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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 - 1570¹

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1. Introduction

Any foreigner travelling around late-18th century East-Flanders, and visiting the countryside in the southern part of the province, would have been struck by the large number of people engaged in some kind of home industry. Linen manufacture especially had developed here strongly, offering by-employment for numerous villagers, for instance in a village like Lede, situated some 20 km south-east of Ghent. Out of the 650 families living in Lede no less than half owned weaving-looms, about three-quarters owned tools for the processing of flax, and no less than 80 % of them owned one or more spinning-wheels.² On top of this, some women were employed in lace-working, so almost all villagers were engaged at least part time in textile industries. The village of Lede was no exception in the countryside of Inland-Flanders; on the contrary. Tens of thousands of men, women and children in rural Flanders were engaged as home workers in the textile industries,³ forming a very substantial part of the total population.

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1. The research on which this article is based was carried out while the author was a fellow of the Netherlands Organisation for Scientific Research (NWO) and a visiting fellow of the Fund for Scientific Research Flanders (FWO-Vlaanderen). For their hospitality and their help in carrying out the research I would like to thank dr. Jan Dumolyn, dr. Peter Stabel, prof.dr. Erik Thoen and all other members of the Department of Medieval History at the University of Gent. For their comments and suggestions on earlier drafts of this work I also would like to thank dr. Petra van Dam, dr. Oscar Gelderblom, dr. Marjolein 't Hart, drs. Martine Vanwelden, prof. dr. Jan Luiten van Zanden, and in particular prof.dr. Richard Unger.
 2. J. DE BROUWER, *Geschiedenis van Lede. Het dorpsleven, het parochieleven, het volksleven*, Lede, 1963, p. 163, 187, 235, and 244-249. Cf. also C. VANDENBROEKE, "De linnennijverheid", in L. JASPERS & C. STEVENS, eds., *Arbeid en tewerkstelling in Oost-Vlaanderen op het einde van het Ancien Régime*, Gent, 1985, p. 120-128.
 3. Cf. the figures provided by C. VANDENBROEKE, "Sociale en conjuncturele facetten van de linnennijverheid in Vlaanderen (late 14^{de} - midden 19^{de} eeuw)", in *Handelingen der Maatschappij voor Geschiedenis en Oudheidkunde te Gent* 33, 1979, p. 117-174, esp. p. 117-118 and 169-172, and J. MOKYR, *Industrialization in the Low Countries, 1795-1850*, New Haven, 1976, esp. p. 12-13, 29 and 68-70.

Inland-Flanders is a very striking example, but at the end of the 18th century also in other countries several regions could be found where large parts of the rural population were involved in non-agrarian activities. Well-documented examples are the province of Ulster, where at that time about 42,000 persons were working as linen weavers; or the Sambre-Meuse area in Wallonia, counting more than 15,000 rural people engaged in nailmaking alone; or the Wupper valley, where a thriving linen, silk and cotton industry has unfolded.⁴ These and similar cases all involved large concentrations of cottage industries, in which mostly the exploitation of a small holding was combined with manufacture, the latter not being destined for the household or village, but for non-local or even non-regional markets.

In the 1970's historians developed a strong interest in this type of rural industry, not only because of the economic importance it had known in some regions, but even more because of the role some scholars attributed to this sector in the transformation of the rural economy and the move towards the Industrial Revolution. Particularly Mendels, the pioneer in this field of research, focused his attention on these rural activities, analyzing them by way of the concept of proto-industry.⁵ Although his theories have attracted criticism from various sides, they have since then provoked a flood of studies and numerous researchers have tried to investigate and analyze these rural industries.

These investigations are mainly aimed at the development of rural industry during the 18th-19th centuries. In the past years, however, it has become increasingly clear that rural industries displaying the features described above were not a phenomenon that only made its appearance in the countryside from the early modern period onwards, but one that experienced its first florescence already during the late Middle Ages, at least in some regions. Next to the local craftsmen and the non-agrarian activities that families undertook for their own use or local consumption, which had always existed in the countryside, apparently in some places rural industries aimed at non-local markets developed as early as in the late 14th century. Until recently these early stages of rural industry have received only little scholarly attention.⁶ Still, in several regions they gained a considerable importance during the late medieval period, especially in some parts of the Low Countries. Most notably this goes for the

4. Cf. for instance the overviews by H. KELLENBENZ, "Rural industries in the West from the end of the Middle Ages to the eighteenth century" in P. EARLE, ed., *Essays in European economic history, 1500-1800*, Oxford, 1974, p. 45-88; S. POLLARD, *Peaceful conquest. The industrialization of Europe, 1760-1970*, Oxford, 1981, p. 65-66 and 74, and L.A. CLARKSON, *Proto-industrialization: the first phase of industrialization?*, Houndsmills/London, 1985, p. 16-19.

5. Cf. for this concept section 2, p. 1114-1116.

6. Cf. for example the recent observations by I. WALLERSTEIN, "Merchant, Dutch, or historical capitalism?", in *Review* 20, 1997, p. 243-254, esp. p. 247, and J. SCHLUMBOHM, "Proto-industrialization as a research strategy and a historical period. A balance-sheet", in S.C. OGILVIE & M. CERMAN, eds., *European proto-industrialization*, Cambridge, 1996, p. 12-22, esp. p. 18, although some notable exceptions of course exist, as appears from notes 7 and 8.

countryside of Inland Flanders, where already at the beginning of the 16th century tens of thousands of men and women worked in the textile sector.⁷ In other regions too the development of rural industries can be observed during the late medieval period, but sometimes in another direction, with a rise of different branches of industry.⁸ In most regions in Western-Europe, however, there was hardly or no industrialization in the countryside at all during this period. In this respect, therefore, there were striking regional differences, sometimes even between regions situated close to each other.

This article will focus on these regional differences, by investigating and comparing late medieval developments in two different parts of the Low Countries where rural industries did blossom in the late medieval period, but each with their own specific pattern. Chosen to this end are research areas of about equal size: the southern half of the present-day Belgian province of Oost-Vlaanderen (part of Inland Flanders); and the central and northern part of the Dutch province of Zuid-Holland (part of peatland Holland).

The choice for these research areas is not made arbitrarily. In a Western European perspective both Flanders and Holland were exceptional because of their high levels of urbanization, reaching more than a third in 15th-century Flanders and more than half in 16th-century Holland. This contrasts sharply with the overwhelmingly rural character of most parts of Europe at that time. Moreover, both Inland Flanders and peatland Holland are both examples of regions where already at an early date non-agricultural activities seem to have held an important place in the countryside; a far greater place than in other parts of Europe. In its turn, this may have contributed to further, structural changes in economy and society.⁹ Also, the two regions have in common that they both witnessed a strong rise of trade and markets, and had a range of blossoming export industries.

On the other hand, despite all similarities, these regions also displayed some striking differences, for instance in the chronology of developments. Flanders witnessed its florescence already in the 13th and 14th centuries, whereas Holland started to reach the pinnacle of its trade, finances and industries only in the late-16th century, as this province started to enter its Golden Age. Also the leading economic sectors differed strongly between these regions: with res-

7. E. THOEN, *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 16de eeuw)*, Gent, 1988, p. 980-1020. Cf. also below section 3, p. 1120-1124.

8. Cf. for instance W. VON STROMER, "Gewerbereviere und Protoindustrien in Spätmittelalter und Frühneuzeit", in H. POHL, ed., *Gewerbe- und Industrielandschaften vom Spätmittelalter bis ins 20. Jahrhundert*, Stuttgart, 1986, p. 39-111, esp. p. 51-102, and H. KELLENBENZ, "Industries rurales en Occident de la fin du Moyen Âge au XVIII^e siècle", in *Annales ESC*, 18, 1963, p. 833-882, although they do not limit their overview to proto-industry in the strict sense, and also S.R. EPSTEIN, *Freedom and growth. The rise of states and markets in Europe, 1300-1750*, London-New York, 2000, p. 106-146.

9. Cf. section 2, p. 1114, for the hypotheses about the consequences of the rise of proto-industry.



Map 1: Map of the Low Countries. Indicated are the two research areas in Flanders (1) and Holland (2)

pect to their nature, their organization and the role of various social groups.¹⁰ In Flanders, for instance, the role of master craftsmen and corporatism in industrial development was much stronger than in Holland. In the countryside, economic divergencies in the late medieval period were even more pronounced. Inland Flanders witnessed a strong population growth combined with a fragmentation of farms. Agriculture here became highly labour-intensive, with peasants on their small holdings combining the small-scale cultivation of commercial crops with intensive grain-production for subsistence.¹¹ In Holland, on the other hand, particularly in the 16th century a strong rise of large farms can be observed, combined with an increasing specialization and commercialization of agriculture, a growing importance of non-grain production, and a stagnation of rural population numbers.¹²

So, differences in the late medieval development of the rural economy in Flanders and Holland were strong. It can be surmised that the rise of market-oriented, non-agricultural activities in the countryside has played an important role in these differences, particularly in view of the fact that patterns of proto-industrialization could strongly diverge between regions. Thus, an analysis of the specific development of proto-industrial activities in these two regions does not only provide some indications about the state of the economy, for instance by constituting a strong indicator for the emergence of markets, the presence of consumers, the relationship between towns and countryside and the importance of the non-agrarian sector, but it can also help better understand divergencies in the development of economy and society. In this way, the present study tries to shed more light on the similarities and differences in the late medieval development of Flanders and Holland. In order to do so, we will first scrutinize the concept of proto-industry and consider its value for this investigation (section 2). Next, we will try to assess the importance and nature of non-agricultural activities in the countryside in these regions (sections 3 and 4). In the subsequent sections, we will try to gain insight into the organization and development of these activities, including the marketing of the products,

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10. Cf. for instance R. BRENNER, "The Low Countries in the transition to capitalism", in P. HOPPENBROUWERS & J.L. VAN ZANDEN, eds., *Peasants into farmers? The transformation of rural economy and society in the Low Countries (Middle Ages-19th century) in the light of the Brenner debate*, CORN Publication series 4, Turnhout, 2001, p. 275-338, esp. p. 302-334, or C. LIS & H. SOLY, "Different paths of development: Capitalism in the Northern and Southern Netherlands during the late Middle Ages and the early modern period", in *Review*, 20, 1997, p. 211-242, esp. p. 232-238.
 11. E. THOEN, "A "commercial survival economy" in evolution. The Flemish countryside and the transition to capitalism (Middle Ages-19th century)", in P. HOPPENBROUWERS & J.L. VAN ZANDEN, eds., *Peasants into farmers? The transformation of rural economy and society in the Low Countries (Middle Ages-19th century) in the light of the Brenner debate* (CORN Publication series 4), Turnhout, 2001, p. 102-157.
 12. J. DE VRIES, *The Dutch rural economy in the Golden Age, 1500-1700*, New Haven/London, 1978, and B.J.P. VAN BAVEL, "People and land. Rural population developments and property structures in the Low Countries, c. 1300-c. 1600", in *Continuity and Change*, 17, 2002, p. 9-37.

since this forms an integral part of the proto-industrial structure (sections 5 and 6). Combined this will provide an overview which is not available at present, even when it does concern elements which perhaps have been crucial in the rapid changes of the economy in Flanders and Holland. In the conclusion (section 7), we will gather our findings on the regional differences in this field, link them to the social and economic structures in the regions in question, and consider briefly whether they indeed form building blocks in the investigation into the causes of divergences in the development of the economy and society in the Low Countries during the late Middle Ages.

2. Proto-Industry?

Especially under the influence of the studies by Mendels, various historians have tried to analyze or at least to describe the role of rural cottage industries by way of the concept of proto-industry. In defining proto-industry they have mostly used the following elements: proto-industry is a regional concentration of small-scale industrial activities located in the countryside; the producers are semi-independent peasants, who combine agriculture with small-scale industry; the producers own at least part of the instruments and raw materials; the production is aimed at non-regional markets, or at least non-local markets; and the organization, finishing and marketing are partly controlled by others than the producers.¹³ Since it offers a sharp instrument of analysis and must be preferred to broader definitions which run the risk of being empty and meaningless, this definition will also be used here. This type of home industry is thus clearly distinguished from other forms of home industry or non-agrarian activity in the countryside not corresponding to these characteristics.

Next to defining this specific type of rural industry, Mendels and others have also hypothesized about the profound demographic and economic consequences the rise of proto-industry would have had, and they have considered proto-industry to be a phase which preceded and prepared the way for the rise of capitalism and the modern factory industrialization.¹⁴ By way of the accumulation of capital, the developing of a reservoir of cheap manpower, the increasing division between labour and the means of production and the emergence of a class of entrepreneurs, the rise and development of proto-

13. Cf. F.F. MENDELS, "Proto-industrialization: theory and reality", in *Eight international economic history congress*, 1982, p. 69-107, esp. p. 76-80, and L.A. CLARKSON, *Proto-industrialization*, p. 15-16.

14. F.F. MENDELS, "Proto-industrialization: the first phase of the industrialization process", in *Journal of Economic History*, 32, 1972, p. 241-261, and J. SCHLUMBOHM, "Produktionsverhältnisse - Produktivkräfte - Krisen in der Proto-Industrialisierung", in P. KRIEDTE, H. MEDICK & J. SCHLUMBOHM, eds., *Industrialisierung vor der Industrialisierung. Gewerbliche Warenproduktion auf dem Land in der Formationsperiode des Kapitalismus*, Göttingen, 1978, p. 194-257, esp. p. 210-232.

industry would have played an important part in the advance of (proto-)capitalistic production relationships in the countryside and have functioned as a forerunner for the Industrial Revolution. This set of hypotheses has been increasingly questioned and even attacked in recent years,¹⁵ which is not surprising in the light of its rather teleological nature and the strict, unilinear causality it assumes. These criticisms, however, need not preclude any further research along these lines. On the contrary, as the rejection of teleological reasonings about a transition to factory industrialization opens the way for fresh approaches, for instance by looking closer at developments before the 18th century. It would be interesting to investigate for an early period to what extent this particular type of non-agricultural activity in the countryside fulfilled a kind of transitional role in the rural economy. This investigation will be undertaken here for the late medieval Low Countries.

Following Mendels research in this field so far has been limited mainly to the most conspicuous and probably also the most important type of proto-industry: the textile industries, or even more specific to linen manufacture. These were the sectors where indeed in some cases a development towards factory industrialization can be observed. Thus other branches of industry have not received too much attention within the study of proto-industry, and the picture often remains incomplete. In the respect too, the elimination of unilinear reasonings now opens possibilities for a wider approach. Other types of industrial activities, such as brewing, brick production and metallurgical industries, should also be taken into consideration. Additionally, other non- or para-agrarian activities too could play a similar role in the countryside as proto-industry in the strict sense, such as shipping, peat-digging and fishing. These activities, which were particularly important in Holland, as we will see below, were also carried out mostly by countryfolk, were aimed at supra-local or even non-regional markets and they served as an additional source of income for the rural population. Thus, as recently advocated by Van Zanden,¹⁶ the concept of proto-industry can be enlarged to include these activities.

To a large extent this suggestion seems to be justified, since these activities are in many respects comparable to proto-industry. In some of these sectors the household was probably not the principle unit of production, as in proto-industry in the strict sense, but in the fishery, for instance, even this was the

15. Cf., for instance, R. HOUSTON & K.D.M. SNELL, "Proto-industrialization? Cottage industry, social change, and industrial revolution", in *Historical Journal*, 27, 1984, p. 473-492, D.C. COLEMAN, "Proto-industrialization: A concept too many", in *Economic History Review*, 36, 1983, p. 435-448, and W. MAGER, "Proto-industrialization and proto-industry: the uses and drawbacks of two concepts", in *Continuity and Change*, 8, 1993, p. 181-215.

16. This idea was first suggested by A. KNOTTER, "De Amsterdamse scheepvaart", *Holland*, 16, 1984, p. 281-290, and subsequently further extended and applied by J.L. VAN ZANDEN, "Op zoek naar de 'Missing link'. Hypothesen over de opkomst van Holland in de late Middeleeuwen en de vroeg-moderne tijd", in *Tijdschrift voor Geschiedenis*, 1988, p. 359-386, esp. p. 375, and ID., *The Rise and Decline of Holland's Economy. Merchant Capitalism and the Labour Market*, Manchester, 1993, p. 32.

case, since women and children assisted in making and mending nets, processing hemp, making ropes and canvas, and processing the fish. The same goes for peat-digging, where women and children assisted in carrying, stacking and turning the turves.¹⁷ Also, in most cases, these activities seem to have been combined with the exploitation of a small holding and some subsistence farming,¹⁸ which also corresponds with the definition of proto-industry employed here.

However, activities such as spading, digging and diking, which are sometimes also analyzed as being covered by the enlarged proto-industrial concept,¹⁹ will be excluded from this investigation. These sectors do share some characteristics with proto-industry, such as the peasant background of the labourers,²⁰ but they mostly possess fundamentally different characteristics. Firstly, these activities were mostly not aimed at non-regional markets. Secondly, means of production and raw materials did not play a significant role. Moreover, the household was not the unit of production, unlike proto-industrial activities. In essence spading, digging and diking did not involve anything more than the selling of labour, so there is hardly any or no difference with wage labour performed in agriculture. Shipping, peat-digging and the fishery, however, do share most of their crucial characteristics with proto-industry and they will be included in this investigation. This all-embracing approach, combined with the comparative framework and the long-term perspective chosen here, will offer not only a fuller picture of proto-industrial developments in the two regions, but also enlarge our understanding of the specific elements in these developments.

3. Nature and Importance of Non-Agricultural Activities in the Flanders Region

In the countryside of Inland Flanders proto-industrial activities developed strongly during the late medieval period. This applies especially to the various branches of the textile industry, which gained enormous importance in the countryside and dwarfed all other non-agrarian activities. In the development of these rural textile industries a clear chronology can be identified. In the 13th

17. Cf. below section 6, p. 1153-1154.

18. For Holland this is questioned by R. BRENNER, "The Low Countries", p. 310-313 and 316-317. However, it is not clear whether his claim that subsistence farming was impossible in late medieval Holland is justified. Cf. below section 6, p. 1156.

19. Cf. P.J.E.M. VAN DAM, "Digging for a dike. Holland's labor market ca. 1510", in P. HOPPENBROUWERS & J.L. VAN ZANDEN, eds., *Peasants into farmers? The transformation of rural economy and society in the Low Countries (Middle Ages-19th century) in the light of the Brenner debate* (CORN Publication series 4), Turnhout, 2001, p. 220-255.

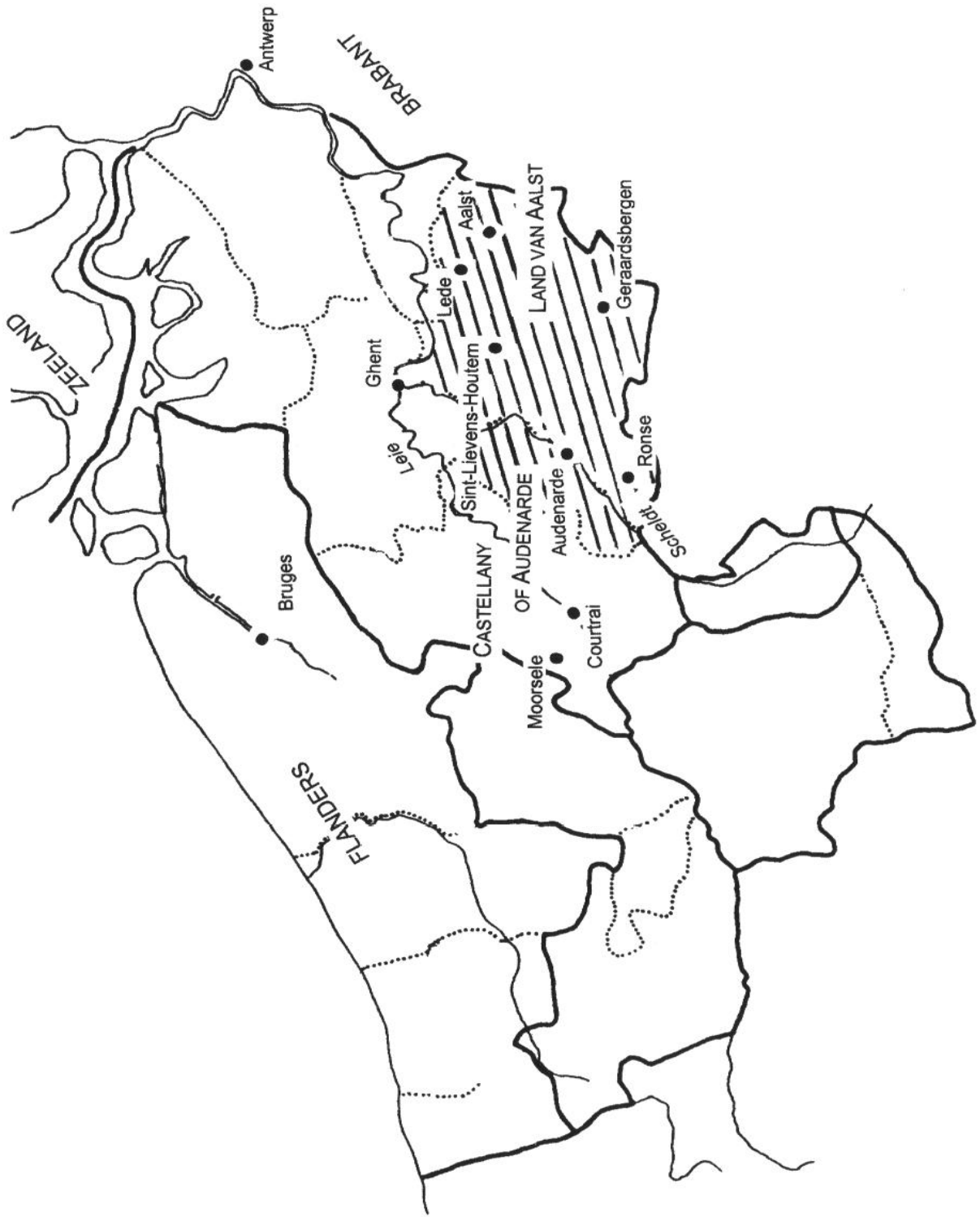
20. P.J.E.M. VAN DAM, "Gravers, ofzetters en berriedragers. Werkgelegenheid aan de Spaarndammerdijk omstreeks 1510", in *Tijdschrift voor Sociale Geschiedenis* 18, 1992, p. 447-478, and ID., "Digging for a dike".

century probably the processing of wool and the production of woollen cloths held an important position in the countryside, alongside urban cloth production.²¹ This, however, changed in the years around 1300. The cities in this region were then increasingly faced with a crisis in the production and export of cloth. They tried to make headway against this crisis not only by reconversion of cloth production, by diversification and specialising in the high-quality segment of woollen cloth production, but also by eliminating the rural competition.²² Thus, they turned against rural cloth production; not against the spinning and other preparatory activities, which were left unhampered, but against the weaving and finishing of cloths. On the basis of privileges received from the count, the Flemish cities tried to crush this industry in the surrounding countryside,²³ not hesitating to apply brutal force in doing this. In particular Ghent adopted this policy, but so did for instance the smaller city of Audenarde.

As in the 14th century the rural population saw itself compelled to find additional sources of income as a result of the growing crisis in the agricultural sector, and the option of cloth production was closed, linen manufacture came to the fore as an alternative, aided by the possibility of combining it with the labour-intensive cultivation of flax.²⁴ In the Flanders region indeed a strong rise of this branch of manufacture can be observed, especially from the last decades of the 14th century onwards. After having stagnated somewhat during the second half of the 15th century, rural linen manufacture witnessed a second phase of expansion and its real breakthrough during the first half of the 16th century.²⁵ In all parts of the research area this industry then engaged a substantial proportion of the population, as will also become clear from the quantitative reconstruction below.

Alongside this linen manufacture the preparatory activities for the woollen

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21. This is generally assumed, for instance by E. THOEN, *Landbouweconomie*, p. 1013-1014, although clear evidence is scarce.
 22. H. VAN DER WEE, "Structural changes and specialization in the industry of the southern Netherlands, 1100-1600", in *Economic History Review*, 28, 1975, p. 203-221, esp. p. 217-210, and D. NICHOLAS, "Economic reorientation and social change in fourteenth century Flanders", in *Past and Present*, 70, 1976, p. 3-29, esp. p. 8-11. Cf. also J. MUNRO, "The symbiosis of towns and textiles. Urban institutions and the changing fortunes of cloth manufacturing in the Low Countries and England, 1270-1570", in *Journal of Early Modern History*, 3, 1999, p. 1-74, esp. p. 20-30.
 23. E. THOEN, *Landbouweconomie*, p. 1011-1014; R. VAN UYTVEN, "Die ländliche Industrie während des Spätmittelalters in den südlichen Niederlanden", in H. KELLENBENZ, ed., *Agrarisches Nebengewerbe und Formen der Reagrarisierung im Spätmittelalter und 19./20. Jahrhundert*, Stuttgart, 1975, p. 57-77, esp. p. 65-66, and D. NICHOLAS, *Town and countryside. Social, economic, and political tensions in fourteenth-century Flanders*, Brugge, 1971, p. 99-116 and 188-221.
 24. E. SABBE, *De Belgische vlasnijverheid*, part I, Kortrijk, 1975, p. 74-85, and E. THOEN, *Landbouweconomie*, p. 980-997.
 25. E. THOEN, *Landbouweconomie*, p. 980-997, and E. SABBE, *De Belgische vlasnijverheid*, p. 167-267.



Map 2 (map of the Flanders region), indicating the places mentioned in the text

industry remained important in the countryside. These activities, such as the combing or carding, and particularly the spinning of the wool, were not suppressed by the Flemish cities, but instead were made complementary to urban cloth production. Since this work accounted for some 60 % of the total labour-input of cloth production,²⁶ the importance of these activities may not be underestimated. At that, in a few villages rural cloth manufacture survived,²⁷ especially on the eastern periphery of the Ghent Quarter, where the power of the city of Ghent was felt less strongly, and in the village of Sint-Lievens-Houtem, perhaps based on local privileges. The fines which were imposed in the area around Ghent at the end of the 14th century for possession of looms and shearing tables,²⁸ and the lasting action and vigilance against rural cloth production, which the smaller cities displayed even into the 15th century,²⁹ also form indications that cloth production had not become extinct completely here.

From the second half of the 15th century onwards another branch of the textile industry made its appearance in the Flemish countryside: tapestry manufacture. Especially from 1540-1550 this sector developed strongly in the southern part of the region, concentrating around Audenaarde, the booming centre of tapestry, and also in the Land van Aalst, in the area around Geraardsbergen.³⁰ During the period 1554-1564 more than 30 villages in this part of Flanders, especially west of the river Scheldt, are known to have hosted tapestry workers who propounded their disputes to the deans of the tapestry guild in the city of Geraardsbergen,³¹ which certifies the strong diffusion of the industry in these parts. Another indication is provided by the data on the tapestry workers who emigrated from the southern to the northern parts of the

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26. W. ENDREI, "Manufacturing a piece of woollen cloth in medieval Flanders: how many work hours?" in E. AERTS & J.H. MUNRO, eds., *Textiles of the Low Countries in European economic history*, Leuven, 1990, p. 14-23, esp. p. 21.
27. E. THOEN, *Landbouweconomie*, p. 1011-1014; P. STABEL, *De kleine stad in Vlaanderen. Bevolkingsdynamiek en economische functies van de kleine en secundaire stedelijke centra in het Gentse kwartier (14de-16de eeuw)*, Brussel, 1995, p. 138-141, and D. NICHOLAS, "Economic reorientation", p. 10-11.
28. G. ESPINAS & H. PIRENNE, eds., *Recueil de documents relatifs à l'histoire de l'industrie drapière en Flandre*, part I.2, Bruxelles, 1909, p. 404-405.
29. M. BOONE, "L'industrie textile à Gand au Bas Moyen Âge ou les résurrections successives d'une activité réputée moribonde", in M. BOONE & W. PREVENIER, eds., *La draperie ancienne des Pays-Bas: débouchés et stratégies de survie (XIV^e-XVI^e siècles)*, Leuven/Apeldoorn, 1993, p. 15-61, esp. p. 40-44, and P. STABEL, *De kleine stad*, p. 139-140. Cf. also W.P. Blockmans, ed., *Handelingen van de leden (1419-1467)*, part I, nrs. 328 (1428), 341 (1428), 343 (1428), 346 (1428), 402 (1430), etc.
30. E. THOEN, *Landbouweconomie*, p. 1014-1016; M. VANWELDEN, *Het tapijtweversambacht te Oudenaarde, 1441-1772*, Oudenaarde, 1979, p. 12-15; R. VAN UYTVEN, "Die ländliche Industrie während des Spätmittelalters in den südlichen Niederlanden", in H. KELLENBENZ, ed., *Agrarische Nebengewerbe und Formen der Reagrarisierung im Spätmittelalter und 19./20. Jahrhundert*. Forschungen zur Sozial- und Wirtschaftsgeschichte, 21, 1975, p. 74, and P. STABEL, *De kleine stad*, p. 190-196.
31. E. ROOBAERT, "Het legwerkersbedrijf in het Land van Aalst, vooral te Geraardsbergen van ca. 1554 tot ca. 1564", in *Artes textiles*, 4, 1957/58, p. 39-53, esp. p. 43-44.

Low Countries in the turbulent years 1570-1620.³² Of the 76 tapestry workers of which the place of origin is known, three-quarters were from the research area: half of those from the city of Audenarde and most of the rest from villages in the immediate surroundings of Audenarde.

The rural textile industries thus showed a certain pattern of spatial distribution within the Flanders region. Tapestry manufacture was concentrated in the southern half, or more specifically in the south-western part. Linen manufacture was diffused strongly all over the research area. Cloth production survived in only a few villages, mainly on the eastern fringe of the region. Preparatory activities for the urban cloth industry, however, were probably carried out in all of the region.

An attempt to estimate the number of people engaged in these industries can only produce rough indications. For the linen manufacture there seems to be one direct statement from the period itself, often cited in the literature. According to a letter written to cardinal de Granvelle in 1566 20,000 people in the southern part of Flanders and in Hainault were working in the rural linen industry.³³ On closer inspection, however, the author of the letter indicates the number of people working here in industries that Granvelle thought would die from hunger that winter: *mourront cest hyver de faim*.³⁴ This source therefore is not very useful for estimating the number of people involved in linen industries. A more reliable indication is provided by data from the probate inventories, which are available for the outburghers (*buitenpoorters*, rural people holding the *bourgeois forain* status) of Audenarde, mainly living in the southwestern part of the research area.³⁵ These data show a strong rise of linen weaving around 1500: during the last decade of the 15th century only 10 % of these households possessed a weaving loom, in the first decade of the 16th century this had risen to 37 %, and in the period 1541-1550 to no less than 47 %.

We can also make a rough estimate of the labour input in linen manufacture by converting the output (i.e. the marketed output on which data are available) into man years of labour. In the course of the 16th century, the number of linens traded on the Flemish markets has risen sharply: in Ghent from 5,300 in 1511 to 14,400 in 1561, and in Audenarde from a few thousand at the most in the

32. G.T. VAN YSSELSTEYN, *Geschiedenis der tapijtweverijen in de noordelijke Nederlanden*, Leiden, 1936, p. 427-470. Cf. for this wave of mass emigration also below section 3, p. 1124.

33. As concluded from this letter by R. VAN UYTVEN, "Die ländliche Industrie", p. 74 and echoed by H. SOLY & A.K.L. THUIS, "Nijverheid in de Zuidelijke Nederlanden", in *Algemene geschiedenis der Nedertlanden*, part 6, Haarlem/Bussum, 1979, p. 55.

34. Cf. the original source in E. POUBLET, ed., *Correspondance du cardinal de Granvelle, 1565-1586*, Bruxelles, 1877, part I, nr. 108 (31 august 1566).

35. E. THOEN, *Landbouweconomie*, p. 993-998 and 1003-1005. Cf. for this important source: *Ibidem*, p. 21-34.

15th century to 10-15,000 around 1570-1575.³⁶ At that time, probably some 35-40,000 linens were traded on the urban markets in or near the research area.³⁷ The data on the export of linens also mirror the emergence of a Flemish linen export industry in the 14th century and a strong rise in the first decades of the 16th century,³⁸ although they can give only a partial indication. On the basis of all these data it can be estimated that at the peak around 1570 the total marketed production in the research area was about 40,000 pieces of linen. The total production must have been even higher, in view of the autoconsumption of linen and the activities of itinerant merchants in the countryside, buying linens and trading them outside the urban markets in the research area itself.³⁹ Here we will assume a total production of 50,000 linens per annum. Although the cities hosted some linen weavers,⁴⁰ it is safe to assume that by far the greatest part of this linen was produced in the countryside; not necessarily within the same region, but it gives an indication.

If a 16th-century weaver produced 4 el per day (or about 900 el per year), and if one piece of linen was 50 to 60 el, then he produced about 16 pieces of linen per year.⁴¹ The total production in the research area would then take 3,125 man years of weaving. The spinning, consuming four to five times more work, performed by women, would take 14,000 labour years, and the swingling and hackling of the flax about 2,000 years,⁴² that is a grand total of 19,000. This number is only a minimum, considering that the region also produced large quantities of yarn which were not used for weaving within the region itself but exported.⁴³ Now, if we assume that these non-agricultural activities

36. Due to methodological errors most of the estimates by E. SABBE, *De Belgische vlasnijverheid*, p. 230-237, are too high, as has been demonstrated by J. VERMAUT, "Vijf variaties op het thema 'De Belgische vlasnijverheid'", in *Handelingen van het Genootschap voor Geschiedenis te Brugge*, 113, 1976, p. 183-227, esp. p. 200-205. Cf. also E. THOEN, *Landbouweconomie*, p. 995-996.

37. Based on the data mentioned above, and C. VANDENBROEKE, "Sociale en conjuncturele facetten", p. 158-164, and E. SABBE, *De Belgische vlasnijverheid*, p. 226-227.

38. M. BOONE, "Les toiles de lin des Pays-Bas Bourguignons sur le marché anglais (fin XIV^e-XVI^e siècles)", in *Publication du Centre Européen d'Etudes Bourguignonnes (XIV^e-XVI^e s.)* 35, 1995, p. 61-81, and E. SABBE, *De Belgische vlasnijverheid*, p. 167-174 and 261-267.

39. C. VANDENBROEKE, "Sociale en conjuncturele facetten", p. 158-159, and J. MOKYR, *Industrialization*, p. 15.

40. Cf. M. BOONE, "L'industrie textile à Gand", p. 45-50, and - even stronger - J. DAMBRUYNE, *Mensen en centen. Het 16de-eeuwse Gent in demografisch en economisch perspectief*, Verhandelingen der Maatschappij voor Geschiedenis en Oudheidkunde te Gent, 26, Gent, 2001, p. 259-270.

41. On the basis of the figures provided by C. VANDENBROEKE, "Sociale en conjuncturele facetten", p. 125-126, 135, 156 and 159. Cf. also his total estimates on p. 172-173.

42. Cf. the (18th-century) data on swingling and hackling in E. THOEN, *Landbouweconomie*, p. 1008-1010.

43. J.A. GORIS, *Étude sur les colonies marchandes (Portugais, Espagnols, Italiens) à Anvers de 1488 à 1567*, Louvain, 1925, p. 289-315, and J. DAMBRUYNE, *Mensen en centen*, p. 272-281. Cf. also below section 4, p. 1134.

took half of the working-time and all activities were carried out within the area itself, then 38,000 people worked half-time in linen manufacture, that is 40 % of the rural population. This volume of labour input is striking. It seems the share of the population active in this industry was as high then as in the 18th century,⁴⁴ which is considered as the flowering-time of Flemish linen manufacture.

In the cloth industry the weaving and finishing of cloths had for the largest part disappeared from the countryside in this region after c. 1300, and thus employed only few people. The labour-intensive preparatory activities, however, had remained in the countryside. Since they were made complementary to urban cloth production, their development was linked directly to the success of the urban cloth industry. We do not know for which centres the rural folk in the region performed these activities, but we will mainly focus ourselves on the cities in the research area itself. At the end of the 14th century these cities, some of which were already centres of cloth production in the 13th century, produced in total about 13,000 cloths per year. This figure remained stable more or less until the beginning of the 16th century, but then it steeply declined to only 4,000 in 1550, although perhaps the rise in the production of low-quality fabrics in Ronse made up for some of this decline.⁴⁵ In the nearby city of Ghent developments in the cloth industry had started to deteriorate earlier,⁴⁶ with a decline from about 30,000 cloths around the middle of the 14th century, to about 8,000 a century later, and 4,000 at the end of the 15th century.

We can convert these numbers roughly into man years of labour. The beating and scouring, combing/carding and spinning, that is the activities preceding the weaving, took c. 622 hours (= 1/4 man year) per cloth.⁴⁷ Perhaps labour-input in Flanders was even higher than this, since the use of labour-saving iron cards was prohibited here.⁴⁸ If all of the preparatory activities for the cities within the region and half of them for Ghent were performed in the countryside of the research area, and if we assume that almost all of the spinning was done in the countryside,⁴⁹ then this would take about 7,000 years of labour around the

44. Cf. the figures for the 18th century as provided by C. VANDENBROEKE, "Sociale en conjuncturele facetten", p. 117-118, and F.F. MENDELS, "Agriculture and peasant industry in eighteenth-century Flanders", in W.N. PARKER & E.L. JONES, eds., *European peasants and their markets. Essays in agrarian economic history*, Princeton, 1975, p. 179-204, esp. p. 179.

45. P. STABEL, "'Dmeeste, oirboirlixste ende proffitelixste let ende neringhe". Een kwantitatieve benadering van de lakenproductie in het laatmiddeleeuwse en vroegmoderne Vlaanderen", in *Handelingen der Maatschappij voor Geschiedenis en Oudheidkunde te Gent*, 51, 1997, p. 113-153, esp. p. 130-133 and 145-146.

46. P. STABEL, "Een kwantitatieve benadering", p. 123-124 and 143, and M. BOONE, "L'industrie textile à Gand", p. 36.

47. W. ENDREI, "Manufacturing a piece of woolen cloth", where he bases his calculations on a cloth of 1.75 x 20 m (1,8 kg). Most cloths produced in Flanders were perhaps somewhat longer: P. STABEL, *De kleine stad*, p. 127.

48. Cf. G. ESPINAS & H. PIRENNE, eds., *Recueil*, part 1.2, Bruxelles, 1909, nr. 443 (1350).

49. As assumed by P. STABEL, *De kleine stad*, p. 147.

middle of the 14th century, declining to 5,000 in the mid-15th century and 3,000 around 1500, which is considerably lower than the contemporary labour input in the linen industry.

Tapestry manufacture rose only relatively late, as we saw above. Before the beginning of the 16th century this sector employed few people in the countryside, but then there seems to have been a strong increase. In the probate inventories of outburghers of Audenarde before 1520 hardly any tapestry looms can be found, but during the period 1541-1550 they turn up in 4.5 % of the inventories.⁵⁰ If this is representative of all households in the southern part of the research area, then about 400 to 500 households would have owned a tapestry loom. However, it seems many tapestry workers did not own their looms, in view of the relatively high costs of these instruments and the production relationships prevailing in the Flemish tapestry industry.⁵¹ The indication provided by the probate inventories, therefore, is probably too low. At that, also large numbers of women were engaged in the carding and spinning of the yarn used in the tapestry industry.

According to a letter written by the city governor in 1539, in Audenarde and its surroundings no less than 12 to 14,000 men, women and children would have subsisted on the tapestry sector.⁵² Even if this number is exaggerated (which is probable, in view of the purpose of the letter) and if the urban tapestry weavers are included (which is certain) still this number is impressive. If we assume that half of them were working in the countryside,⁵³ and add to this the tapestry workers in the area around Geraardsbergen, being less numerous than those around Audenarde, then we arrive at a rough estimate of some 5 to 8,000 rural people engaged in the tapestry industry.

In the years from c. 1570, one of the darkest periods in Flemish history, all these branches of rural industry collapsed. The continuous acts of war, the pillaging and looting, and the epidemics, produced thousands of victims and caused tens of thousands to leave the countryside. At that, the rural industrial workers counted many adherents of the new religion, who fled persecution in large numbers. Many of them emigrated from Flanders to Holland.⁵⁴ This wave of mass emigration is well documented for the tapestry weavers and masters. Many dozens, or even hundreds of them, in a substantial part of the countryside,

50. E. THOEN, *Landbouweconomie*, p. 1015-1016.

51. Cf. below section 5, p. 1138-1140.

52. R. VAN UYTVEN, "Die ländliche Industrie", p. 74. The letter is edited by J. VAN DE GRAFT, *De tapijtfabrieken der XVI^e en XVII^e eeuw*, Middelburg, 1869, p. 35-38.

53. This urban-rural ratio can be deduced from the data on the places of origin of the tapistry workers having emigrated to Holland. Cf. G.T. VAN YSSELSTEYN, *Geschiedenis der tapijtweverijen*, part II, p. 427-470.

54. Cf. J. BRIELS, *Zuid-Nederlanders in de Republiek, 1572-1630. Een demografische en cultuurhistorische studie*, Sint-Niklaas, 1985, esp. p. 29-32 and 110-155.

left this region.⁵⁵ By far the most went to Gouda, where they tried to rebuild their manufacture. Something similar can be observed with Flemish cloth producers, especially those from French Flanders, emigrating in massive numbers to Leiden, and with the linen spinners and weavers, pouring into cities like Haarlem and Rotterdam.⁵⁶ A striking feature of this process is that the rural manufacturers from Flanders became urban manufacturers in Holland. They remained mainly active in the same branch of industry, but within a totally different setting, also with respect to organization and production relationships.⁵⁷ Later, in the course of the 17th century, some of the rural industries would rise again in Flanders; the linen industry even witnessed a new period of florescence, but here mainly organized along the old lines.

The calculations made above will clearly not suffice to give an exact picture of the number of rural folk in the research area engaged in textile production, but a rough estimate of the labour input can be made:

	1300	1400	1500	1570
"Man" years in textile production	9,000	10-11,000	14,000	28,000
Rural population ⁵⁸	60,000	—	70,000	105,000
Share of labour input in textile production	15 %	17-18 %?	20 %	26-27 %

Table 1. Labour input in textile industries in the countryside of the Flemish region, 1300-1570

Considering the fact that the youngest children were not employable yet and that much of the work was done part-time, these figures are enormously high. Assuming that one-tenth of the population was too young to perform tasks and all of these activities were performed half-time, then around 1570 almost 60 % of the rural population in the research area was engaged in the textile industries.

The other proto-industrial activities in this region can be dealt with briefly, in view of their slight importance. The cultivation and processing of dye-stuffs

55. F. VAN OMMESLAEGHE, *De Oudenaardse wandtapijten en hun wevers in hun historisch kader*, Oudenaarde, 1996, p. 301-307. Cf. for the strong diffusion of protestantism particularly in the tapestry villages around Audenarde: C. DE RAMMELAERE, "Bijdrage tot de geschiedenis van het Protestantisme in het Oudenaardse gedurende de moderne periode", in *Handelingen der Maatschappij voor Geschiedenis en Oudheidkunde te Gent*, 14, 1960, p. 103-115.

56. N.W. POSTHUMUS, *De geschiedenis van de Leidsche lakenindustrie*, part II, 's-Gravenhage, 1908, p. 36-69 and 77-104, and H. KAPTEIN, *De Hollandse textielnijverheid, 1350-1600. Conjunctuur en continuïteit*, Hilversum, 1998, p. 185-199 and 230-232.

57. Cf. below section 5, p. 1145-1148, oud section 6, p. 1151-1152.

58. J. DE BROUWER, *Demografische evolutie van het Land van Aalst, 1570-1800*, Brussel, 1968, p. 108-111 and 140-154, and E. THOEN, *Landbouweconomie*, p. 36-40 and 155-164.

and hemp hardly played a role.⁵⁹ The region had some brick production, along the river Scheldt between Audenarde and Ghent, but the number of brickworks was small and falls into insignificance compared to that in the Rupel area, south of Antwerp, or that alongside the Hollandse IJssel, in Holland.⁶⁰

River transport in this region did not offer many possibilities for men in the countryside either, since it was almost completely controlled by bargemen from the city of Ghent. Closely linked to the establishment of the corn staple in Ghent the Ghent shippers guild had emerged strongly in the late-14th century. The guild obtained a virtual monopoly on the rivers Scheldt and Leie, and on the Lieve-canal, which was financed in the mid-13th century by the city of Gent.⁶¹ Also transport on smaller rivers was chiefly in the hands of burghers, for instance from Dendermonde and Aalst, where urban bargemen also acquired some privileges or at least could avail themselves of advantages offered to them by local or regional regulations.⁶² Transport over land was less regulated and was not that heavily subjected to urban privileges, and thus offered more possibilities for rural wagoners. However, much of the short-distance transport of goods was done by the producers or traders themselves, and long-distance transport was mostly in the hands of urban wagoners. All in all, only few rural dwellers in Inland Flanders were able to find a living in the transport sector.

Possibly there were some breweries in the Flemish villages, but not much is known about them.⁶³ However, we do know that especially in the first decades of the 15th century the smaller cities strongly resisted rural breweries, which in their view had grown too numerous. Some of these cities, such as Aalst and Geraardsbergen, received privileges to suppress breweries in their immediate surroundings, or at least to tax them with excises.⁶⁴ Sometimes rural brewers

59. Cf. for dye-stuffs: E. THOEN, *Landbouweconomie*, p. 721.

60. Cf. R. BAETENS, "Omvang en produktie van de baksteennijverheid", and M. LIMBERGER, "Early forms of proto-industry in the backyard of Antwerp? The Rupel area in the 15th and 16th centuries", in B. BLONDÉ a.o., eds., *Labour and labour markets between town and countryside (Middle Ages-19th century)* (CORN Publication series 6), Turnhout, 2001, p. 158-173, esp. 163-165. Cf. also below section 4, p. 1135.

61. D. NICHOLAS, *Town and countryside*, p. 125-130, ID., "The Scheldt trade and the "Ghent War" of 1379-1385" in *Trade, urbanisation and the family. Studies in the history of medieval Flanders*, Aldershot, 1996, nr III, esp. p. 39-40; F. CORRYN, "Het schippersambacht te Gent (1302-1492)", in *Handelingen der Maatschappij voor Geschiedenis en Oudheidkunde te Gent*, 1, 1944, p. 165-204, esp. p. 197-202, and J. DECAVELE, R. DE HERDT & N. DECORTE, *Gent op de wateren en naar de zee*, Antwerpen/Gent, 1976, p. 35-49 and 125-146.

62. P. STABEL, *De kleine stad*, p. 248-250, and ID., "Schipper, wagenvoerders en kruiers. De organisatie van de stedelijke vervoerssector in het laatmiddeleeuwse Vlaanderen", in *Bijdragen tot de Geschiedenis*, 82, 1999, p. 159-185, esp. p. 172-173 (the bargemen) and p. 179-181 (the wagoners).

63. E. AERTS, "De Zuidnederlandse brouwindustrie tijdens het Ancien Régime. Status quaestionis van het onderzoek", in *Handelingen der Koninklijke Zuidnederlandse Maatschappij voor Taal- en Letterkunde en Geschiedenis*, 33, 1979, p. 5-34, esp. p. 28.

64. P. STABEL, *De kleine stad*, p. 141 and 238-240. Cf. also W.P. BLOCKMANS, *Handelingen van*

tried to avoid this by becoming outburgher of the city of Ghent, which led to new conflicts.⁶⁵ In view of the strong urban power in Flanders the cities probably succeeded in preventing rural brewing from developing on a larger scale and supplying non-local markets. At that, urban brewers took advantage of the growing demand for high quality beer and the increasing capital needs in the industry, as a result of which small rural brewers were unable to compete.⁶⁶ A proto-industrial development in the brewing industry did thus not take place in Flanders.

Next to this, there was also some stone-masonry, particularly in the sandstone quarries in the Land van Aalst,⁶⁷ and some taking of field-stones, exported to several parts of Flanders. Also tannery and further processing of leather has existed in the countryside. All of these non-textile sectors, however, had developed only weakly in the Flemish research area. At least partly this was a result of the many privileges and the strong political and military power of the Flemish cities, which were able to suppress unwanted activities in the countryside. The other rural activities thus paled into insignificance compared to the textile industries, particularly compared to the linen industry, which qua importance far exceeded all other non-agricultural activities on the Flemish countryside.

4. Nature and Importance of Non-Agricultural Activities in the Holland Region

In the Holland region the situation was clearly different. Proto-industrial activities also had a great importance here, but to a large extent in other branches than in Flanders. Some insight into the nature and diversity of these activities is given by the *Enquete* and the *Informacie*, two extensive reports, by governmental commissioners, on economic conditions in Holland made in 1494 and 1514.⁶⁸ The data from these reports, however, must be used with

de leden en van de Staten van Vlaanderen (1419-1467, part I, Brussel, nr. 402 (1430); P. BONENFANT, ed., *Ordonnances de Philippe le Hardi, de Marguerite de Male et de Jean Sans Peur; 1381-1419*, volume I.1, Bruxelles, 1965, nr. 293 (1392), and A. VAN NIEUWENHUYSEN, ed., *Id.*, volume II, 1974, nr. 695 (1404).

65. Algemeen Rijksarchief, Brussels, Rekenkamer inv. nr. 31415 and 31438. Cf. also E. HOUTMAN, *Inventaris van het oud archief van de stad Aalst*, Brussel, 1974, regesten nrs. 27 (1439), 28 (1441), 31 (1443), 32 (1444) and 34 (1444).

66. P. STABEL, *De kleine stad*, p. 239-240. Cf. for a similar development in Holland below section 4, p. 1136-1137.

67. Cf. for instance J. DE BROUWER, *Geschiedenis van Lede*, p. 250-280.

68. R. FRUIN, ed., *Enquete ende informacie ... over de landen van Hollant ende Vrieslant*, Leiden, 1876, and ID., *Informacie up den staet faculteit ende gelegenheit van de steden ende dorpen van Holland ende Vrieslant*, Leiden, 1866. Cf. also M.J. BOERENDONK, "Economische aardrijkskunde van Holland omstreeks het jaar 1500", in *Tijdschrift voor Economische Geografie*, 30, 1939, p. 127-152.

some caution. This certainly goes for the use of these data for the reconstruction of the professional structure and the degree of specialization in the Holland countryside.⁶⁹ In most cases only the most important means of subsistence in each village are named, sometimes even only one or two, and additional sources of income are mostly left out of account. At that, in most cases no indication is given of the relative importance of the activities mentioned.

These considerations, of course, do not mean that the data from these sources cannot be used for research purposes in this field. Recently, Van Zanden has used these data to reconstruct the distribution of labour-input in the various sectors of the economy in 1514.⁷⁰ He arrived at the startling conclusion that in the Holland countryside as little as 40-45 % of the labour-input went into agriculture; one-fifth into fisheries; one-tenth into peat-digging and groundwork (spading and diking); one-tenth into shipping; and one-tenth into textile production. Next, he compared these figures with other indicators on a macro-level, by constructing an input-output table and estimating the composition of the Holland GDP in 1514, and demonstrated that these indicators are consistent with his results from the *Enquete* and the *Informacie*, which thus seem to be reliable.

Here, we will undertake a deeper and more detailed investigation into the non-agricultural activities performed in this region, which can also help us to see whether these striking figures can be corroborated. First, we will look closer at the data from the *Enquete* and the *Informacie*. In the research area, some 80 villages are investigated; on average three different means of subsistence are named per village:

	1494	1514
Agricultural activities	61 %	52 %
Fowling and fishing	10 %	7 %
Groundwork	8 %	13 %
Peat digging	12 %	17 %
Trade	2 %	2 %
Transport	4 %	4 %
Handicrafts and industries	4 %	4 %
Total	101 % 244	99 % 267

Table 2. Means of subsistence mentioned by the reports of 1494 and 1514 for the 80 villages in the countryside of the Holland region.

69. Cf. for instance the different interpretation on this point by J. DE VRIES, *Dutch rural economy*, p. 22-23 and 67-73; L. NOORDEGRAAF, "Het platteland van Holland in de zestiende eeuw. Anachronismen, modelgebruik en traditionele bronnenkritiek", in *Economisch- en Sociaal-Historisch Jaarboek*, 48, 1985, p. 8-18, and J.L. VAN ZANDEN, "Op zoek naar de "missing link"", p. 374-376.

70. J.L. VAN ZANDEN, "Taking the measure of the early modern economy. Historical national

The latter group in table 2, handicrafts and industries, comprises thatching, lime-burning, making of garlic cords, net-making, baking, brick-making, spinning, weaving and drapery, but the frequency in which these activities are mentioned is unimpressive. However, most of the proto-industrial activities, often performed alongside the main professions, are not included in the enumerations. This goes most strongly for the preparatory activities in the textile sector, which have been important in this region, as will become clear below, but are hardly mentioned at all.

Also, it is difficult to judge from these sources to what extent there was any professional specialization in the Holland countryside. Of the non-agricultural occupations which are mentioned in these sources, most are included in a list naming various means of subsistence in a village as a whole. Only in a few cases are separate groups of people with different occupations distinguished within the village in question. This was the case, for instance, in Voorschoten, where “some earn their livelihood with plowing [= arable farming], some with shipping, and some with peat digging”.⁷¹ The few formulations like this point to some degree of specialization and to a situation in which non-agricultural activities had developed into the main source of income for some people, but for lack of information it may be that this was not the case elsewhere. For obtaining further information, we will thus have to rely on other sources.

There exist, for instance, two smaller reports on the activities of countrymen within a radius of 500 *roeden* (= 1,900 m) of the city of Leiden, drawn up in 1540 and 1541 by commissioners of the Court of Holland.⁷² In the lists, in which most of the by-occupations do seem to be included, a strong professional diversity can be observed. On average about two occupations are mentioned for each of the 131 households which were investigated. These can be categorized into no less than 78 sorts of occupations, of which 66 were non-agrarian. Some of these villagers were working for the local market, like the butchers, the confectioner and the cooper, but most non-agrarian activities were probably aimed at non-local markets and can be listed as proto-industrial. This goes for glue-production, lime-burning, brick work (mentioned 6 times), peat digging (2), barging (6), shipbuilding (24) and activities in textile industries (103). In this area, a short distance from the textile centre of Leiden, the textile

accounts for Holland in 1510/1514”, in *European Review of Economic History*, 6, 2002, p. 131-163.

71. R. FRUIN, ed., *Informacie*, p. 277. For other examples cf. *Ibidem*, p. 287, 291, 351 and 354.

72. N.W. POSTHUMUS, ed., “Een zestiende-eeuwsche enquête naar de buitenneringen rondom de stad Leiden”, in *BMHG*, 33, 1912, p. 1-95, and E.C.G. BRÜNNER, *De order op de buitennering van 1531. Bijdrage tot de kennis van de economische geschiedenis van het graafschap Holland in den tijd van Karel V*, Utrecht, 1918, p. 148-152 and 217-241. Cf. also S. VAN DILLEN & R. VAN GOUDOEVER, *Op zoek naar vrouwenarbeid in dorpen rond Leiden*, esp. p. 66-78 and 84-95.



Map 3 (map of the Holland region), indicating the places mentioned in the text

sector thus was very strong.⁷³ Apart from this case, however, other data indicate that the textile industry in Holland was not as dominant in the countryside as it was in the Flemish region.

This impression is confirmed when investigating the major non-agricultural activities in the Holland region one by one. Here, in this section, we will construct a catalogue of these activities, since a general and full overview is not yet available for Holland. We will start with the cloth industry, which developed particularly in the course of the 14th and early-15th centuries. In this sector the Holland cities, like their Flemish counterparts somewhat earlier, aimed at suppressing weaving and fulling in the countryside, a policy which especially gained momentum in the 15th century.⁷⁴ However, the Holland cities were not as strict and probably also possessed less political weight than their Flemish counterparts, and do not seem to have succeeded in this completely. Rural producers were still fabricating cloth, at least the cheaper varieties, using mainly indigenous wool. This had been very common in the first half of the 14th century, in several places in the Holland region,⁷⁵ but also later, until well into the 16th century. This was the case even in the immediate surroundings of cloth giant Leiden,⁷⁶ which contrasts with the situation around the urban cloth centres in Flanders. There is, however, one similarity with the situation in Flanders: the absence of fulling-mills in the countryside. The first fulling-mill in Holland was built in the city of Haarlem (in 1527),⁷⁷ but subsequently the Staten of Holland and the cities banned the use of these mills, a ban which lasted until the end of the 16th century.

More important for the countryside than weaving and fulling were the preparatory activities performed for the urban cloth industry: most notably spinning. In the research area most of the spinning was done for the Leiden cloth industry, which tapped labour sources all over Holland, but also for drapers from The Hague, Gouda and later Amsterdam.⁷⁸ Although rural spinners are

73. The *Enquete* (1494) and *Informacie* (1514), however, do not report any activities in the textile sector here, which again demonstrates how little information these non-exhaustive sources give in proto-industrial activities, especially when they are performed as side-occupation.

74. N.W. POSTHUMUS, *Geschiedenis*, part I, p. 102-105 and 115-117.

75. D.E.H. DE BOER, *Graaf en grafiek. Sociale en economische ontwikkelingen in het middeleeuwse "Noordholland" tussen c. 1345 en c. 1415*, Leiden, 1978, p. 295-308, with extensive documentation for Beverwijk, just north of the region, and N.W. POSTHUMUS, *Geschiedenis*, part I, p. 30-31.

76. T.S. JANSMA, "Het economisch overwicht van de laat-middeleeuwse stad ten aanzien van haar agrarisch ommeland, in het bijzonder toegelicht met de verhouding tussen Leiden en Rijnland", in H.F.J.M. VAN DEN EERENBEEMT, ed., *Tekst en uitleg*, Den Haag, 1974, p. 35-54, esp. p. 51-52, and N.W. POSTHUMUS, "Een zestiende-eeuwsche enquête", p. 15 and 22-23. Cf. also R. FRUIN, ed., *Enquete*, p. 161, IDEM, ed., *Informacie*, p. 273, Grote Raad nr. 502 DDD (1555), and J.C. OVERVOORDE, *Archieven van de gilden, de beurzen en van de rederijderskamer*, Leiden, 1921, reg.nr. 27 (1538).

77. H. KAPTEIN, *De Hollandse textielnijverheid*, p. 163-165.

78. N.W. POSTHUMUS, *Geschiedenis*, part I, p. 105-108 and 290-294, and H. BRAND, *Over macht en overwicht. Stedelijke elites in Leiden (1420-1510)*, Leuven/Apeldoorn, 1996, p. 170.

hardly mentioned in the *Enquete* and the *Informacie* (that is: in only 2 and 4 villages respectively), these were certainly present in large numbers. The spinning was mainly done by women, but sometimes also by men, as mentioned for the villages of Kudelstaart, Kalslagen and Koudekerk aan de Rijn, and also for the city of Leiden.⁷⁹ As the latter example already demonstrates, not all the spinning was done in the countryside. Sometimes city governments even forbade urban entrepreneurs having spinning done outside the city, and in some cases also the combing or carding of the wool,⁸⁰ mostly in times of high unemployment.

In times of labour scarcity or in cities where labour shortages existed, on the other hand, the drapers requested the city government to force or persuade poor inhabitants and girls to take up spinning or carding. In some cases even a battle for rural labour forces arose between two cities, as in 1473 between Leiden and Amsterdam.⁸¹ Amsterdam wanted to induce the inhabitants of the Waterland villages to spin for the Amsterdam drapers, and not any more for drapers from Leiden and the Hague, as they mostly did. The Amsterdam government, urged to do so by the drapers, first tried to reach this goal by a kind of blackmail: by denying the inhabitants of Waterland shipping commissions in Amsterdam as long as they refused. The Amsterdam government realized, however, that its goal could sooner be reached by economic means: by inciting the Amsterdam drapers to pay wages equal to those offered by the Leiden drapers, as was almost immediately done.⁸² In this and other cases non-economic forces and coercion did eventually play a smaller role than they did in Flanders, as we will further see below. Also, this case shows that at least periodically there were shortages of unskilled rural labour in Holland. This, and the small importance of non-economic means to force wages down, probably resulted in relatively high wages and in a drive towards the application of labour-saving techniques in Holland, as will also be elaborated below.

Total cloth production in the Holland research area was substantial. After its rise in the 14th century it reached a peak around 1475, as some 35 to 40,000 cloths were produced here. After a decline at the end of the 15th century production remained fairly stable until c. 1560, at a level of c. 20,000 pieces per

79. R. FRUIN, ed., *Enquete*, p. 135, IDEM, ed., *Informacie*, p. 296-297, and N.W. POSTHUMUS, *Geschiedenis*, part I, p. 22-25 and 80. Cf. also below section 6, p. 1151-1154.

80. H. KAPTEIN, *De Hollandse textielnijverheid*, p. 151-152, and N.W. POSTHUMUS, *Geschiedenis*, part I, p. 105-107. Cf. also K. HEERINGA, ed., *Rechtsbronnen der stad Schiedam*, 's-Gravenhage, 1904, p. 197-198.

81. R. HOLBACH, "Some remarks on the role of "putting-out" in Flemish and Northwest European cloth production", in M. BOONE & W. PREVENIER, eds., *La draperie ancienne des Pays-Bas. Débouchés et stratégies de survie (XIV^e-XVI^e siècles)*, Leuven, 1993, p. 207-250, esp. p. 236-237.

82. T.S. JANSMA, "Scheepvaartpolitiek van Amsterdam in de tweede helft der vijftiende eeuw", in *Jaarboek Amstelodamum*, 47, 1955, p. 1-14, esp. p. 11-14; N.W. POSTHUMUS, *Geschiedenis*, part I, p. 292-293, and J.C. BREEN, *Rechtsbronnen der stad Amsterdam*, 's-Gravenhage, 1902, keurboek A, part II, paragraphs 146-148.

annum.⁸³ This is much more than production in the Flemish region. Cloth production in Holland, however, required relatively less labour input from the countryside than Flemish production did. First, the preparatory activities performed in Holland were clearly less labour-intensive. Restrictions on the use of carded wool, although existing in some cities, at least for the warp and the finest qualities of wool,⁸⁴ do not seem to have been as strict as in Flanders. At that, in Holland the restrictions on carding were mostly relaxed in the course of the 16th century. The same goes for the use of the spinning-wheel in order to save time in the spinning of wool. This seems to have been relatively widespread in Holland and also increased further in the 16th century; first for the weft yarn, but later also for the warp.⁸⁵

In Holland labour-intensive combing and hand-spinning thus were less important than in Flanders. Also a larger part of the preparatory activities seems to have been performed within the cities, or perhaps in countries abroad exporting yarn to Holland.⁸⁶ All in all, the cloth industry in Holland needed relatively little labour input from rural workers. How large this input was in absolute numbers can only be guesstimated. We can convert the numbers of cloth into man years of labour-input, as done above for Flanders, but we do not know the share of rural labour input in the production process, except that it was probably smaller than in Flanders. In the 15th century, the rural labour-input in cloth production in this region perhaps amounted to some 5,000 to 7,000 man years,⁸⁷ which probably decreased to a few thousand man years around 1550 as a result of labour-saving developments and declining output. In the Holland cloth sector the emphasis seems to have been more and more on the finishing of cloths and the costly process of dyeing, using large amounts of fuel and expensive dye-stuffs. These capital-intensive production processes were performed almost exclusively in large cities like Leiden, Haarlem and Amsterdam.⁸⁸ From the beginning of the 16th century also large numbers of

83. Cf. the crude estimates by H. KAPTEIN, *De Hollandse textielnijverheid*, p. 91-136, who corrects the older pessimistic view on production in the 16th century. For the cloth output cf. also J.E.J. GESELSCHAP, "De lakennijverheid", in *Gouda zeven eeuwen stad. Hoofdstukken uit de geschiedenis van Gouda*, Gouda, 1972, p. 129-148, esp. p. 129 and 134, and H.E. VAN GELDER, "De "draperie" van Den Haag", in *Die Haghe, Bijdragen en Mededelingen*, 1907, p. 229-350, esp. p. 231-234 and 247.

84. J.E.J. GESELSCHAP, "De lakennijverheid", p. 130, H.E. VAN GELDER, "De "draperie" van Den Haag", p. 237, 295 and 298, and N.W. POSTHUMUS, *Geschiedenis*, part I, p. 55-56, 68, 90 and 288.

85. H.E. VAN GELDER, "De "draperie" van Den Haag", p. 238 and 297, N.W. POSTHUMUS, *Geschiedenis*, part I, p. 57-58, Id., *Bronnen*, I nrs. 938 (1526-1527) and 941 (1527 May 20), and P. CHORLEY, "The evolution of the woollen", esp. p. 7-17.

86. Cf. for linen yarn below this section, p. 1133-1134.

87. Using the data on average labour-input per cloth as calculated above: section 3, p. 1122.

88. H. KAPTEIN, "De Nederlandse textielhandel 1530-1610. Een discussie met Jonathan Israel", in *Tijdschrift voor Geschiedenis*, 114, 2001, p. 492-514, esp. p. 496-497, Id., "De Haarlemse lakennijverheid tot ca. 1575", esp. p. 36-41, and the overview by W.L.J. DE NIE, *De ontwikkeling der Noordnederlandsche textielververij van de veertiende tot de achttiende eeuw*, Leiden, 1937.

cloths from the southern parts of the Low Countries and particularly from England were dyed and finished here.

Alongside the cloth industry a linen industry also developed in Holland, as witnessed by some direct data and by fairly substantial exports, for instance to England, and later also to Spain and Italy.⁸⁹ At the latest at the end of the 14th century the linen industry had already reached a substantial scale, and it witnessed a renewed growth in the early 16th century, as linen output in this area probably amounted to several thousand pieces per year.⁹⁰ Contrary to Flanders, however, the linen production here was mainly an urban phenomenon, concentrated in cities such as Rotterdam, Amsterdam, Schiedam and particularly Haarlem. The countryside in the research area had only a few linen weavers, mainly in the vicinity of Rotterdam and Schiedam, where some small-scale linen weaving existed in the first half of the 16th century.⁹¹ This contrasts sharply with the situation in rural Flanders, where linen production gained enormous importance. Also the organization of the industry here was different from Flanders, with a stronger role of putting-out.⁹²

Probably these differences were partly connected to the relative unimportance of flax cultivation in Holland, which diminished from the first half of the 14th century onwards, perhaps partly as a result of soil subsidence and increasing problems with ground water.⁹³ The rural population in Holland thus hardly combined or did not combine the cultivation of flax with the production of linen, and could therefore not use their own raw material, as was mostly the case in the Flemish region. In Holland the linen industry mainly used flax or hackled flax imported from abroad. On the basis of the production figures mentioned above, it can be surmised that the spinning required some 1-2,000 man years in this region, a number which is insignificant compared to the Flemish linen sector. Also, in Holland a major part of the spinning was done within the cities. In 1581, for instance, the city of Leiden counted 119 women whose main profession was spinning, alongside 7 people who were explicitly spinning wool.⁹⁴ At that, to an increasing degree spinning for the Holland linen

89. H.J. SMIT, ed., *Bronnen tot de geschiedenis van den handel met Engeland, Schotland en Ierland*, 's-Gravenhage, 1928 (Rijks Geschiedkundige Publicatiën, 65 and 66), nrs. 736 (1393), 999 (1425) and 1522 (1462), and M. BOONE, "Les toiles de lin", p. 67-70 and annexes 2 and 3.

90. H. KAPTEIN, *De Hollandse textielnijverheid*, p. 215-226 and 232-234. He also demonstrates this is really linen produced in Holland; not Flemish linen which was bleached in Holland, as was often assumed earlier. Cf. also below this section, p. 1134-1135.

91. The *Enquete* (1494) and *Informacie* (1514) do not mention any linen industry on the countryside in this region. Cf. however N.W. POSTHUMUS, *Geschiedenis*, part I, p. 138, E.C.G. BRÜNNER, *De order*, p. 102 and 185-189, and for some villages north of the area D. ATEN, 'Als het gewelt comt...'. *Politiek en economie in Holland benoorden het IJ, 1500-1800* (Hilversum, 1995), p. 216.

92. Cf. below section 6, p. 1151.

93. This is suggested by H. KAPTEIN, *De Hollandse textielnijverheid*, p. 40-41 and 207-208.

94. N.W. POSTHUMUS, *Geschiedenis*, part II, p. 18-35.

industry was done outside the region itself. Striking are the enormous quantities of yarn which were shipped along the toll at Sas-van-Gent in 1570. During this single year the toll records list no less than 62 transports of yarn (mainly twine yarn), probably transported from Inland Flanders to Holland.⁹⁵ Also, more and more yarn was imported from the western parts of Germany and Silesia. The same applies to the tick weaving in Schiedam and Rotterdam, which expanded at the end of the 16th century and mainly used yarn imported from the Wuppertal region.⁹⁶ Thus, in the Holland linen industries, the phase in the production process that required the highest labour input was increasingly avoided.

Probably these large-scale imports of yarn to Holland have a longer tradition. Already at the end of the 14th century Holland ships were transporting Cologne yarn, for instance to England.⁹⁷ Interesting are also the large quantities of yarn which were transported on Dutch rivers in the 15th and early-16th centuries, as appears from the toll accounts. Unfortunately, it is not always clear from where to where these goods went, and whether they concern yarn made from wool, flax or hemp. In 1478, however, it seems clear from the provenance of the shippers and the nature of the other goods on the vessels in question (such as wax, honey, glass, iron wares and tuff)⁹⁸ that it was exported from the Rhineland to Holland, and not the other way around. Thus, already at an early stage the Holland textile industries were starting to leave the most labour-intensive parts of the production process to other regions.

The bleaching of linen, on the other hand, became more important in the second half of the 16th century. This capital-intensive industry (with wages comprising no more than about 25 % of total production costs) mainly developed near Haarlem, but also somewhat to the south, in several villages in the research area.⁹⁹ At first mainly linen from the region itself was bleached here, but in the last quarter of the 16th century bleaching of foreign linen started to flourish, particularly of linens produced in Flanders.¹⁰⁰ From c. 1580 onwards also the bleaching of imported yarn developed here,¹⁰¹ which likewise was a

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95. W.S. UNGER, ed., *De tol van Iersekeroord. Documenten en rekeningen, 1321-1572*. Rijks-geschiedkundige Publicatiën, kleine serie 29, 's-Gravenhage, 1939, p. 582-596. For the massive exports of *fil d'Audenarde* to southern Europe cf. J.A. GORIS, *Étude sur les colonies marchandes*, p. 289-311.
96. Z.W. SNELLER, "De tijdweverij te Rotterdam en te Schiedam in de eerste helft der 17^e eeuw", in *Tijdschrift voor Geschiedenis*, 45, 1930, p. 237 ff., esp. p. 256-259.
97. H.J. SMIT, "De beteekenis van den noordnederlandschen, in 't bijzonder van den Hollandschen en Zeeuwschen, handel in de laatste helft der 14^e eeuw", in *Bijdragen voor Vaderlandsche Geschiedenis en Oudheidkunde*, 6th series, 10, 1930, p. 16-64, esp. p. 29-30.
98. J.G. SMIT, ed., *Rekeningen van de Hollandse tollën, 1422-1534*. Rijks-geschiedkundige publicatiën, grote serie 236, Den Haag, 1997, sub E.
99. S.C. REGTDOORZEE GREUP-ROLDANUS, *Geschiedenis der Haarlemmer bleekerijen*, 's-Gravenhage, 1936, p. 19-28, 141 and 149-150.
100. H. KAPTEIN, *De Hollandse textielnijverheid*, p. 202-206.
101. S.C. REGTDOORZEE GREUP-ROLDANUS, *Geschiedenis der Haarlemmer bleekerijen*, p. 22-24.

sector dominated by wealthy linen merchants. At the same time, around 1580, a tapestry industry in the Holland region also unfolded, to a large extent as a result of the immigration of dozens or even hundreds of Flemish tapestry workers, mainly from Audenarde and its region.¹⁰² As opposed to Flanders, however, the tapestry industry in Holland remained an urban phenomenon, particularly concentrated in the city of Gouda.

More striking than the rural textile activities, however, are the non-textile sectors in the Holland countryside, to which we will turn now. One of the most notable sectors was the production of bricks and paving-tiles, which developed here from the 13th century onwards. Numerous brick works were erected along the Oude Rijn near Leiden, around Delft and particularly along the Hollandse IJssel.¹⁰³ In the latter area, where the tide continually brought new deposits of clay, during the 15th century the process was developed of scooping out the material using dredge scoops. Helped by the high quality of the bricks brick production here thrived. Around 1500, the area counted several dozen ovens, each employing some 6 labourers, later growing to c. 10 labourers (5 men, 5 boys and women) per oven.¹⁰⁴ In the 16th century, another period of strong expansion for the Holland brick industry, the research area as a whole probably had some 120 brick ovens,¹⁰⁵ employing some 1,000 people. Except for the immediate surroundings of the cities, where the ovens were banned for reason of the stench and fire-risk,¹⁰⁶ this industry was allowed to develop freely on the Holland countryside.

Lime-burning, using shells gathered along the coast, also developed here already during the 14th century. An interesting and early example is offered by the activities undertaken by Martijn Buser, a comital functionary, who organized this industry on behalf of the count in the years 1344-1346. In 1344 for instance he bought no less than 2,991 *hoet* (= some 3 million litres) of shells and 142 *last* (= more than 400,000 litres) of peat for fuel, and hired about 60 men and some women to transport the shells, peat and lime, and to work in the lime-kilns.¹⁰⁷ Eventually the chalk was sold in Haarlem and other cities. These

102. G.T. VAN YSSELSTEYN, *Geschiedenis der tapijtweverijen*, p. 106-126, and above section 3, p. 1123-1124.

103. J. HOLLESTELLE, *De steenbakkerij in de Nederlanden tot omstreeks 1560*, Assen, 1961, p. 112-119.

104. J. HOLLESTELLE, *De steenbakkerij in de Nederlanden*, p. 121-124, and ID., "De Nederlandse steenbakkerij in de zeventiende en achttiende eeuw", in *Economisch- en Sociaal-historisch Jaarboek*, 44, 1982, p. 11-22, esp. p. 14.

105. Algemeen Rijksarchief, Brussel, Conseil Privé C, nrs. 182 and 190.

106. J.C. ANDRIES, *Inventaris en beschrijving van de processtukken (dossiers) behorende tot de beroepen uit Holland, berustende in het archief van de Grote Raad van Mechelen*, part 3, Amsterdam, 1965, nr. 206 (c. 1519), and GA Leiden, Archief der secretarie van de stad Leiden, inv.nrs. 289 and 290 (1552-1552). Cf. also A.H. HUUSSEN, "De kaart van Leiden en omgeving door Pieter Sluiter (1550)", in *Jaarboekje voor Geschiedenis en Oudheidkunde van Leiden en omstreken*, 61, 1969, p. 91-97.

107. H.G. HAMAKER, ed., *De rekeningen der grafelijkheid van Holland onder het Henegouwsche Huis*, part 2, Utrecht, 1876 (Werken van het historische genootschap, new series, 24) p. 364,

activities, concentrated mainly in Beverwijk, just north of the research area, were impressive for their scale. Also in the research area itself, for instance near Leiden,¹⁰⁸ lime-burning developed early, using shells collected in nearby coastal villages such as Katwijk and Valkenburg. In the 16th century the area around Leiden perhaps counted some 100 lime kilns.

In the 14th century, also brewing was still widespread in the Holland countryside. At that time, however, a strong brewing-industry started to develop in Holland cities, especially from c. 1325 onwards, as urban brewers here started to replace gruit with hops.¹⁰⁹ These brewers were very succesful in finding consumers, both in Holland and abroad. Cities such as Gouda and Delft soon counted dozens or even hundreds of brewers of hopped beer, to a great extent producing for markets in Brabant and Flanders. The urban breweries, particularly the larger ones with their capital reserves, were in a more favorable position to profit from developments than the smaller rural brewers were, as a result of the processes of concentration and specialization, requiring large capital investments.¹¹⁰ Around 1400, these developments probably started to lead to a decline of the rural brewery.¹¹¹ The production of beer, however, did not disappear from the countryside. This becomes evident, for instance, from an overview of brewing activities in the village of Noordwijk, at the end of the 15th century.¹¹² Also there are mentions of brewing in the villages of Rijnsburg (1547 and 1548), Hazerswoude (1548), Maasland (1555), and the land near Woerden and Bodegraven, where around 1548 several new breweries had been founded.¹¹³

426-468 and 495-496. Cf. also J. CRAANDIJK, "Over kalk en nog wat. Iets uit de rekeningen van de grafelijkheid van Holland, over het jaar 1345", in *Bijdragen voor Vaderlandsche Geschiedenis en Oudheidkunde*, 4rd series, 4, 1905, p. 289-346, esp. p. 289-302.

108. F. VAN KAN, *Sleutels tot de macht. De ontwikkeling van het Leidse patriciaat tot 1420*, Hilversum, 1988, p. 89-90 (c. 1400), and H.A. VAN OERLE, *Leiden binnen en buiten de stadsvesten*, Leiden, 1975, maps 4, 31b and 31c, and E.C.G. BRÜNNER, *De order*, p. 70 and 191-192. Cf. also R. FRUIN, ed., *Enquete*, p. 141.
109. G. DOORMAN, *De middeleeuwse brouwerij en de gruit*, 's-Gravenhage, 1955, p. 18 and 59-60, R. VAN UYTVEN, "Haarlemmer hop, Goudse kuit en Leuvense Peterman", in *Arca Lovaniensis*, 4, 1975, p. 334-351, esp. p. 334-341, and R.W. UNGER, "Technical change in the brewing industry in Germany, the Low Countries and England in the late Middle Ages", in *Journal of European Economic History*, 21, 1992, p. 281-313, esp. p. 284-303.
110. R.W. UNGER, "The scale of Dutch brewing, 1350-1600", in *Research in Economic History*, 15, 1995, p. 261-292.
111. D.E.H. DE BOER, *Graaf en grafiek*, p. 294.
112. R.W. UNGER, *A history of brewing in Holland 900-1900. Economy, technology and the state*, Leiden, 2001, p. 16. Apart from this case, however, the author focuses here on brewing in the cities of Holland.
113. D. ATEN, 'Als het gewelt comt ...', p. 283-284; E.C.G. BRÜNNER, *De order*, p. 67 and 188, and N.W. POSTHUMUS, ed., "Enquête", p. 16, 19 and 48-49. Cf. also Archief der secretarie van de stad Leiden, inv.nr. 287 (1548 april 6), and J.C. ANDRIES, *Inventaris*, part 6, nr. 502 CCC (1555).

Urban governments sometimes tried to repress brewing in the countryside, but in Holland there was no strict, lasting policy on this point. Moreover, the success of the cities was limited as a result of the lack of support for their attempts from the government, the reservedness of the courts to impose any penalties and the opposition from rural lords against the urban policies.¹¹⁴ At that, cities were more concerned about the evading of the excises on selling of beer than about competition for urban breweries. Rural brewing could thus exist in Holland. However, it can hardly be labeled as proto-industry in the strict sense, since the production was mostly aimed at local consumers and especially at the inhabitants of nearby cities, who walked to the countryside to have a cheap non-taxed drink. By far the most of the Holland beer exported to non-regional markets, perhaps some 90 %, ¹¹⁵ was produced by larger urban brewers. This, and some scattered data on the number of brewers in some villages, makes us surmise that in the 16th century there were probably some 300-400 rural brewers in the Holland region working for non-regional markets and some 400-500 for local and regional markets.

To a large extent in combination with the above sectors, also peat-digging in the Holland region developed strongly in the 14th century. This was partly a result of the growing demand from the urban population for heating and urban industries for brewing and dyeing, but also from rural industries such as brick-works and lime-kilns, both having a great need for fuel. In the research area, mainly consisting of peat-lands, peat-digging offered employment to a very large number of people. In the *Enquete* (1494) and the *Informacie* (1514) peat-digging is mentioned as a means of livelihood for about one-third of the villages, especially in the districts of Schieland en Rijnland. Since the enumeration of occupations is not exhaustive, this sector was probably even more important and more wide-spread in reality. At that, the indication “delven” (= digging) used in these sources perhaps also relates to the digging of peat, which would make the scale of this sector even more impressive.

The location of peat-digging was constantly shifting, since peat-layers became exhausted or impossible to reach because of problems with ground water. As a result of the construction of peatwinning-dikes and the increasing use of windmills to remove the water in the 15th century, and the large-scale introduction of dredging peat below the water table with scoops from c. 1530 onwards, however, possibilities were created for a new round of large-scale extraction in Holland.¹¹⁶ Particularly in the dredging-period the sector offered

114. R.W. UNGER, *A history of brewing*, p. 182-189. Cf. also P.C.M. HOPPENBROUWERS, “Town and country in Holland, 1300-1550”, in S.R. EPSTEIN, ed., *Town and country in Europe, 1300-1800*, Cambridge, 2001, p. 54-79, esp. p. 64-67, who also nuances the success of the urban attempts, but still seems to overestimate the weight of this policy in Holland, as becomes clear from the comparison with Flanders in the present study.

115. Personal communication by prof.dr. Richard Unger, in a letter d.d. September 15, 2001.

116. B. IBELINGS, “Het begin van het slagturven in Holland”, in *Historisch Geografisch Tijdschrift* 14, 1996, p. 1-10. Cf. also below section 6, p. 1153-1154.

employment to a large number of people, but it is hard to estimate how many. Only few exact data are available. In a small area near Benthorn some 30 persons during short and intense peat-digging campaigns (1404-1412) dug about 800 to 2,400 last per year, which is some 5 million liters on average.¹¹⁷ In the village of Zegwaard, the yearly output was 35-40,000 barrels (8 million liters) in 1520-21, rising to 140-150,000 barrels in the 1560's.¹¹⁸ About 200 peat-diggers worked there, among them 130 from Zegwaard itself.

In the period 1540-1565, perhaps some 1 to 1.5 million barrels of turf were exported yearly from Gouda and Rotterdam,¹¹⁹ which would equal the production of some 2,000 peat-diggers. Added to this should be the exports through other cities (like Delfshaven); c. 500-800,000 barrels of turf used in the Delft and Gouda breweries;¹²⁰ c. 500,000 barrels needed in the brick-ovens and lime-kilns; and the turf used for heating and other purposes. In this region, this would amount to a total output of turf of perhaps 4 to 6 million barrels per year around the middle of the 16th century. Alternative calculations, based on the number of hectares of peat-land and the thickness of the peat-layers, result in even higher numbers, up to 6 million m³ of wet peat (or 2,3 million m³ of dried turf, i.e. some 10 million barrels) per year in the 17th century for all of the Holland-Utrecht peat-region, of which the research area was by far the most important part.¹²¹ This estimate, however, is generally considered too high.

Combined, these figures indicate that around the middle of the 16th century the total number of people involved in the peat-digging here amounted to at least some 6,000, but probably even more. This was mainly seasonal work, concentrated in a few months per year. Outside the season, however, large numbers of people were still needed to carry and store the turf, and to transport it to the waterways and ship it to the urban markets. All this was mostly done by people from the peat-villages, using flat-bottomed boats for water transport (carrying some 30 barrels of turf each) or larger broad barges. The shipment of the turf dug in this region alone required some 150-200,000 transports. If the turf was shipped over some 40 km (i.e. an average distance to one of the urban markets), the journey out and back would have taken at least six days for the shipper and his wife or helper, or some 3-6,000 man years. By-employments

117. D.E.H. DE BOER, *Graafen grafiek*, p. 254. Measures used for peat are: last (= 3,000 liters) and barrel (= 200 liters).

118. J. DE VRIES, *Dutch rural economy*, p. 65 and 203.

119. W.J. DIEPEVEEN, *De verving in Delfland en Schieland tot het einde der zestiende eeuw*, Leiden, 1950, p. 133-136.

120. Cf. the indications for Haarlem, provided by J.C. VAN LOENEN, *De Haarlemse brouwindustrie voor 1600*, Amsterdam, 1950, p. 45-48, 61-62 and 121-123.

121. J.W. DE ZEEUW, "Peat and the Dutch Golden Age. The historical meaning of energy-attainability", in *AAG Bijdragen*, 21, 1978, p. 3-31, esp. p. 12-16. Cf. however the criticism by R.W. UNGER, "Energy sources for the Dutch Golden Age: Peat, wind and coal", in *Research in Economic History*, 9, 1984, p. 221-253, esp. p. 225-227, and J.L. VAN ZANDEN, "Werd de Gouden Eeuw uit turf geboren? Over het energieverbruik in de Republiek in de zeventiende en achttiende eeuw", in *Tijdschrift voor Geschiedenis*, 110, 1997, p. 484-499.

in the turf-sector thus also offered a lot of work for the rural population. In 1560 the attorney-general of the Court of Holland stated that in the Holland peat-region “hardly any people can be found who do not work in the peat-sector or have other people work for them there”.¹²² This was perhaps somewhat exaggerated, but the labour input in this sector indeed must have been enormous.

Contributing to the variety of non-agricultural activities in the Holland countryside were also less impressive sectors such as dairy production and oil-pressing. The cheese sector was generating a chief export product of the Holland countryside. In the last decades of the 16th century commercial production particularly boomed in the districts near the cheese markets of Alkmaar and Gouda,¹²³ the latter city situated in the research area. Commercial dairy production, however, was not new in this region. Around 1500, in no less than three-quarters of the villages in the research area keeping cows is mentioned as a way of earning a livelihood.¹²⁴ Cheese must have constituted a major product, of which a large part was brought to market. Probably, this large-scale commercial cheese-production had a longer history and already emerged here in the 14th century. Already around 1395 annually some 20 to 30 shippers, mostly from Delft and Gorinchem, passed the toll at the river Waal, each transporting hundreds of cheeses from Holland.¹²⁵

In the Holland countryside also oil-pressing gained some importance. Rapeseed, linseed, coleseed and hemp were all used to extract oil, which in its turn was used for producing paint, varnish, soap, for lighting and for consumption.¹²⁶ The seeds were mostly crushed by horse-mills. About one mill was needed for each 30-50 hectares of land sown with seed,¹²⁷ so the Holland area probably had many dozen mills for oil-production. From c. 1560 onwards also windmills were used to this end, as in Boskoop, where a windmill for pressing oil was built in 1585, or later in the Zaan area, north of the region, where large numbers of mills were erected.¹²⁸ Most of the oil mills, however, were to be found in the cities, as in Schoonhoven,¹²⁹ where in 1514 two or three oilmills operated.

Particularly in the eastern parts of the Holland research area hemp was

122. W.J. DIEPEVEEN, *De vervening*, p. 70-71.

123. J. DE VRIES, *Dutch rural economy*, p. 157-161.

124. Cf. *Enqueste* (1494) and *Informacie* (1514).

125. J.C. WESTERMANN, ed., *De rekeningen van de landsheerlijke riviertollen in Gelderland, 1394/1395*, Arnhem, 1939, p. 47-79. Cf. for the export of cheese also W.P. BLOCKMANS, “The economic expansion of Holland and Zeeland in the fourteenth-sixteenth centuries”, in E. AERTS a.o., eds., *Studia historica oeconomica*, Leuven, 1993, p. 41-58, esp. p. 55.

126. A.J. BERNET KEMPERS, *Oliemolens*, Arnhem, 1962, p. 22-28.

127. Cf. B.J.P. VAN BAVEL, *Goederenverwerving en goederenbeheer van de abdij Mariënweerd, 1129-1592*, Hilversum, 1993, p. 444-447.

128. L.A. ANKUM, “Een bijdrage tot de geschiedenis van de Zaanse olieslagerij”, in *Tijdschrift voor Geschiedenis*, 73, 1960, p. 39-57 and 215-251, esp. p. 44, and A.J. BERNET KEMPERS, *Oliemolens*, p. 36 and 65-66.

129. R. FRUIN, ed., *Informacie*, p. 390.

cultivated on a large scale. Hemp cultivation, which the peasant farmers often combined with dairy-farming and particularly the production of cheese, was already widespread by the early 16th century, but then expanded rapidly.¹³⁰ The hemp was not only used for extracting oil, but also for the fibres which were processed for the making of ropes and fishing-nets, or spun for weaving canvas. Thus, the cultivation and processing of hemp developed strongly here, particularly in connection with the simultaneous growth of shipping and the fishery in Holland. The processing of hemp was mainly done in the countryside during winter months, and also part of the actual production of ropes and nets was performed there,¹³¹ or done by fishers. More and more, however, the processed hemp was delivered to rope-yards and canvas producers in the cities, and used there. To concentrate the hemp trade in the cities, and perhaps also the hemp industry, urban governments sometimes used privileges and force. In 1396, for instance, Woerden received the monopoly on all hemp trade in the Land van Woerden.¹³² Whether this was an important element or not, the hemp sector developed rapidly in several Holland cities. In Gouda, one of the main hemp centers, rope-yards emerged at the end of the 14th century at the latest and in 1437 at least 6 rope-yards existed here.¹³³ In the 16th century this industry developed even further in the cities in the southern part of Holland, connected to the growing importance of the maritime sector.

Water transport and the fishery were among the most important sectors on the Holland countryside. In 1494-1514, more than a quarter of the villages in the region had these sectors listed as important sources of employment, accounting for c. 8-9 % of the total number of occupations mentioned. In the villages on the coast particularly the herring fishery must have been important, as evidenced by the high number of herring busses. Probably the region counted some 150 busses at that time, offering employment to some 2,000 men.¹³⁴ In addition, the villagers were also casting their nets closer to the coast, using smaller ships, as in Noordwijk or Katwijk, or in Ter Heide, where 10

130. J. BIELEMAN, *Geschiedenis van de landbouw in Nederland, 1500-1950. Veranderingen en verscheidenheid*, Meppel, 1992, p. 65-68.

131. J.H.G. DE GRAAF, *Moordrecht in touw*, Bloemendaal, 1970. (Hollandse studiën 1), p. 11.

132. B. IBELINGS, "Aspects of an uneasy relationship. Gouda and its countryside (15th-16th centuries)", in P. HOPPENBROUWERS & J.L. VAN ZANDEN, eds., *Peasants into farmers? The transformation of rural economy and society in the Low Countries (Middle Ages-19th century) in the light of the Brenner debate* (CORN Publication series 4), Turnhout, 2001, p. 256-274, esp. p. 266

133. J.P.A. VAN CATZ, "Uit de geschiedenis van de lijndraaijerij te Gouda", in *Gouda zeven eeuwen stad. Hoofdstukken uit de geschiedenis van Gouda*, p. 149-181, esp. p. 173-174, and B. IBELINGS, "Aspects of an uneasy relationship", p. 266.

134. H.A.H. KRANENBURG, "Het visserijbedrijf van de Zijdenaars in de 15^e en 16^e eeuw", in *Tijdschrift voor Geschiedenis*, 62, 1949, p. 321-333, estimates the number of crew-members at 25 per ship, which probably is too high. Cf. A.P. VAN VLIET, "Zeevarenden op de vissersvloot, 1580-1650", in *Tijdschrift voor Sociale Geschiedenis*, 22, 1996, p. 241-259, esp. p. 247-248, and ID., *Vissers en kapers. De zeevisserij vanuit het Maasmondgebied en de Duinkerker kapers, ca. 1580-1648*, 's-Gravenhage, 1994, p. 38-41.

pinks and 3 or 4 small barges were used for catching plaice and other fish.¹³⁵ In the latter village alone, these ships provided some 75 jobs; for all villages on the coast the total number of jobs in the coastal fishery probably was some 1,000.¹³⁶ Around 1500, the herring and coastal fisheries combined offered some 3,000 jobs, being mainly seasonal jobs. Fishing, sometimes combined with fowling, was also practised in the inland villages in the numerous lakes and along the water courses. At the end of the 16th century, in Holland and Zeeland probably several thousands of persons were occupied with inland fishing, sometimes part-time.¹³⁷

Fishing was often linked with transportation, since fishing-ships were also used for carrying cargo, at least until the end of the 16th century, when specialized types of ships gained more and more ground. Since ships from the research area are hardly mentioned in the registers of the Sound toll, as opposed to ships from the villages in the northern part of Holland,¹³⁸ their transport activities probably were mainly performed within Holland itself, in other parts of the Low Countries and in neighbouring parts of Northwestern Europe. The demand for transport by water was very high here: for carrying bulk-goods such as peat, shells, lime, sand and bricks, and also for transporting the increasing quantities of semi-fabricated goods which were used in Holland industries.

The crews of the Holland ships consisted for a major part of country folk, at least into the 17th century. They often combined fishing and shipping with the making of nets and the exploitation of their small farms, activities which were all part of a yearly labour cycle.¹³⁹ The number of people involved in these sectors was large and was growing even more in the 16th century. Whereas inland fishing and coastal fisheries mainly displayed stability over the centuries, transport and herring fishery were booming. In the 16th century, the labour input in the transport of peat, for instance, increased to some 3-6,000 man years, as was observed above. Herring fishery too witnessed strong growth in Holland, particularly in the third quarter of the 15th century, but again in the following century. This highly capital-intensive activity, with its high costs for ships, anchors, cables, sails, nets, tuns, salt and victuals,¹⁴⁰ became one of the

135. R. FRUIN, ed., *Informacie*, p. 267-268 and 279-280.

136. H.A.H. KRANENBURG, "Het visserijbedrijf van de Zijdenaars".

137. J. DE VRIES & A.M. VAN DER WOUDE, *The first modern economy*, p. 237-241.

138. N.E. BANG, *Tabeller over skibfart og varetransport gennem Oeresund, 1497-1660*, part I, København, 1906, p. 390-391. Among the exceptional mentions from the research area are: 's-Gravenzande, Katwijk and Noordwijk.

139. A. KNOTTER, "De Amsterdamse scheepvaart", and J. LUCASSEN, "Beschouwingen over seizoengebonden trekarbeid naar het westen van Nederland, ca. 1600-ca. 1800", in *Tijdschrift voor Sociale Geschiedenis*, 8, 1982, p. 328-358.

140. H.E. VAN GELDER, "Gegevens betreffende de haringvisserij op het einde der 16^{de} eeuw", in *Bijdragen en Mededeelingen van het Historisch Genootschap*, 32, 1911, p. 1-61: wages made up only 20-25 % of total expenses (late-16th century). Cf. also L. SICKING, "Protectiekosten en winstgevendheid van de haringvisserij in de Nederlanden: de teelt van 1547", in *Netwerk Vlaardingen*, 11, 2000, p. 9-19.

most important sectors of the Holland economy. Its rise went together with a geographical shift within the region. At first, the herring ships harboured mainly in the coastal villages in the research area, but from c. 1500 onwards they moved increasingly to the cities near the mouth of the river Meuse, such as Rotterdam and Schiedam, situated in the southern part of the area.¹⁴¹ The crews, however, still consisted for a large part of men from the country. Around 1560, Holland as a whole had some 400 herring busses, each with around 20 crew members, or 8,000 men in total.¹⁴² Although the share of ships from the northern part of Holland and the share of crew members from the cities was rising rapidly in this period, perhaps still about half of them, some 4,000 people, were from the countryside in the research area.

The strong development of shipping and fishing in Holland in the 15th and 16th centuries not only resulted in a growing demand for rope, nets and canvas – which were produced for a large part in the eastern part of the research area and perhaps also in the fishing villages – but also in an increasing demand for ships. Part of the shipbuilding was done in the countryside, along the rivers. Ship carpentry was a highly developed skill and increasingly so through the 15th and 16th centuries, as ships became bigger and more complex. Simultaneously, and connected with this development, a process of capital-intensification, scale-enlargement and concentration took place. This process went together with a shift of the sector to the cities, which also exercised some political pressure to this end.¹⁴³ Ship-building, however, did not disappear completely from the countryside. Particularly small-scale wharfs, the building of small barges and the repair of ships remained important activities here, as in the area around Leiden where one-fifth of the households was active in this sector, or in Zoeterwoude and Stompwijk, where in 1554 ship-carpenters were building small boats for use by countryfolk.¹⁴⁴ One of these rural areas, the Zaanstreek, situated north of the research area, even developed into one of the main Dutch centers of ship-carpentry in the course of the 17th century.

As the preceding shows, the Holland region thus possessed a large variety of non-agricultural activities in the countryside. The total labour-input in these sectors seems to have been relatively large, although numbers can only be guessed (as with the numbers in brackets) or at the best estimated:

141. T.S. JANSMA, “De betekenis van Dordrecht en Rotterdam omstreeks het midden der zestiende eeuw”, in H.F.J.M. VAN DEN EERENBEEMT, ed., *Tekst en uitleg*, Den Haag, 1974 p. 146-178, esp. 164-166. Cf. for organizational changes in this sector also below section 6, p. 1154-1155.

142. J. DE VRIES & A.M. VAN DER WOUDE, *The first modern economy*, p. 241-250 (with an estimation of the number of crew members which probably is too high) and A.P. VAN VLIET, “Zeevarenden”, esp. p. 249-251.

143. R.W. UNGER, *Dutch shipbuilding before 1800. Ships and guilds*, Assen/Amsterdam, 1978, p. 2-4.

144. Cf. for instance N.W. POSTHUMUS, “Enquête”, esp. p. 14 and 24, E.C.G. BRÜNNER, *De order*, p. 186-187, and Archief Leiden inv. nrs. 293 and 294.

	c. 1350	c. 1450	c. 1550
Cloth industry	2,000	6,000	3,000
Linen industry	2,000	1,000	1,500
Bleaching *	50	100	150
Brick-ovens *	200	500	1,000
Lime-kilns	200	350	500
Brewery	[800]	[600]	[800]
Cheese	[500]	[1,500]	[3,000]
Hemp-processing	[500]	[1,000]	[1,500]
Peat-digging *	5,000	3,000	6,000
Peat-transport	3,000	2,000	4,000
Other transport	[1,000]	[1,500]	[2,000]
Herring-fishing *	1,000	2,000	4,000
Coastal fishery *	[800]	[1,000]	[1,200]
Other fishery	[2,000]	[2,000]	[2,000]
Shipbuilding	500	1,000	750
Total all-year labour	12,500	16,950	19,050
Total seasonal labour (=*)	7,050	6,600	12,350
Total Man-Years	16,025	20,250	25,225

Table 3. Labour-input in non-agricultural activities in the countryside of the Holland region (in man-years), 1350-1550.

If these estimates are correct, total labour-input in non-agricultural activities increased from c. 16,000 man-years around 1350 to c. 20,000 around 1450 and c. 25,000 around 1550. Data on population figures in this region are scarce. A rough estimate would be that the countryside of the research area had 60,000, 50,000 and 70,000 inhabitants respectively.¹⁴⁵ These activities would thus have employed a quarter of the rural labour around 1350, rising to some four-tenths in 1450 and then decreasing somewhat to one-third around 1550. This seems to be somewhat lower than the figure calculated for 1514 by Van Zanden, who estimates that some 55 to 60 % of the rural labour-input in Holland went into non-agricultural activities.¹⁴⁶ Our calculation, however, does not comprise all non-agricultural occupations in the countryside. First of all, it leaves out the digging and diking, occupying some 5 % of labour-input. It also leaves out the thousands of millers, bakers, blacksmiths and others working for local needs only, perhaps comprising some 10 % of labour-input. If these were included the grand total would probably be similar to Van Zanden's figure. The preceding therefore supports the claim that already in the early-16th century Holland possessed a countryside where non-agricultural activities were very impor-

145. Cf. the figures collected by J.C. NABER, *Een terugblik. Statistische bewerking van de resultaten van de informatie van 1514*, Haarlem, 1970, appendix IX, p. 36-38, and J. DE VRIES, *Dutch rural economy*, p. 86-87.

146. J.L. VAN ZANDEN, "Taking the measure".

tant: as important as agricultural activities. What is more, this claim would perhaps even apply more strongly to a period as early as the mid-15th century, as appears from the foregoing.

The importance of the market-oriented non-agricultural sectors in Holland is striking, even when compared to the highly industrialized countryside of Inland Flanders. Surprising in the Holland figures is also the strong development in the second half of the 14th century. This period witnessed the emergence or growth of sectors such as peat-digging, brick-production, lime-burning and cheese production, all obtaining an important position and leading to substantial exports even before c. 1400. The strong development in economy, the export industries and foreign trade, witnessed particularly by the Holland cities in the same period, as established by Jansen and Blockmans,¹⁴⁷ appears to have had a counterpart in the rural non-agricultural activities. In all respects the second half of the 14th century can be labeled as the period of take-off in the economic expansion of Holland.

Interesting are also the strong shifts in activities that occurred in the course of the 16th century and particularly the downward curve starting in this period. The sweeping developments in the organization of these sectors in Holland,¹⁴⁸ and also the simultaneous shifts in landownership and land-use, perhaps led to a shift of activities towards the cities and an erosion of the proto-industrial base.¹⁴⁹ Probably it was no coincidence that during this period the urbanization rate in Holland increased sharply.

Striking in the Holland region is also the great importance of non-agrarian activities which cannot be labeled as industrial in the strict sense, particularly shipping, fishing and peat-digging.¹⁵⁰ Characteristic of the activities in the Holland countryside is also that – in general – they were more capital-oriented than labour-oriented.¹⁵¹ This situation, which is considered a main feature of the economy of the Dutch Republic after 1580,¹⁵² thus appears to have had a much longer history. Already from the 14th century onwards many of the non-agricultural activities in the Holland countryside required relatively large quantities of capital, for instance compared to Flanders. Not only did the Flanders countryside specialize in labour-intensive sectors, such as spinning

147. H.P.H. JANSEN, "Holland's advance", in *Acta Historiae Neerlandicae*, 10, 1978, p. 1-20, and W.P. BLOCKMANS, "The economic expansion of Holland and Zeeland", esp. p. 48-58.

148. Cf. below, section 6, p. 1152-1155.

149. Cf. below section 6, p. 1160, although this aspect will need further research. Cf. also J.L. VAN ZANDEN, *The rise and decline*, p. 35-40, and B.J.P. VAN BAVEL, "People and land".

150. Cf. A.M. VAN DER WOUDE, *Het Noorderkwartier. Een regionaal historisch onderzoek in de demografische en economische geschiedenis van westelijk Nederland van de late middeleeuwen tot het begin van de negentiende eeuw*, Wageningen, 1972, p. 343-346, who surmises that in the part of Holland north of the research area fishing and shipping were the most important source of employment.

151. Contrary to the opinion of W.P. BLOCKMANS, "The economic expansion", p. 58, who stresses rather the labour-intensive character. Cf. also below, section 6, p. 1154-1155 and 1159.

152. L. NOORDEGRAAF, "Dutch industry in the Golden Age", in K. DAVIDS & L. NOORDEGRAAF, eds., *The Dutch economy in the Golden Age*, Amsterdam, 1993, p. 131-157, esp. p. 141.

and carding, but also in those sectors which it had in common with Holland the emphasis in Flanders was more on labour-intensive production stages and a restriction of the use of labour-saving techniques. Both elements limited the need for capital, in sharp contrast to the situation in Holland. In the following period, this character of rural industries in Holland was even further enforced, since exactly the capital-intensive activities developed strongly here, such as dyeing, bleaching, herring fishing, lime burning and brick production. The expansion of these sectors in the late Middle Ages thus foreshadowed the situation in the Golden Age to a greater extent than assumed before.

5. Organization and Development of Proto-Industry in the Flanders Region

Now we will turn to the organization and the production relationships of these activities in the countryside. In the Flanders region, where almost only textile industries developed in the countryside, a strong diversity can be observed qua organization and production relationships. All kinds of forms of organization existed alongside and with one another. Still, there are clear differences between the various branches of the textile industry. In the linen industry the units of production were small, consisting of peasant households, working at home. The peasants combined linen production with the exploitation of their small holdings, mostly some 1 to 5 hectares in size. The means of production, which were not costly, were mostly owned by the producers.¹⁵³ At that, the producers in this region often used the flax they had grown on their own holdings, although in some cases also flax was imported from other regions.¹⁵⁴ In the latter case it was mostly bought by the producers. Wage labour played only a marginal role. Occasionally the weaving was put out by large farmers, who cultivated flax and had their wives and daughters spinning the yarn, in order to have it subsequently woven by a wage-labourer.¹⁵⁵ This, however, was an exceptional situation: most producers worked independently and for their own account, using their own capital. Most of them were small peasants, organizing the cultivation of flax, the processing of the flax, the spinning and the weaving all themselves, within their own household.

Thus, in the Flemish linen industry there was no putting-out system in the strict sense, but a *Kaufsystem*.¹⁵⁶ The transfer of the surplus-value did occur

153. Cf. E. THOEN, "A commercial survival economy", p. 120-122.

154. E. THOEN, *Landbouweconomie*, p. 996-1004, and P. STABEL, *De kleine stad*, p. 177-180.

155. E. THOEN, *Landbouweconomie*, p. 1001-1002.

156. Cf. for instance H. VAN DER WEE & P. D'HAESELEER, "Ville et campagne dans l'industrie linière à Alost et dans ses environs (fin du Moyen Âge - Temps modernes)", in J.M. DUVOSQUEL & E. THOEN, eds., *Peasants and townsmen*, Gent, 1995, p. 753-767, esp. p. 764-767, and W. HAAGEN, "'Uitbuiting-door-handel' als verklaringfaktor voor de vertraagde industrialisering van de linnennijverheid in Vlaanderen", in *Handelingen der Maatschappij*

through trade here. Although the producers mostly were independent, their position within the economic structure of the linen sector as a whole was weak. It was the merchants who held the strongest position, buttressed by staple and market privileges, restrictions on export of raw materials, trade regulations and production regulations, and also by their grip on the final production stages and the marketing of the product.¹⁵⁷ The bleaching of the linen, which was suppressed in the countryside, was concentrated in the cities and was mainly controlled by merchants.¹⁵⁸ To an increasing degree this capital intensive process was even performed outside Flanders: for example in 's-Hertogenbosch, and from c. 1570 also in Holland, especially in the area around Haarlem. In 1587, the latter region had at least 40 bleacheries where large quantities of Flemish linen were bleached.¹⁵⁹ The finishing of the linens in general was done within the cities, and it was thus also a way for the urban merchants to keep control of the final production stages and the marketing of the product.

All these elements greatly enforced the power of the linen merchants; they had an excellent basis for external control and monopsonistic exploitation, without engaging in production itself. Thus, this was a specific Kaufsystem, which can be labeled as a system of "exploitation-through-trade".¹⁶⁰ That merchants indeed were able to skim a large share of the surplus-value in this way becomes evident from a comparison between the sale prices of unbleached linen on domestic markets and the major production costs (raw material, spinning and weaving). Around the middle of the 16th century the difference was surprisingly high: c. 30-35 %, compared to 20-25 % earlier in the century and before, and only some 5 % around 1700.¹⁶¹ For the merchants the period around 1550 must have been the golden age of the linen industry. Asserting that the linen trade (*negociatie ende traficque*) was the principal sustenance (*het principaelste onderhoud*) of some of these quarters, as done by the Flemish government in 1565,¹⁶² is probably somewhat exaggerated, but it has some ground.

voor Geschiedenis en Oudheidkunde te Gent, 37, 1983, p. 215-243. This in contrast to the older view of H. Pirenne, *Histoire de Belgique*, Bruxelles, 1912, III, p. 248-249.

157. Cf. E. SABBE, *De Belgische vlasnijverheid*, p. 199-203, 212-213 and 230-243, and P. STABEL, "Urban markets, rural industries and the organisation of labour in late medieval Flanders: the constraints of guild regulations and the requirements of export oriented production", in B. BLONDÉ a.o., eds., *Labour and labour markets between town and countryside (Middle Ages-19th century)* (CORN Publication series 6), Turnhout, 2001, p. 147-150.

158. E. SABBE, *De Belgische vlasnijverheid*, p. 100-101 and 205-211.

159. H. KAPTEIN, *De Hollandse textielnijverheid*, p. 200-205, who demonstrates that this development started much later than assumed by E. SABBE, *De Belgische vlasnijverheid*, p. 190-193, 211 and 292-293. Sabbe has also underestimated the number of bleacheries in the Flemish cities, as shown by J. VERMAUT, "Vijf variaties", p. 191-192.

160. W. HAAGEN, "'Uitbuiting-door-handel'", p. 220-226.

161. C. VANDENBROEKE, "Social en conjuncturele facetten", p. 155-157.

162. *Placcaet-boeck ... van Vlaenderen*, part III.2, Ghendt, 1685, p. 960-962 (6 february 1565). Cf. also H. PIRENNE, *Histoire de Belgique des origines à nos jours*, part 3, Bruxelles, 1912, p. 247, who wrongly relates this to the linen industry in stead of the trade.

Typical of the Flemish linen sector – and probably connected with this particular aspect of it – was the existence of many intermediate wheels in the linen trade: the itinerant merchants (the *kutsers*) in the countryside; the village markets; the merchants in the regional market towns (particularly in Aude-narde); the merchant-bleachers; the wholesalers and intermediaries in larger cities, such as Ghent; and the big, often foreign merchants who accounted for a large share of the exports, like the Spanish merchants in Antwerp.¹⁶³ Ultimately, Flemish linens found their destinations for a significant part on foreign markets: in France, Italy, England, and to an increasing degree in Spain or, through Spain, in the New World.¹⁶⁴ Benefiting from all these – often enforced – wheels within wheels in the trade were particularly the merchants, large and small. All in all the Flemish linen sector thus had a very specific organization, differing from that in some other linen regions,¹⁶⁵ and also from the other rural textile industries in Flanders.

The rural woollen industry in this region was almost solely limited to the preparatory phases: carding, combing and spinning of the wool. These activities were largely organized in a putting-out system.¹⁶⁶ Although all kinds of production structures existed side by side, the production stages performed in the countryside were characterized in general by a strong dependency of the producers on the entrepreneurs, who often also supplied the raw material. Illustrating this is the example of Moorsele near Courtrai, where the women from the surrounding countryside came each Saturday to receive some wool from the Courtrai drapers, in order to comb and spin it, and to deliver the yarn and receive their wage.¹⁶⁷ The strong position held by the Courtrai drapers was additionally protected by the fact that only they were allowed to distribute wool here. Although this example is taken from a locality situated some 25 km from the research area, the same situation perhaps also applied there. In any case the wool was not produced, not even partly, on the family farms themselves, as most of the flax in the linen manufacture was. Most of the wool used did not even originate from the region itself. Although more indigenous wool was

163. E. SABBE, *De Belgische vlasnijverheid*, p. 273-277; J.A. GORIS, *Étude sur les colonies marchandes*, p. 289-315, and J. DAMBRUYNE, *Mensen en centen*, p. 253-257.

164. M. BOONE, "Les toiles de lin", and E. SABBE, *De Belgische vlasnijverheid* p. 171-174 and 261-273.

165. R. HOLBACH, *Frühformen von Verlag und Grossbetrieb in der gewerblichen Produktion (13.-16. Jahrhundert)*. VSWG Beihefte 110, Stuttgart, 1994, p. 177-181: Westfalia (some similarities), Brabant, Holland (mainly differences). Cf. also below section 6, p. 1151 for the situation in Holland.

166. Cf. also M. BOONE, "L'industrie textile", p. 31 vv., and R. HOLBACH, *Frühformen von Verlag*, p. 61 and 151-153.

167. G. ESPINAS & H. PIRENNE, eds., *Recueil de documents relatifs à l'histoire de l'industrie drapière en Flandre*, part I.1, Bruxelles, 1906, nr. 201 (1353), and H.-E. DE SAGHER A.O., eds., *Recueil de documents relatifs à l'histoire de l'industrie drapière en Flandre*, part II.3, Bruxelles, 1966, nr. 388 (1408). Cf. also R. HOLBACH, *Frühformen von Verlag*, p. 61.

used than formerly thought,¹⁶⁸ most of it was imported from distant regions: from England (the finest wool), Scotland and later also from Spain. This factor gave the merchants a strong grip over the main raw material.

At that, the potentialities of rural producers in the woollen industry were put under heavy restraints. The strong division of labour in the production process, inherent in the cloth industry, enlarged the possibilities (or even the necessity) for organization and control by the entrepreneurs. Also, there was – at least in the Flemish region – a rather strict separation between the functions of town and countryside, which further limited the possibilities of the rural people. They were not allowed to manufacture the yarn they produced into cloth, but depended on the marketing of the yarn, which was usually done by a third party. This dependency was even stronger when they could not afford to buy the wool themselves, and were dependant on wool advanced by merchants, often urban-based. The situation had probably been more free in the 13th century, but around 1300 possibilities were curtailed by the cities and the urban guilds, as we saw above. After that the weaving and the fulling were done in the cities, apart from some exceptions, as well as the expensive dyeing and finishing of the cloths.

All these and the aforementioned elements enabled the merchant-entrepreneurs, – among who particularly the merchant element dominated –, to exercise a strong external control on the woollen activities performed in the countryside and to hold a strong grip on the product, which partly was done by way of a hierarchical system with several intermediate layers.¹⁶⁹ The producers, though, working at home, were probably in most cases independent and mostly owned some means of production, at least some of the cheap instruments. The raw material, however, seems mostly to have been provided by the entrepreneurs, and wage labour (piece-wages) was important here. Thus, notwithstanding the diversity in organizational forms, in general the putting-out system seems to have been important in the Flemish rural woollen industry. Also, the role of wage labour and the degree of dependency on merchants-entrepreneurs was larger than in the Flemish linen industry.

In the tapestry sector the influence of entrepreneurs was even stronger. The necessary supplies of raw materials and semi-manufactured products, the risks, the high prices and the long production periods also made capital an all-important factor in this sector.¹⁷⁰ Often, the relatively expensive instruments and the

168. A. VERHULST, “La laine indigène dans les anciens Pays-Bas entre le XII^e et le XVII^e siècle. Mise en oeuvre industrielle, production et commerce”, in *Revue Historique*, 504, 1972, p. 281-322, esp. p. 299-302. Cf. also Y. FUJII, “Draperie urbaine et draperie rurale dans les Pays-Bas méridionaux au Bas Moyen Âge”, in *Journal of Medieval History*, 16, 1990, p. 77-97, esp. p. 81-82.

169. R. HOLBACH, *Frühformen von Verlag*, p. 151-155, and E. COORNAERT, “Draperies rurales, draperies urbaines. L'évolution de l'industrie flamande au Moyen Âge et au XVI^e siècle”, in *Revue Belge de Philologie et d'Histoire*, 28, 1950, p. 59-96, esp. 75-90.

170. M. VANWELDEN, *Het tapijtweversambacht te Oudenaarde*, p. 82 and 100-101.

costly dyed yarn were advanced or leased out by the tapestry masters to the weavers.¹⁷¹ At that, many tapestry workers incurred debts and owed money to an entrepreneur, thus being bound to their employer. In the 16th century, certainly the producers in the countryside had clearly become subjected to capital. Many tapestry weavers from the villages had to come to their masters in Audenarde each Sunday, or – as other sources have it – each Thursday, to deliver the products, to collect their money (a piece-wage) and to receive new wool and yarn.¹⁷² Possibilities for rural weavers were very limited. In all respects they were subordinated to these urban entrepreneurs and to the control of the urban guild,¹⁷³ a guild which in its turn was dominated by the big tapestry masters. Guild regulations forbade the rural weavers to hire apprentices, strongly limited their possibilities to engage in trade, restricted their freedom to choose an employer and hindered them in working for their own account.

In this sector, the labour force mainly consisted of wage labourers, not independent producers. Many weavers worked for piece-wages, and, additionally, the tapestry workers themselves often employed some hands. Although the number of journeymen was limited formally to three per tapestry master, the number of employees was unrestricted and various forms of subcontracting were used. All in all, one can thus observe the emergence of hierarchical concentrations, dominated by a few urban entrepreneurs. These entrepreneurs also possessed the contacts with the most important market, Antwerp. Often the tapestry merchants in Antwerp were connected through family ties with the entrepreneurs in Audenarde. They commissioned the tapestry-masters, – sometimes many of them at the same time –, who carried out these assignments by way of tapestry-weavers/workers, based for an important part in the countryside.¹⁷⁴ The position of these rural workers was very weak, which led to all kinds of abuses, and sometimes to unrest among the workers, as happened in 1539. Not much later, in 1544, Charles V promulgated a decree which gave the tapestry sector stricter regulations, brought rural workshop-masters under the jurisdiction of urban guilds, restricted the number of apprentices to only one per master and limited the mobility of journeymen considerably.¹⁷⁵ By way of this decree the government probably tried to eliminate the worst abuses, to safeguard quality and to protect the independent producers somewhat. However, shortly afterwards, in Audenarde the decree was replaced by a new, separate decree, which offered the entrepreneurs more freedom in the production.

171. M. VANWELDEN, *Het tapijtweversambacht te Oudenaarde*, p. 46-47 and 82.

172. F. VAN OMMESLAEGHE, *De Oudenaardse wandtapijten*, p. 122.

173. P. STABEL, *De kleine stad*, p. 191-194. Cf. for the following also ID., “Urban markets”, p. 152-153, and the current PhD research by lic. Martine Vanwelden.

174. F. VAN OMMESLAEGHE, *De Oudenaardse wandtapijten*, p. 73-74 and 82-91. Cf. also H. PIRENNE, “Note sur la fabrication”, in *Vierteljahrschrift für SWG*, 4, 1906.

175. Edited by J. LAMEERE & H. SIMONT, eds., *Recueil des ordonnances des Pays-Bas*, second series, part 5, Bruxelles, 1910, p. 40-50.

This shows how the production relationships in the tapestry sector could not be reversed anymore. Certainly when compared to the Flemish linen industry this sector shows a large share of wage labour, a sharp socio-economic polarization and a strong position of entrepreneurial capital. The latter applies particularly to the commissions, instruments, raw materials and marketing. Next to the influence of capital, however, also coercive power was important in the Flemish tapestry sector. The most notable example of this is to be found in the attempts by cities and/or urban guilds to bring the rural labour force under their control, which even led to a struggle between the cities of Audegarde and Geraardsbergen over the grip on the tapestry workers in the Land van Aalst in the years around 1540.¹⁷⁶ Also, masters had a grip on the rural workers by way of trade restrictions, production regulations and – in individual cases – by their outstanding debts.

In the Flemish tapestry sector rural labour was mainly organized in a putting-out-system. The manufactory, however, did not really develop here: production hardly knew any centralization. Sometimes one or more journeymen or employees worked at their master's workplace, but mostly the tapestry workers performed their labour at home.¹⁷⁷ The entrepreneurs in the tapestry sector invested mainly in working capital, such as supplies, dyestuffs and half-manufactured articles. There was no need for them to invest in costly fixed capital goods.

Thus in none of the Flemish branches of the rural textile industry can a development towards the manufactory be observed. In general, dynamics in proto-industrial sectors was limited here. The tapestry industry, which emerged relatively late here, was the most capitalist in the Flemish region, with a clear dominance of labour input provided by wage labourers, a rather general separation of labour and the means of production, and a strong position of the merchant-entrepreneurs. This sector, however, was an exception in the region. The cloth sector and certainly the linen sector, by far the biggest of all, were characterized by independent producers often owning the means of production themselves. Most of them were peasants having their own small holding, which offered them some security and independence. In the sphere of distribution, however, the power of urban merchants was very strong, often sustained by force, an extensive use of privileges and an enforced labour division between town and countryside.¹⁷⁸ This situation remained in place over a long period, since these typical Flemish sectors displayed a strong degree of stability.

176. E. ROOBAERT, "Het legwerkersambacht", p. 44-47.

177. E. ROOBAERT, "Het legwerkersambacht", p. 50.

178. The latter contrasts in some measure with P. STABEL, "Urban markets", p. 150 and 153, who rather seems to stress functional causes in his conclusion.

6. Organization and Development of Proto-Industry in the Holland Region

In the Holland region, the organization and development of non-agricultural rural industries was clearly different. This is striking, for instance, in the linen industry, where putting-out and wage-labour played a much larger role than in Flanders.¹⁷⁹ The spinners and weavers mainly worked at home, but they were less independent and did often not possess the means of production themselves. The flax was not produced by the spinners or weavers, as often was the case in Flanders, but delivered or advanced to them by third parties, often even imported from abroad. Moreover, to an increasing degree the flax was already processed and spun abroad, and the yarn was imported, for instance through the specialized markets for linen yarn such as the one in Amsterdam, established in 1553.¹⁸⁰ The yarn trade was large scale already at an early date, and was mainly controlled by big merchants. Examples are Thomas Corluick and Jan van Hare, both from Utrecht, who regularly passed the tol at Schoonhoven (1478-1481) transporting yarn worth dozens or even hundreds of rhine guilders each time.¹⁸¹ This situation, which differed strongly from that in Flanders, contributed to a separation between producers and the means of production. To a lesser extent this also applied to the hemp sector. A large share of the hemp used for the production of ropes, nets and canvas was produced in the region itself, but more and more hemp was imported from the Baltic region.¹⁸²

In the Holland cloth industry it was the urban drapers who held a strong position, controlling and organizing almost all stages of the production process. Although the drapers sometimes emanated from the group of retail traders, the dominance of the merchant element was weaker here than was the case in Flanders.¹⁸³ Their position vis-à-vis the textile workers in the countryside was a strong one. The division of the production stages in the cloth industry, and also the necessity of costly finishing, – a sector which was even more important in Holland than in other cloth regions –, gave the urban entrepreneurs ample possibilities for obtaining a strong position. The country dwellers who processed the wool were mainly wage-labourers; most of them were impoverished, living in huts.¹⁸⁴ The spinning was mainly done by women, but

179. H. KAPTEIN, *De Hollandse textielnijverheid*, p. 212-214 and 234.

180. J.G. VAN DILLEN, ed., *Bronnen tot de geschiedenis van het bedrijfsleven en het gildewezen van Amsterdam*, 's-Gravenhage, 1929, Rijks Geschiedkundige Publicatiën, 69, nr. 385 (4 March 1553).

181. J.G. SMIT, ed., *Rekeningen van de Hollandse tolleren*, p. 111-166 (E).

182. J. DE VRIES & A.M. VAN DER WOUDE, *The first modern economy*, p. 271.

183. R. DUPLESSIS & M.C. HOWELL, "Reconsidering the early modern urban economy. The cases of Leiden and Lille", in *Past and Present*, 94, 1982, p. 49-84, esp. p. 53-59, and R. HOLBACH, *Frühformen von Verlag*, p. 95 and 150-151. H. BRAND, *Over macht*, p. 171-180, however, rather stresses the merchant element.

184. J. DE VRIES, *Dutch rural economy*, p. 68, on the basis of the above-mentioned reports of 1540 and 1541.

sometimes also by men, as mentioned explicitly for the villages of Kudelstaart, Kalslagen and Koudekerk aan de Rijn.¹⁸⁵ This situation, which was exceptional compared to most other regions,¹⁸⁶ was perhaps caused by poverty and the necessity of obtaining additional income, but also by the use of technology (i.e. the spinning-wheel) and the luxurious quality of the wool typically used in Holland. This upgraded the occupation of spinning, leading to a different gender division of labour than elsewhere.

Much of the wool used in Holland was not from the region itself but imported from England and Scotland, similar to the situation in Flanders. This also contributed to the strong position of merchant-entrepreneurs and drapers. The rural carders and spinsters occasionally bought the wool themselves, but mostly they received the wool from a draper in the city and later returned the yarn,¹⁸⁷ for which they received a piece-wage. In some cases a development towards a rural manufactory can be observed, for instance in the villages around Leiden. The reports from 1540-1541 describe several workplaces,¹⁸⁸ where women and girls were combing/carding and spinning the wool, some three to five looms were operated and also the fulling was done.

A typical aspect of the Holland textile industries was the importance of the finishing industries, dyeing and bleaching. These processes require large quantities of fuel, meadows, dye-stuffs and buildings, and are highly capital intensive, leading to an even stronger position for merchant-entrepreneurs.¹⁸⁹ In the second half of the 16th century, as these sectors further developed and increasingly used imported semi-fabricated goods, such as foreign yarn which was then bleached in Holland, the dominance of wealthy (merchant-)entrepreneurs in these sectors increased even further. This is a noticeable example of the weakening of the labour-intensive stages of the production processes and a strengthening of the capital-intensive stages and the high value-added industries in Holland.

In the other non-agricultural activities in the countryside too a growing use of wage-labour and a strong position of the urban elite can be observed. This position was founded mainly on the investments the urban merchant-entrepreneurs had made in the means of production, from an early date onwards. The Leiden patriciate, for instance, in the 14th century had already acquired large interests in brick- and lime-ovens.¹⁹⁰ Both industries were highly capital in-

185. R. FRUIN, ed., *Enquete*, p. 135, IDEM, ed., *Informacie*, p. 296-297, and N.W. POSTHUMUS, *Geschiedenis*, part I, p. 289-294.

186. Cf. E.M. KLOEK, *Wie hij zij, man of wijf. Vrouwengeschiedenis en de vroegmoderne tijd: drie Leidse studies*, Hilversum, 1990, p. 63-73.

187. N.W. POSTHUMUS, *Geschiedenis*, part I, p. 137-139 and 289-295.

188. E.C.G. BRÜNNER, *De order*, p. 149, 221 and 232-233.

189. I. TURNAU, "The organization of the European textile industry from the thirteenth to the eighteenth century", in *Journal of European Economic History*, 17, 1988, p. 583-602, esp. p. 590-592.

190. F.J.W. VAN KAN, *Sleutels tot de macht. De ontwikkeling van het Leidse patriciaat tot 1420*, Hilversum, 1988, p. 89-90, and H. BRAND, *Over macht*, p. 184-187.

tensive: they required relatively expensive capital goods, but also land and fuel. The latter element made it attractive for urban investors to combine these activities with investments in peat-digging operations. Members of the patrician family van Boshuizen, having interests in brick-ovens and lime-kilns around Leiden and Alphen, for instance, in the 15th century exploited a peatery in nearby Hazerswoude,¹⁹¹ which required huge investments in drainage canals and transport facilities.

This development also had radical consequences for the organization of the peat industry in Holland. In the 13th-14th centuries there was some wage-labour in this sector, at least part-time, but probably most peatmen in Holland were peasants digging peat independently and on their own account.¹⁹² In the peat districts by far the largest part of the land was owned by the peasants. At that, all land was often located near one of the numerous waterways, so transport of peat was relatively easy.¹⁹³ From the end of the 14th century onwards, however, this situation started to change. More and more land in the peat districts of Holland passed into the hands of large urban investors, some of them with the explicit goal of obtaining peat. At that, drastic practical changes occurred in the peat sector itself,¹⁹⁴ which gained momentum at the beginning of the 16th century. More and more one had to strike peat layers that were accessible less easily, which became necessary on account of the exhaustion of the peat, and attractive in view of high fuel prices. This, however, required more capital investment for new techniques and tools, for building new dikes and water-ways, and also for paying the rising fines on the taking of peat.¹⁹⁵ The urban entrepreneurs and consortia of investors, who already were active in the peat digging before, were now in a position to strengthen their grip on this sector.

These developments led to fundamental changes in the organization of peat-digging, with large capitalist investors/owners and wage labourers taking the place of small-scale independent peasants.¹⁹⁶ What did not change were the earnings of the labourers: they were small, which applied to both wage-labourers and small independent peatmen. The peat-regions were known for their penury. As was recorded for one peat-village, Kalslage, people were so poor "that they did not how to tell".¹⁹⁷ Forced by poverty, other family members often assisted

191. Oud-archief Hoogheemraadschap van Rijnland inv.nr. 3787 (3 February 1434). With thanks to dr. Petra van Dam, who kindly shared her information on this operation.

192. Cf. the situation in the north of Flanders around 1400: B. AUGUSTYN, "Traces of a proto-industrial organization".

193. A. VAN DER SCHOOR, *Het ontstaan van de middeleeuwse stad Rotterdam. Nederzettingsgeschiedenis in het Maas-Merwedegebied van ca. 400-1400*, s.l., 1992, p. 129-132 and 140.

194. Cf. J. DE VRIES & A.M. VAN DER WOUDE, *The first modern economy*, p. 37-40, although developments perhaps took place more gradual and started earlier than assumed there.

195. Cf. also above section 4, p. 1137-1139.

196. W.J. DIEPEVEEN, *De vervening*, p. 86-90.

197. R. FRUIN, ed., *Informacie*, p. 297-298 (Kalslage) and 302-303 (Zegwaard).

the male labourers, working from early in the morning until late in the evening. Women and children helped for instance with carrying, stacking and turning the turves, in order to earn some extra income.

A similar process as that in the peat-sector occurred in fishing and transportation in Holland. Initially, these sectors were mainly peasant-dominated, with respect to the origin of labour and the ownership of ships and other requisites. At the end of the late Middle Ages, however, these sectors underwent major changes. Shippers covered ever greater distances, with bigger and costlier ships, which became more specialized and could not be used anymore for both fishing and carrying cargo. These developments sharply increased the levels of investment. This led to an accumulation of the means of production, which mainly got into the hands of urban investors. Although the existence of shares (*parten*) in ships also enabled rural people with smaller purses to invest in herring busses and other ships, and thus initially probably spread the ownership of the ships at least somewhat, the process of accumulation was irreversible. Already in the late-15th century ships became increasingly owned by wealthy burghers, who often invested in several ships at the same time.¹⁹⁸ The crew of the ships, however, still consisted for a substantial part of men from the countryside,¹⁹⁹ who became more and more separated from the means of production.

Particularly in the herring fishery, where change was greatest, this process can be observed clearly. Simultaneously, the position of large wholesale merchants in the herring trade became increasingly stronger. Often backed by urban ordonnances, they increasingly pushed away fishermen and petty traders from the herring markets.²⁰⁰ In branches of the inland fishery in Holland similar processes seems to have taken place even earlier. Around the middle of the 15th century there was the emergence of large, internationally oriented companies, in which fish merchants played an important part.²⁰¹ Also, it can be observed that already in the 14th century patricians from Leiden and Rotterdam leased the larger inland-fisheries and actively participated in the fish trade.²⁰² The competition for leases of fisheries and the high capital needs have probably strongly contributed to the heavy and early polarization in this sector.

Each non-agricultural sector in the Holland countryside had thus its own specific development, but there are striking similarities shared by almost all sectors. During the 14th-16th centuries sectors such as shipping, fishing,

198. Cf. R. FRUIN, ed., *Informacie*, p. 279. Cf. also H.E. VAN GELDER, "Gegevens betreffende de haringvisserij", p. 3-4 and 22.

199. H.A.H. KRANENBURG, "Het visserijbedrijf", p. 329-332.

200. H.A.H. KRANENBURG, "Het afslagwezen van de visserij in het Beneden-Maasgebied, 1400-1600", in *Zuid-Hollandse Studiën*, 4, 1956, p. 72-92, esp. p. 79-84.

201. P.J.E.M. VAN DAM, *Vissen in veenmeren. De sluisvisserij op aal tussen Haarlem en Amsterdam en de ecologische transformatie in Rijnland, 1440-1530*, Hilversum, 1998, p. 171-189.

202. F. VAN KAN, *Sleutels tot de macht*, p. 85-87.

shipbuilding, peat-digging, brick-production and lime-burning all underwent processes of scale-enlargement, capital-intensification and accumulation, in the course of which they all increasingly became controlled by urban capital. The urban entrepreneurs mostly left the practical organization of the production to a large extent in the hands of foremen, managers or tenants, but they invested heavily in costly fixed capital goods. This was clearly opposed to the situation in Flanders, where the grip of the urban elite on the rural industries was limited mainly to the sphere of distribution.

Also, almost all non-agricultural activities in the Holland countryside have in common that they were often performed by wage-labour, and this to a rapidly increasing degree. This certainly applies to sectors such as peat-digging, fishing and brick-production. The reports of 1494 and 1514 already contain many references to activities performed *om loen* (for wages) or *om een dachhuyere* (for daily wage),²⁰³ but in the course of the 16th century the importance of wage-labour further increased and rapidly. The only exception to this is the hemp-sector, where the cultivation of the hemp, and part of the processing (the retting and braking, carried out mostly during winter) was still done by the peasants on their small farms. Since this sector was also one of the few in Holland which was subject to some market force and privileges used by the cities, as we have observed above, it comes closest to the situation typical of proto-industry in the Flemish region. More particularly it resembles the situation in the Flemish linen industry, although it was certainly not possessing the importance of this sector which was the dominant non-agricultural activity there.

In Holland, however, the hemp sector was an exception: non-agricultural activities here were mainly performed by wage-labour, and this to an increasing degree. Initially, perhaps most of these activities were combined with a small holding and performed on the farm itself. To an increasing degree, however, the rural folk combined agriculture with non-agricultural activities as wage-labour performed outside their own villages; for instance in peateries, on herring-busses or at brick-ovens. But still, most labourers in Holland probably also had their own small farms, as can at least be deduced from the large share of the land owned by peasants and the great fragmentation of land ownership. These two elements were characteristic for all of Holland but particularly of the parts where proto-industrialization was strongest, such as the peat-region in the research area, and also Waterland and the Gooi region.²⁰⁴ Peasants here

203. Cf. for instance R. FRUIN, ed., *Enquete*, p. 154, 158 and 173, and ID., ed., *Informacie*, p. 273, 281, 310, 353 and 361.

204. K.P.J. JANSE, "De koptienden als bron voor de economische geschiedenis van het Gooi, 1500-1850", in *Economisch- en Sociaal-historisch Jaarboek*, 55, 1992, p. 35-74, esp. p. 49-50, 56-58 and 60-62; B.J.P. VAN BAVEL, "Structures of landownership, mobility of land and farm sizes. Diverging developments in the northern part of the Low Countries, c. 1300 – c. 1650", to be published in B.J.P. VAN BAVEL & P. HOPPENBROUWERS, eds., *Access to land*, CORN Publication series 5, Turnhout, 2003, and P. HOPPENBROUWERS, "Mapping an unexplored field. The Brenner debate and the case of Holland", in P. HOPPENBROUWERS &

probably also succeeded in undertaking some subsistence-farming.²⁰⁵ Physical conditions were not favourable, particularly as a result of high water tables, but still some arable farming was possible, and these possibilities only increased after the large-scale introduction of polder drainage by way of windmills. In the Krimpenerwaard, for instance, there are indications that arable farming (including the cultivation of wheat, spelt and oats) was rather important in the decades around 1500.²⁰⁶ It is also interesting to note that imports of grain into Holland only started to rise substantially after c. 1500 and particularly after c. 1530.²⁰⁷ Around 1500, total grain imports for all of Holland equaled the production of only c. 30,000 hectares of land, which does not seem to be a lot in a province where half of the population lived in cities. At that time, at least the rural population in Holland must have been able to feed itself.

Possibilities for arable farming and subsistence-farming were thus present in the Holland region, at least more than sometimes is assumed. But, although probably non-agricultural activities in this region were initially combined with some subsistence-farming, the activities themselves were largely separated from the farm, and increasingly so. Only the incorporation of non-agricultural activities into a labour-cycle formed a clear link between the two. This link, and the presence of some subsistence farming, disappeared from the mid-16th century onwards as peasants in Holland increasingly lost their land to large urban investors.²⁰⁸ Only then was the link between non-agricultural activities and the small farms in the Holland region broken completely.

Common to most sectors in Holland was also the importance of seasonal work. This goes, for instance, for herring-fishing, which had a season starting in August (later, in the 16th century, already in June or around Whitsuntide) and lasting until late-October or the beginning of November, but also for peat-digging, which was only performed from March to July since the turves had to be dry before the frost set in.²⁰⁹ Bleaching and brick-production also had short

J.L. VAN ZANDEN, eds., *Peasants into farmers? The transformation of rural economy and society in the Low Countries (Middle Ages-19th century) in the light of the Brenner debate*, CORN Publication series 4, Turnhout, 2001, p. 41-66, esp. p. 42-47.

205. Contrary to R. BRENNER's assumption in "The Low Countries", p. 310-313 and 316-317.

206. Cf. B. IBELINGS, "Aspects of an uneasy relationship", p. 267. This aspect certainly needs further investigation.

207. Cf. M. VAN TIELHOF, "Grain provision in Holland, ca. 1490-ca. 1570", in P. HOPPENBROUWERS & J.L. VAN ZANDEN, eds., *Peasants into farmers? The transformation of rural economy and society in the Low Countries (Middle Ages-19th century) in the light of the Brenner debate*; CORN Publication series 4, Turnhout, 2001, p. 202-219. Our conclusion here is based on her figures on imports, but contrary to her final conclusion. Van Tielhof, however, does not provide figures on grain production in Holland, but uses only qualitative and rather unreliable sources for this part of her reasoning.

208. B.J.P. VAN BAVEL, *Transitie en continuïteit. De bezitsverhoudingen en de plattelands-economie in het westelijke gedeelte van het Gelderse rivierengebied, ca. 1300-ca. 1570*, Hilversum, 1999, p. 385-390 and 512-516, although more research is needed on this point.

209. F. EGMOND, *Een bekende Scheveninger. Adriaen Coenen en zijn Visboek van 1578*, Den Haag, 1997, p. 112, and G. BORGER, "Draining-digging-dredging. The creation of a new

production-seasons: from the beginning of April to the end of September, as rain and later frost made operations impossible.²¹⁰ Since these seasons partly coincided with the busiest period in agriculture, as the mowing, haying and crop-harvesting had to be done mainly in June and July, this resulted in a peak-demand for labour. Probably as a result of this, alongside local people migrant workers were often employed in all of these Holland sectors. The parish of Leiderdorp, for instance, in 1514 had among her communicants “50 persons working in the brick-ovens and leaving in winter”.²¹¹ In the peat-sector, where demand for labour was very strong in the short digging-season, also numerous people from elsewhere were employed, notwithstanding some attempts of local authorities to restrict this by way of stipulations embodied in the local by-laws.²¹²

All in all, seasonal labour and migrant labour were very important to the non-agricultural activities performed in the Holland countryside. The rise of migrant labour in Holland, which is often dated to the Golden Age,²¹³ thus appears to have had much older roots, and is connected partly to the rise of proto-industrial sectors from the 14th century onwards. The importance of ground-work (spading, digging and diking), which also used large numbers of temporary migrant labourers, still added to this. In 1510, for instance, the work on the dike at Spaarndam alone employed many hundreds of people, recruited in villages all over Holland.²¹⁴ In the following centuries, the number of people involved in migrant labour and the distances to the areas of origin of the labourers increased, also because of the disappearance of the small-holders in Holland and their replacement as seasonal workers by foreign migrant labourers, particularly from c. 1570 onwards.²¹⁵ The importance of seasonal and migrant work in Holland as such, however, appears to have had its roots already in the 14th-century rise of non-agricultural activities in the countryside. This situation differs strongly from, for instance, that in the Flemish region, where these activities in the countryside hardly involved any seasonal or migrant labour.

The products of proto-industrial activities in the Holland countryside were to a large extent transported to non-local markets or even exported abroad. The IJssel bricks and paving-tiles found markets in England at least from the late-14th century onwards, as shown by the cargoes of some 10,000 to 35,000

landscape in the peat areas of the Low Countries”, in J.T.A. VERHOEVEN, ed., *Fens and bogs in the Netherlands. Vegetation, history, nutrient dynamics and conservation*, Dordrecht, 1992, p. 131-171, esp. p. 152.

210. J.M.W.G. LUCASSEN, *Naar de kusten van de Noordzee. Trekarbeid in Europees perspectief, 1600-1900*, Gouda, 1984, p. 93, 95, 102 and 107.

211. R. FRUIN, ed., *Informacie*, p. 286-287: *50 wercken aen de steenplaetsen die winters vertrecken*.

212. W.J. DIEPEVEEN, *De verving*, p. 90-91.

213. J.M.W.G. LUCASSEN, *Naar de kusten van de Noordzee*, p. 159-171, and J.L. VAN ZANDEN, *The rise and decline*, p. 157-167.

214. P. VAN DAM, “Digging for a dike”.

215. J.L. VAN ZANDEN, *The rise and decline*, p. 158-159.

bricks each brought by Gouda and Rotterdam ships to Newcastle, Great Yarmouth and Chichester.²¹⁶ Also large quantities were transported as "ballast" on ships going to Denmark and the Baltic region, an export which developed strongly in the 15th century and grew further in the next century.²¹⁷ Even the biggest merchants, such as Pompejus Occo, concerned themselves with the trade in bricks, for instance acting for the king of Denmark. The peat was mainly sold in the cities of Holland, but also exported to Flanders, to Brabant, and to the saltworks in Zeeland. Notwithstanding incidental attempts of authorities to restrict the export of peat, for fear of dearth or fuel shortages,²¹⁸ exports increased rapidly in the 16th century. In the period 1540-1565 yearly some 1.5 million tuns of turf were abroad exported from Holland.²¹⁹

Dutch herring also developed into an important export product, winning markets in England as early as from around 1300 onwards.²²⁰ Particularly ships from Brielle were engaged in supplying English harbours with herring. Also, already at the end of the 14th century huge amounts of herring were shipped from Holland up the river Rhine. Each year some 150-200 shipments of herring, mainly on ships from The Hague and Brielle, passed the toll at Tiel, with a total of more than 400 last (= 600,000 liters),²²¹ which equals the total catch of some 16 herring-ships. Later, from about 1450, also markets in Flanders and Brabant were increasingly won by herring from Holland.²²² Another Holland export popular on international markets was cheese. Around 1395, some 7,000 cheeses from Holland per year passed the same toll on the river Waal on their way to the markets in the Rhine region. At the beginning of the 16th century Holland cheese also conquered markets in the southern parts of the Low Countries, for instance at the Antwerp fairs.²²³ Beer and textiles were also

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216. H.J. SMIT, ed., *Handel met Engeland*, part 1, nrs. 736 (1393/1394) and 867 (1408/1409), Rijks Geschiedkundige Publicatiën, 86: nrs. 270 (1512-1513) 47, and 418 (1523-1524) 4, and Rijks Geschiedkundige Publicatiën, 91: nr. 964 (1558-1559) 15, 16, 19 and 25.
217. W.J.A. ARNTZ, "Export van Nederlandsche baksteen in vroegere eeuwen", in *Economisch Historisch Jaarboek*, 23, 1947, p. 57-133, esp. p. 61, 65-69 and 82-83. Cf. also G.W. KERNKAMP, ed., "Rekeningen van Pompejus Occo aan koning Christiaan II van Denemarken, 1520-1523", in *Bijdragen en Mededeelingen van het Historische Genootschap*, 36, 1915, p. 255-329, esp. p. 276-277.
218. W.J. DIEPEVEEN, *De vervening*, p. 46-47 and 105-106.
219. W.J. DIEPEVEEN, *De vervening*, p. 133-137. Cf. also B. IBELINGS, "Aspects of an uneasy relationship", p. 263.
220. H.J. SMIT, ed., *Bronnen tot de geschiedenis van den handel met Engeland, Schotland en Jerland*, part 1.1, Rijks Geschiedkundige Publicatiën, 65, nrs. 161 (1305-1306), 187, 238, 269, 484, 736 (1393-1394) and 842 (1406-1407), and N.J.M. KERLING, *Commercial relations of Holland and Zeeland with England from the late 13th century to the close of the Middle Ages*, Leiden, 1954, p. 89-98.
221. J.C. WESTERMANN, *De rekeningen*, p. 47-79.
222. H. VAN DER WEE, "De handelsbetrekkingen tussen Antwerpen en de Noordelijke Nederlanden tijdens de 14^{de}, 15^{de} en 16^{de} eeuw", in *Bijdragen tot de Geschiedenis der Nederlanden*, 20, 1965/1966, p. 267-285, esp. p. 270-275.
223. P.N. BOEKEL, *De zuivelexport van Nederland tot 1813*, Utrecht, 1929, p. 11-30, and H. VAN DER WEE, *The growth of the Antwerp market and the European economy (fourteenth-sixteenth centuries)*, The Hague, 1963, p. 217.

exported from Holland in large quantities, although their share on foreign markets seems to have declined from c. 1520 onwards.²²⁴ Other products, and certainly typically Holland products, however, felt less competition and remained highly succesful.

In the field of marketing all of these Holland products thus also shared similar characteristics. Firstly, they all were succesfull on international markets, starting as early as the (late-)14th century.²²⁵ Also, and this was partly the result of the specific nature of these products, production remained partly or even completely based in the countryside, which contrasts with the main export-products from most other countries. Thirdly, non-economic forces seem to have played a minor role in Holland, which applies to both production and trade in these sectors. Although some traces of coercion can be found, they possess little importance in comparison to Flanders or other regions.²²⁶ The only clear exceptions in Holland are the hemp sector, which was – and this is probably no coincidence – the most peasant-dominated activity here,²²⁷ and the brewing and cloth industries. The latter sectors were – again no coincidence – the ones where urban industries were hit hardest by increasing competition on international markets and declining market share, which probably induced them to apply force in their home region in order to retain their positions. These sectors, however, were an exception in Holland. The position of the urban entrepreneurs/investors, on the other hand, was strong in the rural activities in the Holland countryside, and it became even stronger over time. This, however, was mainly the result of the high and ever increasing capital needs which was also characteristic of non-agricultural activities in rural Holland.

On the basis of the preceding it is also possible to say something about the degree of specialization and occupational differentiation in the countryside in 16th-century Holland,²²⁸ although it remains difficult to reach any firm con-

224. J.L. VAN ZANDEN, "Holland en de Zuidelijke Nederlanden in de periode 1500-1570. Divergerende ontwikkelingen of voortgaande economische integratie?", in E. AERTS a.o., eds., *Studia historica oeconomica*, Leuven, 1993, p. 357-367, esp. p. 363-365, and J. DE VRIES & A.M. VAN DER WOUDE, *The first modern economy*, p. 274-279.

225. As opposed to the common view, for instance ventilated by R.S. DUPLESSIS, *Transitions to capitalism in early modern Europe*, Cambridge, 1997, p. 115, that Holland industries in the late Middle Ages worked for home markets.

226. Contrary to the picture for Holland as sketched by L. NOORDEGRAAF, "Domestic trade and domestic trade conflicts in the Low Countries. Autonomy, centralism and state-formation in the pre-industrial era", in S. GROENVELD & M. WINTLE, eds., *State and trade. Government and the economy in Britain and the Netherlands since the Middle Ages*, Zutphen, 1991, p. 12-27, esp. p. 13 and 20.

227. Cf. the conclusion below section 7, p. 1163.

228. Cf. the more recent contributions to the discussion, mainly by L. NOORDEGRAAF, "Het platteland van Holland"; J.L. VAN ZANDEN, "De prijs van de vooruitgang? Economische modernisering en sociale polarisatie op het Nederlandse platteland na 1500", in *Economisch-en Sociaal-historisch Jaarboek*, 51, 1988, p. 80-92, and J. DE VRIES, "The transition to capitalism in a land without feudalism", in P. HOPPENBROUWERS & J.L. VAN ZANDEN,

clusions. On the one hand, the rural folk here seem to have combined many different non-agricultural activities: during the various seasons of the year, or even at the same time. Also, they often combined these activities with the exploitation of small holdings and with some subsistence farming. At an early stage, however, the importance of agricultural activities in the countryside in Holland was surpassed by that of non-agricultural activities. This stage can be dated to the 15th century, which is exceptionally early. Also, already at that time, these non-agricultural activities were almost completely oriented towards non-local or even non-regional markets. Simultaneously, the degree of specialization also probably increased here. The period around 1500, often used as a benchmark date in this field, was thus part of a process which had already started much earlier and even intensified in the course of the 16th century. From the middle of the 16th century onwards, the Holland countryside also underwent a process of transformation in the agricultural sector.²²⁹ In this period, wealthy burghers invested heavily in land and built impressively large landownership, a process which went on at the expense of Holland peasants, who lost control over the land. Small peasant farms were gradually replaced by large tenant farms, a process which was accompanied by a strong specialization and commercialization of agriculture in Holland. The latter development, much more than the subsidence of the soil in the 14th century, really swept away the link between non-agricultural activities in the countryside on the one hand and small farms and some subsistence farming on the other.

On the basis of the preceding it is possible to sharpen the chronology of rural developments in Holland. In the first phase, during the 14th and 15th centuries, the performance of proto-industrial activities by peasants was only intensified as a result of the increasing difficulties with arable farming, since these forced peasants to find additional sources of income. At the same time, during this first phase, the character of these activities started to change as a result of the above-described developments in production relationships and organization of rural industries. In the more general industries, such as brewing, cloth and linen production, in Holland the role of capital intensive production stages and of urban capital increased greatly, which also led to a concentration in the cities. Developments were even much stronger in almost all typically "Holland" branches of non-agricultural rural activities, such as brick-production, lime burning, transport, fishery and peat digging. Already from the 14th century onwards, and progressing to the late 16th century, these sectors witnessed an increasing capital intensity, a growing role of urban investors, strong accumulation and proletarianization, thus contributing strongly to the transition of the

eds., *Peasants into farmers? The transformation of rural economy and society in the Low Countries (Middle Ages-19th century) in the light of the Brenner debate*, CORN Publication series 4, Turnhout, 2001, p. 67-84, esp. p. 76-80.

229 . B.J.P. VAN BAVEL, "Land, lease and agriculture. The transition of the rural economy in the Dutch river area from the fourteenth to the sixteenth century", in *Past and Present*, 172, 2001, p. 3-43, esp. 33-34 and 40-43.

rural economy. In the 16th century, as the investments by burghers seem to have shifted more to landownership, this process went into its second phase. It was during this phase, as peasant landownership was increasingly replaced by large landownership, that the peasant element in non-agricultural activities in the Holland research area started to disappear completely.²³⁰

7. Concluding remarks

This investigation into the market-oriented non-agricultural activities in the late-medieval countryside shows that significant differences existed between the two research areas in the Low Countries. In the first place with respect to the importance of these activities. In the Flanders region, it substantially and continuously gained importance in the course of the period, employing a quarter of labour-input around 1570. In the Holland region the share of non-agricultural activities in rural labour-input was even higher, amounting to no less than four-tenths of the total input. However, the peak was reached a century earlier than in Flanders, and growth (as a share of total labour, not in absolute numbers) seems to have stopped in the course of the 16th century.

Regional differences were even stronger with respect to the nature of the activities. The textile sectors, and particularly the linen industry, were predominant in Flanders, as opposed to Holland, where particularly those sectors flourished which did not fall under industry in the strict sense, such as fishing, shipping and peat digging. In these sectors, but also in textile industries, activities generally were less labour-intensive than in Flemish proto-industries. Significant in this respect is the use of iron cards, the use of spinning-wheels and the increasing import of yarn in the textile industries in Holland. To an increasing degree not only the raw materials but also semi-fabricated goods were imported into Holland, and labour-intensive production stages were avoided. Capital-intensive sectors, on the other hand, were much more important than elsewhere, and this aspect was even strengthened in the period under investigation. Most non-agricultural activities in the Holland countryside were thus more capital-oriented than labour-oriented, and increasingly so; an aspect which had drastic consequences for organization and dynamics within the sector.

Another marked difference between the regions is that non-economic force in these sectors played a much smaller role in Holland than it did in Flanders, which applies to both production and trade. In Holland, a consistent and long standing policy of oppression of rural activities only occurred in the brewing industry. Urban privileges were either rather weak or not applied to the same

230. In the northern part of Holland these developments probably have enacted themselves about a century later, as can be assumed from indications in A.M. VAN DER WOUDE, "De contractiefase van de seculaire trend in het Noorderkwartier nader beschouwd", in *Bijdragen en Mededelingen betreffende de Geschiedenis der Nederlanden*, 103, 1988, 373-398, esp. p. 385-396.

extent as in Flanders. Connected to this, also the division of labour between town and countryside was less sharp than it was in Flanders. In those cases where such a division existed in Holland, it was mostly the result of economic developments and caused by growing capital intensity and scale enlargement, as, for instance, can be observed in the ship-building sector. This division can be characterized as a "natural" development, rather than artificial and enforced by power and privileges, as in Flanders.

In the Flanders region, in general, producers were independent peasants, mostly in possession of a small farm and of the main means of production which were relatively cheap. Most of these producers were working independently and for their own account. Their possibilities, however, were sharply limited by the privileges and prerogatives of cities, merchants and guilds, which were relatively strong in Flanders. On the one hand, these urban-based groups used their privileges to repress certain rural activities and to extinguish possible competition from the countryside, which was mainly a concern of guilds and guild-dominated city governments. On the other hand, and next to this, market coercion and control over trade were also used to skim off the surplus of proto-industrial activities. Merchants, and other mainly urban-based groups, were able to do so by way of their strong grip over sale, distribution, export and raw materials, often founded on privileges and force.

In the Holland region this was hardly or not at all the case. The only clear exception here was the hemp sector, which was the activity in Holland which was most clearly dominated by peasants. This points to a possible explanation. If non-agricultural activities developed which had a peasant-structure, as was often the case in Flanders, then non-economic force was the most obvious way for the urban elite to skim off the surplus. In Holland, on the other hand, the urban merchant-entrepreneurs by way of their investments had already at an early stage obtained a strong grip over the – often costly – means of production. In the course of the processes of scale-enlargement, capital-intensification and accumulation, which were characteristic of the Holland activities, most sectors became controlled by urban capital even further, as a result of the heavy investments made in costly fixed capital goods. This offered the urban elite ample possibilities for profiting from the surplus-value of the labour of rural wage-labourers without having to use force or non-economic privileges.

In Flanders, the oppression of rural activities and the ample use of urban monopolies was partly based on the strong political position of the cities and the power of the urban guilds. Towns in Holland, although they sometimes tried to do so, were less able than their Flemish counterparts to exercise strong non-economic power over the countryside. More important, however, is the fact that the dominant social groups in the Holland towns probably were less interested in devoting energy and resources to this end. They had no need for applying non-economic force, as is becoming clear by way of the preceding analysis of the organization of proto-industrial activities.

In the Flanders region non-agricultural activities were thus often performed on owned small farms, organized by independent producers, working for their

own account. In Holland, on the other hand, almost all non-agricultural sectors in the countryside used mainly wage-labour, and this to a rapidly increasing degree. Initially, Holland peasants combined these activities in wage-labour often with the exploitation of their own small farms and some subsistence-farming. As early as the 15th century, however, in more and more cases the importance of non-agricultural wage-labour was overshadowing that of independent agricultural activities. At that, the non-agricultural activities here were not connected to the products of the farm or performed on the farm itself. On the contrary, most employment was to be found outside the village. Seasonal labour and migrant labour were much more important in the Holland region than in the Flanders region; the geographical mobility of labour was far stronger here. Non-agricultural activities in Holland were thus largely detached from the farm, and increasingly so. Only the incorporation of these activities into a yearly labour-cycle constituted a clear link. However, this link, and the combination with some subsistence farming, was broken from the mid-16th century onwards as peasants in Holland increasingly lost their land to large urban investors.

As became clear in the preceding, the non-agricultural activities in the late-medieval Flemish and Holland countryside can indeed be labeled as proto-industry. To a large extent the characteristics of these activities do correspond to the definition of proto-industry. In both regions these non-agricultural activities in the countryside showed clear concentrations, they were mostly small-scale, and they were performed by semi-independent peasants who combined these activities with small-scale farming, often with the family as the principal unit of production. Also, most products were destined for non-local or even non-regional markets, and the organization, finishing and marketing were partly controlled by others than the producers themselves. In the Flemish region, where the position of the peasants in the production process was relatively strong because of the grip they had on the land, the instruments and often also the raw materials, this situation remained in place, even during the period of sharp quantitative growth in the 16th century. In the Holland region, however, changes during the period under investigation were strong. Non-agricultural activities increasingly became more large-scale, and peasant producers lost their semi-independent position as they lost control over the means of production and became subjected to urban capital as wage-labourers. Also, production within the household and the combination with the exploitation of a farm and subsistence farming was replaced here more and more by wage-labour performed by individual family-members outside the household-farm.

In the Holland region, dynamics within these sectors were thus very strong, starting already in the 14th century and reaching their apogee in the 16th century. One could label these developments as a transition. It is interesting that, as this transition climaxed in Holland, the quantitative growth of these sectors in the countryside stagnated or even turned into decline. Probably these developments have led to a shift to the cities and an erosion of the proto-industrial basis.

However, that such a dynamism was not an inevitable result of strong proto-industrialization can be deduced from the situation in the Flanders region, a situation which mainly displayed stability.

In the preceding we have focused on analyzing the specific development of proto-industrial activities in Flanders and Holland, and assessing its effects on the diverging path of development of economy and society in the two regions. The conclusions, however, also raise the question about the causes for the differences in proto-industrialization. The preceding only touched upon this aspect, leaving it open to future research, but it does at least suggest some lines of reasoning. First, it is clear that differences between Flanders and Holland cannot be attributed to the chronology of proto-industrialization or to some kind of law of "a braking lead" which would have exercised its paralyzing force over proto-industrial development in the Flanders region. On the contrary: non-agricultural activities in the Holland region appear to have developed even earlier than in Flanders. In Holland, their importance was already very substantial as early as the 14th century and it reached a degree in the 15th century which was not even approached in the Flemish region at the peak around 1570. Second, the findings point to the fact that cities, markets, entrepreneurs and commercialization, being amply present in both regions, were in itself not sufficient and/or determining factors for the course of proto-industrialization and its effects on the further development of economy. Rather, the preceding makes us surmise that this course and its diverging effects are to a large extent determined by the specific organization and institutional arrangement of markets. In their turn, these elements are linked to the relationships between the people, interest groups and organizations which shaped the arrangement of markets and enforced the observance of the specific market organization. In this field differences between the Holland and Flanders regions were strong, with markets in Holland being more open, flexible and efficient, and thus offering a more favorable framework than in Flanders. This applies to the market for goods, but also for the capital and labour markets. Connected to this, and probably partly resulting from this, are perhaps differences in interest rates on the capital market and differences in the attractiveness of particular investments in the two regions. Next to this, differences in relationships between town and countryside, and between urban merchants-entrepreneurs and rural producers, seem to offer an important part of the explanation. Lastly, an essential element in the explanation is to be found in the socio-economic and institutional structures of the countryside itself, and in particular in the strongly different social property structures and the interaction between these structures and proto-industrialization.

In general, the causes for differences in proto-industrial development thus seem to be located mainly in structural elements, i.e. in the organization and the development of economy and society in the region as a whole. It becomes increasingly clear that, in this respect, Holland and Flanders have followed two different paths already from an early stage onwards, determining to a large extent the specific course of proto-industrialization. As the preceding shows,

differences in the field of non-agricultural activities in the countryside were very strong, notwithstanding the fact that the two regions were situated close to each other. In these parts of the Low Countries, which were both heavily urbanized and had a countryside which was relatively commercialized and situated close to urban markets, both the nature and particularly the organization of proto-industrial activities differed strongly. This also affected the further development of proto-industrial sectors: in Flanders they mainly displayed stability, whereas in Holland they witnessed a strong dynamism. Only in the latter case did the rise of proto-industry contribute to the transition of the rural economy; in Flanders it hardly did or not at all, despite its quantitative importance. In the latter case, it rather strengthened the existing situation. The preceding investigation into late-medieval proto-industrialization thus helps us in better understanding the striking divergencies in the development of economy and society in Flanders and Holland.