Urban Industries in Italy and the Low Countries (Late Middle-Ages – Early Modern Times)*. Leuven University Press, pp. 307–381.
- Wee, H. van der and E. Aerts (1979). “The Lier Livestock Market and the Livestock Trade in the Low Countries from the 14th to the 18th Century,” in E. Westermann (ed.), *Internationaler Ochsenhandel (1350–1750). Akten des 7th International Economic History Congress. Edinburgh 1978*. Bamberg: Klett-Cotta, pp. 235–254.
- Werweke, H. van (1929). “Le mortgage et son rôle économique en Flandre et en Lotharingie,” *Revue belge de philologie et histoire* 8: 53–91.
- Wijffels, A. (2003). “Ius Commune and International Wine Trade: A Revision (Middelburg c. Antwerp 1548–1559,” *Tijdschrift voor Rechtsgeschiedenis/The Legal History Review* 71(3–4): 289–317.
- Wijngaarden, H. van (2000). *Zorg voor de kost. Armenzorg, arbeid en onderlinge hulpe in Zwolle 1650–1700*. Amsterdam: Prometheus/Bert Bakker.

- Willems, B. (2009). *Leven op de pof. Krediet bij de. Antwerpse middenstand in de achttiende eeuw*. Amsterdam: Aksant.
- Wyffels, C. (1991). "L'usure en Flandre au XIIIe siècle," *Revue Belge de Philologie et Histoire* 69: 853–871.
- Yntema, R. (2009). "The Union of Utrecht, Tariff Barriers and the Interprovincial Beer Trade in the Dutch Republic," in O. Gelderblom (ed.), *The Political Economy of the Dutch Republic*. Aldershot: Ashgate, pp. 255–289.
- Zanden, J. L. van (1991). "From Peasant Economy to Modern Market-oriented Agriculture: The Transformation of the Rural Economy of the Eastern Netherlands 1800–1914," *Economic and Social History in the Netherlands* 3: 37–59.
- (1993). *The Rise and Decline of Holland's Economy: Merchant Capitalism and the Labor Market*. Manchester: University Press.
- (1999). "The Paradox of the Marks, the Exploitation of Commons in the Eastern Netherlands, 1250–1850," *Agricultural History Review* 47: 125–144.
- Zanden, J. L. van and A. van Riel (2004). *The Strictures of Inheritance: The Dutch Economy in the Nineteenth Century*. Princeton: University Press.
- Zuijderduijn, C. J. (2009). *Medieval Capital Markets: Markets for Renten, State Formation and Private Investment in Holland (1300–1550)*. Leiden: Brill.
- (2010). "The Emergence of Provincial Public Debt in the County of Holland (Thirteenth–Sixteenth Centuries)," *European Review of Economic History* 14: 335–359.
- Zwet, H. van (2009). *Lofwaerdighe dijkagies en miserabele polders. Een financiële analyse van landaanwinningprojecten in Hollands Noorderkwartier, 1597–1643*. Hilversum: Verloren.