

Department of Economics
and
Institute for Policy Analysis
University of Toronto
150 St. George Street
Toronto, Ontario M5S 3G7
Canada

Wednesday, 17 July 2002

WORKING PAPER NO. 18

UT-ECIPA-MUNRO-02-03

**Industrial Change in the Fifteenth- and Sixteenth-Century Low Countries:
the Arrival of Spanish Merino Wools and the Expansion of the ‘*Nouvelles Draperies*’**

by

John Munro

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Department of Economics
University of Toronto

Author's e-mail: munro5@chass.utoronto.ca
<http://www.economics.utoronto.ca/munro5>

On-line version: <http://www.chass.utoronto.ca/ecipa/wpa.html>

JEL Classification nos: D4, D7, F1, F2, H3, L1, N4, N5, N6, N7, Q2

Key words: wool, cloth, gold, merino, draperies, broadcloths, worsteds, says, guilds, urban regulations, export taxes, transaction costs, bullionist monetary policies, Spain, England, the Low Countries, Flanders, Brabant, Holland, the Hanseatic League, *nouvelles draperies*, sayetteries, Baltic and Mediterranean markets.

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Abstract

This paper seeks to explain why Spanish *merino* wools arrived so late in the Low Countries, only from the 1420s, why initially only those cloth producers known as the *nouvelles draperies* chose to use them, and why their resort to such *merino* wools allowed at least some of them to escape the current crisis afflicting the traditional ‘old draperies’, and indeed to expand to become the chief producers of woollen cloths in the southern Low Countries during the later fifteenth and early sixteenth centuries. Although the *merino* have been by far the world’s finest wools, since at least the seventeenth century, English wools had enjoyed that supremacy in the medieval era. The Spanish sheep breeds that produced the first *merino* wools did not emerge until the 1340s; and it took many decades of experimental breeding and improved flock management to produce better quality wools in sufficient quantities for export (first to Italy). Before the introduction of *merinos*, the indigenous Spanish sheep had produced some of the worst wools in Europe. In the thirteenth century, they were used only in making very cheap, coarse, light cloths, when north-west Europe was producing a wide range of textiles, from such coarse light generally worsted-style fabrics to the most luxurious woollens. Their major markets, for all such textiles, were in the Mediterranean basin.

For reasons that I have elaborated in earlier papers, the onset of a spreading stain of chronic and debilitating wars, from the 1290s, throughout the Mediterranean basin and north-west Europe, resulted in a sharp rise in transaction costs that made long-distance trade in cheaper textiles unprofitable. Consequently, by the 1330s, most north-west European draperies had abandoned export-oriented production of cheaper line textiles to concentrate on very high priced luxury woollens, those that could so much better ‘bear the freight’. Furthermore, in Flanders, a considerable number of small-town and village producers engaged in precisely the same industrial re-orientation; but in producing genuine heavy weight woollens, they sought to imitate those of the large Flemish towns; and, in selling their cloths at lower prices, came to be known as the *nouvelles draperies*. This industrial reorientation meant that cloth producers in the Low Countries became all the more reliant on English wools, above all the traditional urban draperies (who used such wools exclusively). The English crown was quick to exploit this dependency by sharply raising export taxes, which, by the 1390s, constituted half of the sales price; and that in turn accounted for up to 70 percent of production costs in the Low Countries’ urban draperies. Meanwhile, English cloth exports, very lightly taxed, gained an enormous cost and thus price advantage, but one not fully exploited until the fifteenth century.

The catalyst for the final economic crisis, one that brought about the irredeemable decline of most of the urban draperies in the Low Countries, and the expansion of the *nouvelles draperies*, took place from 1429 to 1473, when the English crown sought to exploit the wool trade even further, in pursuing ill-advised bullionist policies: by requiring that wool prices be sharply raised (under control of a cartel of wool dealers at the Calais Staple), that all wools be sold only for ready English money (coins, no credit), and that one third of the sales receipts be delivered to the mint in gold bullion. Not until the 1470s did the Burgundians succeed in having these bullionist ordinances revoked. Meanwhile the traditional Flemish and Brabantine draperies, in continuing to use such high-cost English wools exclusively, for fear of losing customers, ensured their own rapid decline, indeed losing markets to both the English cloth trade and the *nouvelles draperies*, who also acquired considerable capital and labour from the declining draperies. Their success, as less quality-conscious imitators, lay in their willingness to use the far cheaper but now improved Spanish wools. An historic prejudice against pre-*merino* Spanish wools probably explains why even they had not used these wools before the onset of this crisis. Having displaced the traditional draperies, the *nouvelles draperies* reached their apogee in the 1540s, when they were superseded by the *sayetteries*, after international market conditions had once more favoured long-distance trade in truly cheaper, light textiles.

JL Classifications: D4, D7, F1, F2, H3, L1, N4, N5, N6, N7, Q2

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(John Munro, University of Toronto)

On the modern supremacy of Spanish *merino* and the medieval supremacy of English wools

The world’s finest quality wools have long been those produced by the descendants of the Spanish *merinos*, ‘the aristocracy of sheep throughout the world’.¹ For many centuries, however, the English had maintained that their own wools, ‘the golden fleece’ of the ‘ancient small breed’, were unrivalled in fineness and quality.² But in publishing his *Wealth of Nations* in 1776, that renowned Scot Adam Smith felt obliged to disabuse of them of any such outdated notions, stating that:³

Our woollen manufacturers, in order to justify their demand of such extraordinary restrictions and regulations [to prevent the export of wool], confidently asserted that English wool was of a peculiar quality, superior to that of any other country; that the wool of other countries could not, without some mixture of it, be wrought up into any tolerable manufacture; that fine cloth could not be made without it. This doctrine ... is, however, so perfectly false, that English wool is in any respect necessary for the making of fine cloth, that it is altogether unfit for it. Fine cloth is made altogether of Spanish wool. English wool cannot be even so mixed with Spanish wool as to enter into the composition without spoiling and degrading, in some degree, the fabric of the cloth.

Nevertheless, for the entire medieval era, and up to the sixteenth century, English assertions of producing by far the finest wools in Europe were no patriotic conceit. As Raymond Van Uytven has noted, ‘the superiority of English wool was a commonplace in medieval literature’.⁴ Furthermore recent archaeological evidence from late-medieval remains found in Novgorod substantiates those literary claims.

¹ Robert S. Lopez, ‘The Origin of the Merino Sheep’, *The Joshua Starr Memorial Volume: Studies in History and Philology*, Jewish Social Studies no. 5 (New York, 1953), p. 151.

² Quoted in Ephraim Lipson, *A Short History of Wool and Its Manufacture* (London, 1921), pp. 10, 16, 36.

³ Adam Smith, *An Inquiry Into the Nature and Causes of the Wealth of Nations* [1776], ed. with introduction by Edwin Cannan and Max Lerner, Modern Library Edition (New York, 1937), pp. 615-16. Much of this passage was evidently plagiarized from: John Smith, *Chronicon Rusticum-Commerciale: or Memoirs of Wool* 2 vols. (London, 1747; reprinted, New York, 1972), vol. II, pp. 499, 542.

⁴ Raymond Van Uytven, ‘Cloth in Medieval Literature of Western Europe,’ in Negley B. Harte and Kenneth G. Ponting, eds., *Cloth and Clothing in Medieval Europe: Essays in Memory of Professor E. M. Carus-Wilson*, Pasold Studies in Textile History no. 2 (London, 1983), p. 177.

Not only were these wools by far the finest found there, but they were so fine (17 to 24 microns) that they ‘were comparable only to the present-day wool of the *merino* sheep’.⁵

Finally, evidence can be cited from the records of their chief customers, the cloth manufacturing industries in the medieval Low Countries. For example, a *keure* or ordinance of the Bruges drapery, dated 1282, stipulated that the drapers were to distinguish the various grades of their woollens by the following insignia on their lead seals: for those made from English wools, with three crosses; for those made from Scottish wools, with two crosses; those from Irish wools, with one cross; and those from domestic Flemish wools, a half-cross.⁶ Numerous other ordinances from this period leave no doubt that English wools were by far the most highly prized, though far from being the only ones used in the Low Countries’ cloth industries of the twelfth, thirteenth, and early fourteenth centuries.⁷ Finally, if market prices are evidence of quality,

⁵ Adam Nahlik, ‘The Interpretation of Textile Remains as a Source for the History of the Textile Industry of the 10th-15th Centuries,’ in Marco Spallanzani, ed., *Produzione, commercio, e consumo dei panni di lana, nei secoli XII-XVIII*, Istituto internazionale di storia economica “F. Datini”, serie II, no. 2 (Florence, 1976), pp. 603-12. See also: Adam Nahlik, ‘The Wool of the Middle Ages: Some Results of the Searching of Textiles Excavated in Central and East Europe’, in Marco Spallanzani, ed., *La lana come materia prima: I fenomeni della sua produzione e circolazione nei secoli XIII - XVII*, Istituto internazionale di storia economica “F. Datini”, serie II, no. 1 (Florence, 1974), pp. 369-77.

⁶ Georges Espinas and Henri Pirenne, eds., *Recueil de documents relatifs à l'histoire de l'industrie drapière en Flandre: Ire partie: des origines à l'époque bourguignonne*, 4 vols., Commission Royale d’Histoire (Brussels, 1906-1924), vol. I, no. 140:67, p. 396.

⁷ See Espinas-Pirenne, *Recueil*, vol. I, no. 77, 196 (Arras: c. 1280); no. 651, p. 234 (Saint-Omer: c.1270); no. 141bis, pp. 443-46 (Bruges: 1288); vol. III, no. 765, p. 501 (Ypres: c. 1300); Georges Espinas, *La vie urbaine de Douai au moyen âge*, 3 vols. (Paris, 1913), vol. III, no. 287, pp. 232-334 (Douai: c. 1250); and no. 408 (Douai: 1261). For the use of domestic Flemish wools, see Adriaan Verhulst, ‘De inlandse wol in de textielnijverheid van de Nederlanden van de 12de tot de 17de eeuw: produktie, handel, en verwerking’, *Bijdragen en mededelingen betreffende de geschiedenis der Nederlanden*, 85 (1970), 6-18; Adriaan Verhulst, ‘La laine indigène dans les anciens Pays-Bas entre le XIIe et le XVIIe siècle: mise en oeuvre industrielle, production et commerce,’ *Revue historique*, 247 (1972), 281-327; also published in Marco Spallanzani, ed., *La lana come materia prima: I fenomeni della sua produzione e circolazione nei secoli XIII-XVII*, Istituto internazionale di storia economica, Prato, Serie II (Florence, 1974); and also Raymond Van Uytven, “‘Hierlandsche’ wol en lakens in Brabantse documenten (XIIIde - XVIde eeuw),’ *Bijdragen tot de geschiedenis inzonderheid van het oud hertogdom Brabant*, 53 (1970), 5-16. For the variety of wools used in the Leuven drapery in 1298, see Floris Prims, ‘De eerste eeuw van de lakennijverheid to Antwerpen (1226-1328),’ *Antwerpsch archievenblad*, 2nd ser., 3 (1928), doc. no. 8, pp. 147-48.

English wools were then by far the most expensive.⁸

Medieval woollens and worsteds: or the *draperies ointes* and *draperies sèches* in the Low Countries

To be sure, the Flemish industry in particular had long been renowned for the production of very costly woollens, including the justly famed *scarlets*, made from the very finest English wools.⁹ But, in a seminal article challenging Henri Pirenne's views – the traditional views – about the industry's luxury orientation during the twelfth and thirteenth centuries, Patrick Chorley contended that the majority of textiles exported from northern France, Flanders, and England, by both volume and value, were evidently in the form of relatively cheaper, lighter, lower-grade textiles, such as: various coarse woollens and especially worsted-type *saies* (says), *serges* (*saergen*), *stanfortes*, *biffes*, *fauderts*, *burels*, *doucken*, *wadmal*. As the 1282 Bruges ordinance itself would indicate, they were largely made from non-English wools, though from many other grossly inferior wools in the British Isles (Scottish and Irish, but also northern English), and various continental wools, including domestic Flemish wools.¹⁰

⁸ John Munro, 'Wool Price Schedules and the Qualities of English Wools in the Later Middle Ages,' *Textile History*, 9 (1978), 118-69; and John H. Munro, 'The Medieval Scarlet and the Economics of Sartorial Splendour,' in Negley B. Harte, and K. G. Ponting, eds., *Cloth and Clothing in Medieval Europe: Essays in Memory of Professor E. M. Carus-Wilson*, Pasold Studies in Textile History no. 2 (London, 1983), pp. 13-70; both reprinted in John Munro, *Textiles, Towns, and Trade: Essays in the Economic History of Late-Medieval England and the Low Countries*, Variorum Collected Studies series CS 442 (London, 1994).

⁹ The *scarlakenen* or 'scarlets' were not just the very finest woollens but also those that had been dyed in the extremely costly insect dye *kermes*, more commonly known as 'grain' in the medieval era. See Munro, 'The Medieval Scarlet', pp. 13-70; and John H. Munro, 'Textiles as Articles of Consumption in Flemish Towns, 1330 - 1575,' *Bijdragen tot de geschiedenis*, 81:1-3 (1998): 275-88. Special issue on: 'Proeve 't al, 't is prysselyck': Verbruik in Europese steden (13de - 18de eeuw)/Consumption in the West European City (13th - 18th Century): Liber Amicorum Raymond Van Uytven.

¹⁰ See Patrick Chorley, 'The Cloth Exports of Flanders and Northern France During the Thirteenth Century: A Luxury Trade?' *Economic History Review*, 2nd ser. 40 (1987), 349-79; Patrick Chorley, 'English Cloth Exports During the Thirteenth and Early Fourteenth Centuries: the Continental Evidence,' *Historical Research: The Bulletin of the Institute of Historical Research*, 61:144 (February 1988), 1-10; John H. Munro, 'Industrial Transformations in the North-West European Textile Trades, c. 1290 - c. 1340: Economic Progress or Economic Crisis?' in Bruce M. S. Campbell, ed., *Before the Black Death: Studies in the 'Crisis' of the Early Fourteenth Century* (Manchester and New York, 1991), pp. 110 - 48; also reprinted in Munro, *Textiles, Towns, and Trade*; John H. Munro, 'The Origins of the English 'New Draperies': The Resurrection of an Old Flemish Industry, 1270 - 1570,' in Negley Harte, ed., *The New Draperies in the Low Countries and England, 1300 - 1800*, Pasold Studies in Textile History no. 10 (Oxford and New York, 1997), pp. 35-127; John H. Munro, 'The Symbiosis of Towns and Textiles: Urban Institutions and the Changing Fortunes of Cloth Manufacturing in the Low Countries and England, 1270 - 1570,' *The Journal of Early Modern History*:

During this medieval era, the export-oriented cloth industries of north-western Europe were divided into two major categories: the ‘wet’ or ‘greased’ and the ‘dry’ draperies, a division that roughly corresponds to the more modern English distinction between woollens and worsteds.¹¹ The true, heavy-weight woollens – including of course the renowned ‘scarlets’ – belonged to the group known in French as the *draperie ointe*, and in Flemish (Dutch) as the *gesmoutte draperie* (or *lakenindustrie*). Such woollens were woven from very fine, short- and curly-fibred wools (primarily English wools), which were heavily greased in butter or oil for three related reasons: to restore the natural oils or lanolin lost in the extensive wool-scouring; to facilitate the combing (warps), carding (wefts), spinning, and weaving processes; and thus to protect the very delicate fibres from entanglements or damages in these processes.

After the woven cloths were removed from the loom they were necessarily subjected to extensive fulling, whose first phase involved degreasing them. The cloths were placed in a large, long vat, and immersed in a mixture of hot water, fuller’s earth (*floridin*, with hydrous aluminum silicates, usually *kaolinite*), and urine, which all combined to produce an effective cleansing soap, while scouring the cloth. In the Low Countries, two to three men then stomped or trod upon the cloth, for three or more days, so that the combination of this pressure, heat, water, and the chemicals would force these short, scaly, and curly

Contacts, Comparisons, Contrasts, 3:1 (February 1999), 1-74; John H. Munro, ‘The ‘Industrial Crisis’ of the English Textile Towns, 1290 - 1330,’ in Michael Prestwich, Richard Britnell, and Robin Frame, eds., *Thirteenth-Century England*, VII (Woodbridge, 1999), pp. 103-41. For the traditional view, indicating a luxury-orientation during this period, see Henri Pirenne, *Histoire de Belgique*, 6 vols. (Brussels, 1900-22), especially in vols. I and II.

¹¹ For the following discussion, see, along with sources cited above in nn. 7-10, the following: Patrick Chorley, ‘The Evolution of the Woollen, 1300 - 1700,’ in Negley B. Harte, ed., *The New Draperies in the Low Countries and England, 1300 - 1800*, Pasold Studies in Textile History no. 10 (Oxford, 1997), pp. 7-34; Patrick Chorley, ‘The ‘Draperies Légères’ of Lille, Arras, Tournai, Valenciennes: New Materials for New Markets?’, in Marc Boone and Walter Prevenier, eds., *La draperie ancienne des Pays Bas: débouchés et stratégies de survie (14e - 16e siècles)/ Drapery Production in the Late Medieval Low Countries: Markets and Strategies for Survival (14th-16th Centuries)*, Studies in Urban Social, Economic and Political History of the Medieval and Modern Low Countries (Leuven/Appeldorn, 1993), pp. 151-66; John H. Munro, ‘Textile Technology,’ and ‘Textile Workers,’ in Joseph R. Strayer, et al., eds., *The Dictionary of the Middle Ages*, Vol. XI (New York, 1988), pp. 693-715; reprinted in Munro, *Textiles, Towns, and Trade*; John H. Munro, ‘Cloth Manufacture and Trade,’ in Joel Rosenthal, et al., eds., *Medieval England: An Encyclopedia* (New York and London, 1997), pp. 194-97; John Munro, ‘Medieval Woollens: Textiles, Textile Technology, and Industrial Organization, c. 1000 - 1500’, in David Jenkins, ed., *The Cambridge History of Western Textiles* (Cambridge and New York, forthcoming 2002/03).

fibres to interlace, interlock, felt, and then shrink. Indeed the finer woollens lost over 50 percent of their surface area from these fulling processes, a shrinkage that largely explains their very heavy weight.¹² The primary purpose of the fulling and felting processes was to give the cloth its necessary cohesion, strength, and tenacity, so that it would last well more than one lifetime, without tearing or falling apart. The fulled woollens were then tautly stretched, by hooks, on a tentering frame, to remove any wrinkles, and to ensure even dimensions throughout (thus restoring some of the lost surface area). Then the cloth was handed over to the cloth-finishers, to be subjected to repeated ‘raising’ or ‘napping’ (with thistle-like teasels), in order to raise the loose fibres of the ‘nap’, which were then shorn with long, sharp shears. The end result of both fulling and finishing was the complete obliteration of the weave, and a very soft texture, almost rivalling that of the better silks. These cloths, whose wools were often subjected to preliminary dyeing (in blue-woad), were then usually dyed ‘in the piece’.

In sharp contrast, the fabrics produced by the ‘dry’ *draperies sèche* or *drooge draperie*, also commonly known as *draperies légères* or *lichte draperie* (i.e., ‘light’), were, in contrast, made from much stronger and longer-stapled, straight-fibred wools, which required neither initial scouring nor any greasing – and hence the term ‘dry drapery’. Fully combed, rather than carded, the resultant yarns, for both warps and wefts, when properly twisted in the spinning processes, had sufficient strength and cohesion so that, when woven, they were in essence fully manufactured, as reasonably durable cloths. Thus, they did not require any real fulling (beyond a brief and simple cleansing); and they were not tented, ‘napped’ (teaseled), or shorn. Consequently, they were much lighter – and coarser – cloths, whose weave was perfectly visible, and an element of the cloth’s design or fashion (especially with diamond or lozenge weaves). Included in these *draperies sèches* were hybrid fabrics, including the famous Hondschoote *saies*, which were composed of ‘dry’ long-stapled warps (combed) and shorter-stapled greased wefts (carded); and these were generally given

¹² Elsewhere, especially in Italy, France, Spain, and England, fulling had become mechanized with water powered mills, as early as the tenth century in Italy. See Paolo Malanima, ‘The First European Textile Machine,’ *Textile History*, 17 (1986), 115 -28; Eleanora M. Carus-Wilson, ‘An Industrial Revolution of the Thirteenth Century,’ *Economic History Review*, 1st series 11 (1941), reprinted in her *Medieval Merchant Venturers: Collected Studies* (London, 1954), pp. 183-211; Munro, ‘Textile Technology’, pp. 693-715; Munro, ‘Industrial Crisis’, pp. 124-31.

a cursory fulling, though usually left unshorn. While the purely worsted fabrics generally had only 25 percent of the weight of the true and extensively fulled woollens, the hybrid fabrics generally had about 40 percent of their weight (See Table 2).

The products of both branches of cloth-making, the *draperies ointes* and the *draperies sèches* or *légères*, had a very wide-ranging continuum of values, from the extremely expensive scarlets (whose purchase would have cost a medieval master mason several years' income) to the relatively cheaper *biffes* and some says. Generally speaking the more expensive fabrics were products of the *draperie ointe* and the cheaper fabrics were those of the *draperies sèches* or *légères*; but there were some greased and fulled woollens that were as cheap (or even cheaper than) the better semi-worsted products of the latter branch. The term 'relatively cheaper' does not mean, however, that the lower strata of thirteenth-century Mediterranean society, let alone the truly poor, could afford to buy such textiles from the northern *draperies légères*, especially not after transport costs and taxes were added into the sales price. Such people would much more likely wear homespun or domestically made fabrics.¹³

The medieval pre-merino Spanish wools

Of the very wide variety of wools used in the manufacture of these various cloths in north-western Europe, during the thirteenth and early fourteenth centuries, those from Spain were rarely used – despite the thirteenth-century formation and subsequent prominence of the 'Mesta Real' organization of Castilian sheepherders.¹⁴ Indeed, in the *keurboeken* or guild regulations of the Flemish and Artesian textile towns of this

¹³ See Natalie Fryde von Stromer, 'Stamford Cloth and Its Imitations in the Low Countries and Northern France during the Thirteenth Century', in Erik Aerts and John Munro, eds., *Textiles of the Low Countries in European Economic History*, Proceedings of the Tenth International Economic History Congress, Studies in Social and Economic History vol. 19 (Leuven, 1990), pp. 8-13. She states that such cloths, costing 'between 8 and 20 lb [in Genoese lira?]' were 'beyond the reach of the normal prosperous [?] townsman, let alone the peasant or craftsman who wore homespun, probably knitted clothes and couldn't afford woven cloth at all'. See also Stephen R. Epstein, *Freedom and Growth: the Rise of States and Markets in Europe, 1300 - 1750* (London and New York, 2000), pp. 106 (which, despite some very valid points, misstates my own position). See also sources cited in nn. 10-11; and see also below, p. and nn. 35-37 (where I do clarify my position on this issue).

¹⁴ See the classic study: Julius Klein, *The Mesta: A Study in Spanish Economic History, 1273-1836* (Cambridge, Mass., 1920); and also Carla Rahn Phillips and William D. Phillips, *Spain's Golden Fleece: Wool Production and the Wool Trade from the Middle Ages to the Nineteenth Century* (Baltimore and

era, Castilian, Aragonese, or ‘Spanish’ wools were grudgingly permitted only for the very lowest quality *saergen* or similar products of the lowest strata of the *draperies légères*, and possibly only for domestic consumption.¹⁵ Otherwise, in the Flemish and Artesian draperies of this era, the Spanish wools of this era were universally and contemptuously rejected and classed with other forbidden wools (forbidden at least for sealed cloth production), such as: *waterwulle*, *hoedewulle*, *vlocken*, and similar *faulx lanages*.¹⁶ Indeed in the great Artesian drapery that ban on the use of Spanish wools lasted until as late as 1377.¹⁷ Even more surprisingly, no Spanish wools are mentioned in the Venetian wool tariff of c.1300, nor in the Veronese drapery regulations of 1319, even though the Italian cloth industries of this era were also manufacturing a wide variety of relatively cheap and light fabrics. No Spanish wools are mentioned, in fact, until the late fourteenth century.¹⁸ Furthermore, within thirteenth-century Spain itself (Castile, Catalonia-Aragon) its

London, 1997), pp. 28-29, 36-37, who contend that the 1273 documents ‘supplemented earlier founding documents that are now lost’.

¹⁵ Louis Gilliodts-Van Severen, ed., *Cartulaire de l’ancienne estaple de Bruges*, 2 vols. (Bruges, 1904-8), Vol I, no. 14 [1200], p. 19; Vol. II, no. 616 [c.1300], p. 225: wools of Navarre, Aragon, Leon, Castile, Galicia; Louis Gilliodts-Van Severen, ed., *Inventaire des Archives de la ville de Bruges*, 6 vols. (Bruges, 1871-78), Vol. II, no. 616 (c. 1300), p. 225; and Espinas-Pirenne, *Recueil de documents*, vol. I, no. 140:6 (1282), p. 389.

¹⁶ See Espinas-Pirenne, *Recueil de documents*, vol. I, no. 142:22, pp. 456-57: ‘so wie die waterwulle, jof spaensche wulle minghede met andre wulle, jof hoedewulle, jof spaensch garen met anderen gaerne, jof vlocken met wulle’ was to be exiled from Flanders for three years (Bruges drapery *keure* of c. 1290). Similar bans in *Ibid.*, vol. I, no. 139-54, p. 377 (Bruges, 1282); no. 141:25, p. 400 (Bruges, 1284); no. 20, p. 49 (Aardenburg, c. 1350); no. 63, p. 159 (Arras, 1367); and in vol. III, no. 758:14 (Ypres drapery *keure* of c. 1290): ‘a savoir ke le fileit ke on claime waterwullin est tenu pour faus et fileit de Yspaigne...’ The term *waterwulle* meant wools damaged by moisture; *hoedewulle* were refuse wools or clippings, discarded in various cloth-making processes, that were used in making felt hats and hoods; *vlocken*, *flocons*, *bourres* were also refuse or waste wools produced by fulling, napping, and shearing. See Guy De Poerck, *La draperie médiévale en Flandre et en Artois: technique et terminologie*, 3 vols. (Bruges, 1951), vol. II: *Glossaire français*, and vol. III: *Glossaire flamand*.

¹⁷ Espinas-Pirenne, *Recueil de documents*, vol. I, no. 66:5, p. 168 (1377): ‘Qu’il ne soit aucuns ne aucune qui ... mette ou face mettre es dis draps faulx lanage, si comme boure, flocon, laneuse, laneton, gratusse, pomele, filé d’Espaigne, filé de Bonnival, ne aultres faulx lanages quelconques’.

¹⁸ Egidio Rossini and Maureen Mazzaoui, ‘Società e tecnica nel medioevo: La produzione dei panni di lana a Verona nei secoli XIII-XIV-XV,’ *Atti e memorie della Accademia di Agricoltura, Scienze e Lettere di Verona*, 6th ser. 21 (1969-70), pp. 22-23. The Venetian tariff includes seven varieties of wool (but none from Iberia); the Veronese regulations mention only North African and English wools.

textile industries were evidently devoted almost exclusively to the production of relatively cheap, light, and coarse fabrics.¹⁹

Finally, in late-thirteenth and early-fourteenth century England, the few remaining ‘particulars’ customs accounts indicate that small but sometimes significant quantities of ‘Spanish’ wools were being imported, with a peak import in 1308-09.²⁰ During this period, English cloth exports were then even more oriented to the cheaper, lighter fabrics than were the Flemish or Italian.²¹ Nevertheless, in 1262, the weavers of Andover (NW of Winchester, in Hampshire) had prohibited the use of any Spanish wools in making cheap kerseys (*cersegis*).²² More accommodating were the London burellers’ guild, whose ordinances, re-confirmed in 1299-1300 (28 Edward I) and 1321, indicate that their craft was principally devoted to the production of relatively cheaper, coarser, and lighter fabrics, far lighter than broadcloths, with the following specified weights for cloths, all having a width of six-quarter ells (1.5 yards): cloths woven from Spanish wools, 11.0 lb. (5.0 kg); *menuet* and *andley*, 9.0 lb., ‘coming from the weaver’; *bissets*, 9.5 lb.; rayed cloths (*reies*),

¹⁹ See: Manuel Riu, ‘The Woollen Industry in Catalonia in the Later Middle Ages,’ in N. B. Harte and K. G. Ponting, eds., *Cloth and Clothing in Medieval Europe* (London, 1983), pp. 205-29; Paulino Iradiel Murugarren, *Evolución de la industria textil castellana en los siglos XIII-XVII: factores de desarrollo, organización, y costas de la producción manufactura en Cuenca* (Salamanca, 1974); Phillips, *Golden Fleece*, pp. 194-95 (though mentioning some ‘fine cloths’ of Segovia); Wendy Childs, *Anglo-Castilian Trade in the Later Middle Ages* (Manchester, 1978), pp. 70-75; Munro, ‘Industrial Crisis of the English Textile Towns’, pp. 103-41.

²⁰ For details on Spanish wool imports, see Childs, *Anglo-Castilian Trade*, pp. 73-5. The peak imports of 1308-09 amounted to 268 sacks plus 298 bales (of unknown weight), worth about £400 - £500 sterling (citing PRO, E.122/136/8). For several examples of Spanish wool imports into Sandwich (taxed by the 1303 New Custom), for Mich. 1304 - Mich. 1305, See N.S.B. Gras, *The Early English Customs System: A Documentary Study of the Institutional and Economic History of the Customs from the Thirteenth to the Sixteenth Century* (Cambridge, Mass., 1918), 312-24, doc. no. 34: e.g., Philip Furner, for £28 6s 0d worth of ‘lane Hispanie’, taxed 7s 1d (at the rate of 3d per pound sterling value).

²¹ See Munro, ‘Industrial Crisis of the English Textile Towns’, pp. 103-41; Chorley, ‘English Cloth Exports During the Thirteenth and Early Fourteenth Centuries’, pp. 1-10; Wendy Childs, ‘The English Export Trade in Cloth in the Fourteenth Century,’ in Richard Britnell and John Hatcher, eds., *Progress and Problems in Medieval England: Essays in Honour of Edward Miller* (Cambridge and New York, 1996), pp. 121-47; Childs, *Anglo-Castilian Trade*, pp. 70-75

²² Charles Gross, *The Guild Merchant: A Contribution to British Municipal History*, 2 vols. (Oxford, 1890), Vol. II, p. 4: ‘de illis qui ponun lanam de Ispania in pannis tersegis [cersegis]... et promittant etiam quod nullum pannum facient, nisi dicant ballius’.

porreis, and *hawes*, 10.0 lb. in weight.²³ But these ordinances similarly forbade the intermixture of Spanish wools with any English wools, and permitted only the Spanish wools to be dyed ‘in blecche’ (black dye).²⁴

Such wools, however, were quite clearly not the Spanish *merino* wools of subsequent fame, and indeed very different from them in almost all respects. In this era, Spanish *merino* wools did not exist, certainly in this era, not before the Black Death era; but the story of the emergence, evolution, and final victory of Spanish *merino* wools over the English wools must await an examination of the changing fortunes of the textile manufacturing industries in the later medieval Low Countries, and thus of the wool trades that furnished them.

Changes in international trade and industrial re-orientation in northern textiles from the 1290s

First, from the early fourteenth century, dramatic structural changes in international trade forced the draperies of north-western Europe especially to abandon virtually all of their *draperies légères* as export-oriented industries, though clearly they did retain some production just for local and regional markets; and the English did retain some export trade in worsteds. As I have argued elsewhere, a spreading stain of almost continuous, widespread, and very disruptive wars from the 1290s sharply raised both the transportation and general transactions costs in long-distance international trade often to prohibitive levels for the commerce

²³ See the *Ordinationes Telariorum* (drafted in Anglo-Norman: 28 Edward I), in H. Thomas Riley, ed., *Munimenta Gildhallae Londoniensis: Liber Albus, Liber Custumarum et Liber Horn*, 2 vols. (London, 1859-62), vol. II.i: *Liber Custumarum*, pp. 121-26 (articles 18-23); and vol. II.ii, pp. 544-50. See also: Andrew Woodger, ‘The Eclipse of the Burel Weaver: Some Technological Developments in the Thirteenth Century’, *Textile History*, 12 (1981), 59 - 76. The dimensions of these cloths were not specified, but they were probably at least 25 to 30 yards. The London *burels* of this era were said to be 40 yards long; and other English *burels* were described as products of the *grant ustil*, which was undoubtedly the horizontal broad loom, designed to weave very long as well as broad cloths. In comparison, fifteenth-century English broadcloths (heavily fulled woollens), measuring 24 yds (21.95 metres) by 1.75 yds., when finished: 64 lb. (29.03 kg, with 826.67 g per m²), after fulling and shearing (and 90 lb. or 40.82 kg coming from the loom).

²⁴ Riley, *Liber Custumarum*, II.i, 125: art. xviii: ‘qe nul ne face medle de filetz dEngleterre et dEspayne, mes lun enterement par sei..’; art. xix: ‘Et qe nule leyne dEngleterre ne soit teynte en blecche, fors taunsoulement leyne dEspayne; et qe drap de leyne dEspayne soit fait soulement par soy, saunz medlure et doit peiser au meyns xi livres qaunt il vendra de teler’. According to Riley, *Ibid.*, II.ii, 701: ‘bleeche: probably a peculiar shade of black (from the A.S. blaec); and perhaps prepared from woad’. See Childs, *Anglo-Castilian Trade*, pp. 73-5: she speculates that faulty balances of tannic acid with iron sulphates in black dyes would have damaged the fibres of native English wools.

in relatively low valued items.²⁵ Those wars began almost simultaneously in the eastern and western Mediterranean and in north-west Europe: with the Mamluk conquest of the remaining Crusader outposts in Palestine (1291), the Genoese-Venetian wars to control the alternative trade by the Black Sea (1291-99), then the Ottoman invasions of the Byzantine Empire in Anatolia and the Balkans (from 1303), the Merinid invasions of Spain (1291-1340, with ancillary wars amongst Christian and Muslim states in Spain and North Africa), the wars of the Sicilian Vespers (1282-1302), followed by the Guelf-Ghibelline wars in Italy (1313-43), which in turn invited foreign invasions (by Germans, Hungarians, Angevins, Catalans); and in the north-west, the Anglo-Scottish, Anglo-French and the Franco-Flemish wars, and civil wars, from 1296 to 1328. Such warfare issued into and became part of the far better known Hundred Years' War (1337-1453).

The chief costs did not arise so much from destruction or even violence, but from the break down of authority, producing increased brigandage and piracy; from building more heavily armed ships, even with the new artillery; from Church and state-imposed bans on trade with the enemy, especially with Mamluk Egypt, bans that were circumvented only by costly trade 'licences'; and from the various forms of war-financing, in taxes, requisitions, forced loans, and currency debasements. Such wars, with these ancillary effects, were indeed chiefly responsible for the rapid decline and fall of the Champagne Fairs, on which the north-south commerce in cheap textiles had fundamentally depended.²⁶ The alternative route by sea that the Italians developed from the 1320s was really not an effective substitute for transporting these textiles, because such maritime trade, about five times longer by sea than by land, from Venice to Bruges, was so intermittent and so often threatened by piracy and naval wars; indeed from the first records in 1332 to 1400,

²⁵ See Munro, 'Industrial Transformations in the North-West European Textile Trades', pp. 110 - 48; Munro, 'The Origins of the English 'New Draperies' pp. 35-127; Munro, 'Symbiosis of Towns and Textiles', pp. 1-74; and John Munro, 'The "New Institutional Economics" and the Changing Fortunes of Fairs in Medieval and Early Modern Europe: the Textile Trades, Warfare, and Transaction Costs', *Vierteljahrschrift für Sozial- und Wirtschaftsgeschichte*, 88:1 (2001), 1 - 47. See n. 27 below.

²⁶ In 1327 an Italian merchant cited those very wars as the reason why he was no longer able to transport his cloths to Genoa from the now dying Champagne Fairs. See Renée Doehaerd, ed., *Les relations commerciales entre Gênes, la Belgique, et l'Outremont, d'après les archives notariales génoises aux XIIIe et XIVe siècles*, Institut historique belge de Rome, 3 vols. (Brussels, 1941), Vol. III, no. 1869, p. 1156: 'Nec per terra ire potuit communiter propter guerras que presentaliter occurrentes inter Januinos guelfos et guibelines'.

Venetian galleys made only twenty-four voyages to Bruges.²⁷ In sum, the combination of rising transaction costs, commercial disruption, and regional depopulation effectively undermined the commercial economies of scale requisite for a sustained international commerce in cheap commodities. Obviously the most severely affected were those producers of relatively cheap textiles in England, the Low Countries, and northern France, whose exports were chiefly directed to Mediterranean markets. Their transport and transactions costs were obviously so much higher than those for their Mediterranean producers of competing ‘cheap’ textiles; and, since all such cloth-producers were essentially ‘price-takers’, manufacturing very similar substitutable products, northern producers and merchants could therefore not compensate by raising their prices; and thus they could not hope to compete with local Mediterranean producers of the cheaper textiles.

Consequently, and evidently by at least the 1330s, most of the northern draperies in northwestern France (Artois, Normandy), the Low Countries, and England had chosen to re-orient most if not all of their export-oriented production to the manufacture of very high priced luxury woollen textiles, i.e., to the upper ranges of the *draperies ointes*. Such a re-orientation, in fact an industrial transformation, had two related objectives or justifications that would better ensure the survival of cloth-manufacturing, commerce, and some prosperity in this region, albeit for a smaller number of producers and merchants. First, the value:weight ratios for these luxury cloths meant that they could far better sustain the rise in transport and transaction costs, which would have obviously constituted a smaller proportion of retail prices than those for the *saies*,

²⁷ See the arguments and evidence in John Munro, ‘The Low Countries' Export Trade in Textiles with the Mediterranean Basin, 1200-1600: A Cost-Benefit Analysis of Comparative Advantages in Overland and Maritime Trade Routes’, *The International Journal of Maritime History*, 11:2 (Dec. 1999), 1 - 30; A. Tenenti and C. Vivanti, ‘Le film d’un grand système de navigation: les galères marchandes vénitiennes, XIVe-XVe siècles’, *Annales: Économies, sociétés, civilisations*, 16 (1961), 83-86; Doris Stoeckly, *Le système de l'Incanto des galées du marché à Venise (fin XIIIe-milieu XVe siècle)* (Leiden and New York, 1995), indicating very intermittent galley service until 1376, and then virtually annual service from 1384 (to the end of her series in 1453). Sea transport, when it occurred, was generally cheaper than overland trade in this war-torn era. Thus in 1397-97 transporting Wervik woollens by sea from Bruges to Barcelona cost 15 percent of the price (3.5 francs for a cloth worth 23 francs), but 22 percent (5 francs) via the land route. See Federico Melis, ‘La diffusione nel Mediterraneo occidentale dei panni di Wervicq e delle altre città della Lys attorno al 1400’, in *Studi in onore di Amintore Fanfani*, 3 vols., Vol III: *Medioevo* (Milan, 1962), pp. 233-4, n. 30. But some eighty years earlier transporting Caen saies overland to Florence, via the Rhone route (the only safe route), had cost only 8.8 per cent of their much lower value. Armando Saporì, *Una compagnia di calimala ai primi del trecento*, Biblioteca storica toscana vol. 7 (Florence, 1932), pp. 97-99.

biffes, stanfortes, and other cheaper textiles. But second, and more important, such production involved a far higher degree of product differentiation – especially in those techniques designed to convince consumers of superior quality over competitors’ products; and thus these draperies, at least collectively in terms of the drapers’ guilds each town, rather than in terms of individual producers, became ‘price-makers’ engaged in *monopolistic competition*, as ‘price makers’, with relatively less elastic demand. That allowed them to raise prices, to some reasonable degree, to meet any rising costs without necessarily losing so many customers.²⁸

That also explains why, during the later fourteenth and fifteenth centuries, the major Flemish and Brabantine draperies were able to continue selling their fine woollens for three times the prices of English broadcloths. Nevertheless, as will be seen, steeply rising wool costs from the 1420s finally did threaten their survival, indeed dooming most of them to irredeemable decline, if not virtual extinction.²⁹

For whatever the set of reasons, the evidence is overwhelmingly conclusive that these northern draperies had effected this re-orientation from about the 1320s to the 1340s, by which time virtually all of the formerly prominent *draperies légères (seches)* disappeared from this region, with the exceptions of the *sayetteries* in Arras and Hondshoote, which did survive as shadows of their former selves though they did strong revive and then flourish one more, from the later fifteenth century). Very few, if any, of their products appear in Mediterranean after the 1330s, except for some so-called ‘Irish says’ of unknown provenance, though probably English. Indeed the English worsted industry did manage to survive and continue its exports, though chiefly to the Baltic region, until they, too, dramatically declined, from the 1370s, with a plunge mirrored by the then rapid rise of English woollen broadcloth exports, which had been very minimal, indeed

²⁸ See sources cited in nn. 7-11 and 25 above; and also John Munro, ‘Urban Regulation and Monopolistic Competition in the Textile Industries of the Late-Medieval Low Countries’, in Erik Aerts and John Munro, eds., *Textiles of the Low Countries in European Economic History, Studies in Social and Economic History*, Vol. 19 (Leuven, 1990), pp. 41 - 52; also reprinted in Munro, *Textiles, Towns, and Trade*; and John Munro, ‘The West European Woollen Industries and their Struggles for International Markets, c.1000 - 1500’, in David Jenkins, ed., *The Cambridge History of Western Textiles* (Cambridge, forthcoming 2003).

²⁹ See nn. 7-11, 27-28, and pp. and nn. 30, 94-105 below.

truly ‘marginal’ when first recorded in the 1340s.³⁰

The rise of the Flemish *nouvelles draperies* and the re-orientation to luxury cloth production

Equally dramatic and convincing evidence of this mid-fourteenth-century industrial transformation was the contemporary rise of the so-called *nouvelles draperies* in Flanders and Brabant. Often classed as ‘rural draperies’ they were in fact virtually all cloth producers in small towns (*smalle steden*), most of whom had earlier engaged in marketing those much cheaper and light fabrics of the *draperies sèches*. They similarly re-oriented and transformed their draperies to manufacture genuine heavy-weight woollens of the *draperies ointes*, in direct imitations of those produced by the so-called *drie steden* – the great Flemish drapery towns of Ypres (Ieper), Ghent, and Bruges. As Table 2 shows, the composition, dimensions, and weights of their woollens were very similar to those of the *drie steden*.

From the 1320s, furnished with Flemish comital bans that severely restricted cloth-making within their urban jurisdictions (18 to 30 km), the *drie steden* began launching physical attacks upon many of these upstart village *nouvelles draperies*.³¹ Ypres proved to be the most relentless, because it was the most threatened by the most successful rivals, chiefly found in the nearby Leie valley, above all: Poperinge, Wervik, Langemark, Comines (Komen), and Nieuwkerk (Neuve-Église).³² In complaining to the count’s

³⁰ See the previous note; and also in particular John Munro, ‘Anglo-Flemish Competition in the International Cloth Trade, 1340 - 1520’, *Publication du centre européen d’études bourguignonnes*, 35 (1995), 37-60 [*Rencontres d’Oxford (septembre 1994): L’Angleterre et les pays bas bourguignonnes: relations et comparaisons, XVe - XVIe siècle*, ed. Jean- Marie Cauchies.]

³¹ Ghent had been the first, in July 1314, to receive a ban or privilege from Count Robert de Béthune severely restricting cloth making to cheap fabrics, with a limited number of looms and vats, with five comital miles (30 km) of city walls. In October 1322, his successor, Count Louis de Nevers granted both Bruges and Ypres similar comital bans, though restricting cloth-making to within 18 km of city walls. But already existing *franches villes* were excluded from the ban; and during his reign, Louis granted or confirmed a number of charters to the following draperies: in particular, Hulst, Aalst, Warneton, Deinze, Lembeke, and Poperinge, most of whom sealed their woollens. See Espinas-Pirenne, *Recueil de documents*, Vol. III, no. 883, pp. 774-76; and no. 895, pp. 777-81; and also David Nicholas, *Town and Countryside: Social, Economic, and Political Tensions in Fourteenth-Century Flanders* (Bruges, 1971), pp. 76-116, and 203-21.

³² When Ypres charter and ban were renewed in 1357, it complained ‘hoe dat men in vele steden ende doorpen alomme drapiert ghelike ende contrefaite lakene van vouden, van lijsten, van langhen ende van breeden, ende naer dat men drapieret in onse. voors[eiden] stede. See Espinas-Pirenne, *Recueil de documents*, Vol. III, no. 895, pp. 777-81. In January 1373 (see the following note), Ypres complained that Poperinge was making cloths ‘up deselve langhe, breedde, ende lijsten van den lakene van Ypre, want bute lands men soude

officials, the Ypres magistrates frequently and specifically charged them with ‘counterfeiting the cloths made in our town, in the pleats, lists (selvages), length and breadth’, contending further, that ‘in foreign lands, no one can tell the difference between the cloths of Poperinge and those of Ypres.’

The dispute with the Poperinge *nouvelle draperie* was the most serious and culminated in a celebrated legal case adjudicated before the Council of Flanders in 1373. In repeating the standard counterfeiting charges, the Yprois asserted that ‘the village of Poperinge was originally founded on the *gaernine ende onghesmoutte draperie* (plain ‘dry’ worsted fabrics)’, and that, during the ‘Revolt of Maritime Flanders’ (in 1323-28), Poperinge had illegally ‘appropriated for itself the production of *ghesmoutte draperie ende strijpte halflakene* (woollens of the greased drapery, including striped shortcloths), which truly belong to this town [of Ypres]’. In their defence, the Poperinge drapers conceded that their predecessors had indeed produced only fabrics of the *gaernine [ende onghesmoutte] draperie*, including ‘*douken* and *eenbluwe* of little value’; but, so they contended, ‘Ypres had also formerly made *droghe plaine lakene* [‘dry’ plain cloths], and continued to make them so long as they sold well’. In concluding their defence, the Poperinge drapers conceded that they had subsequently devoted themselves exclusively to the *ghesmoutte draperie*, because ‘merchants wanted only the cloths from this drapery’; and should they now be forced to give it up and return to their former cloth-manufacturing, ‘not even one person in ten could be employed in trying to sell cloths of the *droghe draperie*’. They also noted that they were certainly not the only ones in this predicament, listing a dozen other neighbouring draperies that had also ‘completely abandoned the *droghe draperie*’, which included all of the now prominent *nouvelles draperies*: Kortrijk, Diksmuide, Roulers, Comines, Warneton, Menen, Linselles, Bousbecques, Deinze, Dendermonde, and Oudenaarde (though not Wervik, one

niet bekennen de lakene van Ypre onder de lakene van Poperinge’. See texts in Napoléon De Pauw, ed., *Ypre jeghen Poperinghe angaende den verbonden: gedingstukken der XIVde eeuw nopens het laken* (Ghent, 1899), p. 101; and also pp. 86-90, 105-15, 157-60. For other documents on conflicts with Poperinge, see Espinas-Pirenne, *Recueil de documents*, vol. III, pp. 122-26, 130-35, 139-53, 157-58, 166-68, and 169-22. For conflicts with Langemarck in 1327, 1329, 1342, 1348), see *Ibid.*, pp. 9-14; for conflicts with Wervik (1359, 1368, 1373, 1392), see *Ibid.*, pp. 419-24, 426-31; and for conflicts with Nieuwkerk (Neuve-Église), see *Ibid.*, pp. 58-60.

of current the leaders).³³

Table 7 provides another justification for the evident concern of the Flemish *drie steden* and also of the major Brabantine drapery towns, during the later Middle Ages. For the prices for their textiles, which they successfully marketed in ports as far away as the eastern Mediterranean and eastern Baltic, were generally no more than about half of those for the ultra-luxury products of the Flemish *drie steden* and major Brabantine drapery town, though often more expensive than those for English broadcloths (woollens). Nevertheless they were still indisputably luxury products; for, in the late 1360s, a Bruges master mason would have had to pay about 85 days' wages to purchase a single Wervik broadcloth, but almost double, 168 days' wages, to purchase a high-quality Ghent *dickedinnen*.³⁴

Did demand factors influence the late-medieval re-orientation to luxury cloth production?

In view of the current and still raging debate about changes in living standards during the fourteenth and fifteenth centuries, one may wonder whether changes in real wages and income distributions may have influenced the consumption patterns in textiles to help explain these dramatic industrial and commercial changes. Thus, one may speculate that many consumers switched to the more expensive heavy-weight

³³ The outcome of the trial is not provided, in the texts given in De Pauw, *Ypre jeghen Poperinghe*, pp. 1-180; and a condensed version in Espinas and Pirenne, *Recueil de documents*, Vol. III, no. 649, pp. 168-222. The Poperinge drapers, however, did not mention Wervik, Langemarck, Neuve-Église, or Estaires amongst those that had switched from the *droghe draperie* to the *ghesmoutte draperie*, though much evidence indicates that they too had done so. In 1397, Wervik forbade its weavers to make any serge-type cloths: 'dat gheen wever die vri wever es niet moet weven saergsen noch siegsen anders danne Wervicshe lakene'. Text in Henri De Sagher, et al., eds., *Recueil de documents relatifs à l'histoire de l'industrie drapière en Flandre*, IIe partie: *le sud-ouest de la Flandre depuis l'époque bourguignonne*, 3 vols. (Brussels, 1951-66), Vol. III, no. 554:104, p. 465. For evidence that Bergues-Saint-Winoc and Furnes had similarly switched their cloth production by the early fourteenth century, see Emile Coornaert, *La draperie-sayetterie d'Hondschoote, XIVe-XVIIIe siècles* (Paris, 1930), pp. 30, 46-47, For evidence that Estaires had produced only *sayes* and *cauches* in the thirteenth century, but genuine woollens thereafter, see Georges Espinas *La draperie dans la Flandre française au moyen âge*, 2 vols. (Paris, 1923), Vol. II, p. 838. For Diksmuide, see Espinas-Pirenne, *Recueil de documents*, Vol. II, pp. 85-86. Ypres had in fact introduced a *nieuwe gaernine lakenen*, a *draperie sèche* product, in the early fourteenth century; but its *keure* was annulled around the mid-century. *Ibid*, Vol. III, no. 782, pp. 591-93.

³⁴ For comparative prices in the Mediterranean, See Table 7 below; and Munro, 'Industrial Transformations', Table 4.1 and p. 142; Appendix 4.1, pp. 143-48; Munro, 'Rise of the English New Draperies', Table 3, pp. 42-44; and for sales of woollens from the *nouvelles draperies* in the Mediterranean, see also Melis, 'La diffusione nel Mediterraneo occidentale dei panni di Wervicq', pp. 219-43.

woollens because they could now afford to do so. Yet those who contend that real wages rose in later-medieval Europe almost universally believe that such a rise was largely a post-Plague phenomena: i.e., a consequence of the severe depopulation, from the mid-fourteenth century, which drastically altered the land:labour ratio and thus presumed increased the marginal productivity of labour. But clearly this industrial re-orientation had begun long before the Black Death, indeed from the early fourteenth century, when most proponents of this optimistic post-Plague scenario believe that overpopulation and an incipient Malthusian crisis were severely depressing real wages. For the post-Plague era, many historians, if by no means the majority, hold the contrary view: that the economic dislocations from plagues, warfare, banditry, and then ensuring economic contractions raised transaction costs, lowered productivity and widened income disparities, afflicting the lower strata of much of western European societies more seriously than the upper strata.³⁵

In my own view, however, whatever impact such changes had upon real incomes and income distributions, positive or negative, with many regional variations, those consequences cannot be used to explain the *relative* decline in international sales of the cheaper textiles, especially from north-western Europe. In the first place, as indicated earlier, the lower strata of European and especially Mediterranean societies were still too poor, or too limited in disposable incomes, to be a significant market for these cheaper, lighter textiles. Instead the major consumers for these lower-priced textiles were evidently wealthy,

³⁵ For the pre-Black Death period, see in particular J. R. Maddicott, *The English Peasantry and the Demands of the Crown, 1294 - 1341*, Past and Present Supplement no. 1, (Oxford, 1975); and also studies in Bruce M. S. Campbell, ed., *Before the Black Death: Studies in the 'Crisis' of the Early Fourteenth Century* (Manchester and New York, 1991); for a more optimistic view, see A.R. Bridbury, 'Before the Black Death,' *Economic History Review*, 2nd ser. 30 (1977), 393-410. For the post-Black Death period and the 'optimistic view', see Christopher Dyer, *Standards of Living in the Later Middle Ages: Social Change in England c. 1200 - 1520* (Cambridge, 1989); and Epstein, *Freedom and Growth*, pp. 106-25, For more pessimistic views, see: Robert Lopez and Harry Miskimin, 'The Economic Depression of the Renaissance', *Economic History Review*, 2nd ser. 14 (1962), 408-26; Robert Lopez, 'Hard Times and Investment in Culture', in Wallace Ferguson et al., eds. *The Renaissance* (New York, 1962), pp. 29-52; David Herlihy, *Medieval and Renaissance Pistoia: The Social History of an Italian Town, 1200-1430* (New Haven and London, 1966), pp. 55-120; 180-212; Herman Van der Wee and Theo Peeters, 'Un modèle dynamique de croissance interseculaire du commerce mondiale, XIIe-XVIIIe siècles *Annales: E.S.C.*, 15 (1970), 100-28; Douglass North and Robert Thomas, *The Rise of the Western World: A New Economic History* (Cambridge, 1973), pp. 78-79.

often aristocratic households, who purchased them in order to garb servants and other employees. The evidence for this, if less documented for the thirteenth century, is certainly strong for the sixteenth century, when the Low Countries' exports of these textiles to Mediterranean markets had vigorously rebounded.³⁶ Second, had relative shifts in wealth and income been a key factor in this industrial transformation, then the very high priced ultra-luxury cloths should have benefited (*ceteris paribus*) more than lower- and medium priced textiles in the luxury range. But in Mediterranean markets during the later fourteenth and early fifteenth centuries, the sales of the relatively less expensive products of the *nouvelles draperies*, albeit unquestionably luxury products, were more successful than were the very expensive ultra-luxury products of the major Flemish and Brabantine drapery towns; and from the later fifteenth century, the still cheaper English broadcloths were more successful.³⁷

The growing dependency on fine English wools in the later-medieval Low Countries

Whatever the ultimate reasons for this industrial re-orientation in northern textile production, and especially for the Low Countries' draperies, both traditional and *nouvelles*, the result was an increasing dependency on the finer English wools, which were clearly the *sine qua non* for luxury cloth production. Medieval England, it must be emphasized, had produced a very wide variety of wools. During the medieval era, and up to the seventeenth century, the very best, and most costly, were produced in the Welsh Marches of Herefordshire and Shropshire; the next, in the Cotswolds district of neighbouring Gloucestershire, Worcestershire, Oxfordshire, and Berkshire; and the distinctly third best, in the Lindsey and Kesteven districts of Lincolnshire, in north-eastern Midlands. Somewhat inferior were those from other parts of the Midlands, while those from the north (Cumberland, Westmorland, Durham, Yorkshire North Riding), from East Anglia, and the south-west (Devon and Cornwall) were far too inferior to be used in the production of

³⁶ Munro, 'The Low Countries' Export Trade in Textiles', pp. 1-30; Florence Edler, 'Le commerce d'exportation des sayes d'Hondschoote vers Italie d'après la correspondance d'une firme anversoise, entre 1538 et 1544', *Revue du Nord*, 22 (1936), 249-65.

³⁷ See Munro, 'Industrial Transformations', pp. 134-43; Munro, 'The Origins of the English 'New Draperies'', pp. 35-127; Munro, 'The West European Woollen Industries'.

fine woollens.³⁸ In a classic study, Peter Bowden had contended that the very finest wools – very fine, short-stapled and curly wools – were, *ceteris paribus*, the product of the moist, chilly climate and sparse feeding to be found in the Welsh Marches and the Cotswolds (but, in Lincolnshire, from sparse feeding on overgrazed common fields); and that the sheep that produced such wools were very small, with very light fleeces, far smaller and lighter-fleeced than those of the eighteenth century, which enjoyed far richer grasslands, feeding on enclosed estates, and experienced substantial cross-breeding.³⁹

Within the Low Countries, commencing with Flanders, evidence for such a dramatic switch in wool consumption can be found by comparing the aforementioned Bruges drapery *keure* of 1282 (p. 1) with one issued in the mid- to late- fourteenth century (reconfirmed in 1408), stipulating that ‘no one shall be permitted to make any Bruges cloth from any wools other than English wools, except for the production of *smalle lakene* [small cloths].⁴⁰ In 1456, Ghent, the second of the *drie steden*, issued or reconfirmed a *keure* stipulating that, its ‘fine cloths called *dickedinnen*, and other cloths, that are woven and made within the city

³⁸ Munro, ‘Wool Price Schedules’, pp. 118-69; and John Munro, ‘The 1357 Wool Price Schedule and the Decline of Yorkshire Wool Values,’ *Textile History*, 10 (1979), 211-19; both reprinted in John Munro, *Textiles, Towns, and Trade: Essays in the Economic History of Late-Medieval England and the Low Countries*, Variorum Collected Studies series CS 442 (London, 1994). In the thirteenth century, when Cistercians and other monastic orders had been responsible for much of the English wool exports, they had evidently been more successful in producing high quality wools in the northern regions and Scotland.

³⁹ Peter J. Bowden, ‘The Wool Supply and the Woollen Industry,’ *Economic History Review*, 2nd ser. 9 (1956-57), 44-58; and especially Bowden, *The Wool Trade in Tudor and Stuart England* (London, 1962), pp. 1-76. This argument assumes that in medieval England sheep breeding was unimportant; and it pertains only to the average qualities of the sheep in any given district. Furthermore, note that sheep had at least two coats, containing wool staples of varying lengths and finenesses. See also David Postles, ‘Fleece Weights and the Wool Supply, c. 1250 - c.1350,’ *Textile History*, 12 (1981), 96-103; Michael Ryder, ‘The History of Sheep Breeds in Britain,’ *Agricultural History Review*, 12 (1964), 1-12, 65-82; Michael Ryder, ‘The Wools of Britain,’ in J. Geraint Jenkins, ed., *The Wool Textile Industry in Great Britain* (London, 1972), pp. 51-64; Michael Ryder, ‘Wools from Antiquity,’ *Textile History*, 5 (1974), 100-10; Michael Ryder, ‘British Medieval Sheep and Their Wool Types,’ in D. W. Crossley, ed., *Medieval Industry* (London, 1981), pp. 16-28; Michael Ryder, ‘Medieval Sheep and Wool Types,’ *Agricultural History Review*, 32 (1984), 14-28; and Kenneth G. Ponting, *The Woollen Industry of South-West England: An Industrial, Economic, and Technical Survey* (Bath and New York, 1971), p. 17.

⁴⁰ Octave Delepierre and M.F. Willems, eds., *Collection des keuren ou statuts de tous les métiers de Bruges* (Ghent, 1842), p. 42, in the fullers’ and weavers’ *keuren* reconfirmed in 1408: ‘dat niemene en gheoorloft eenighe Bruchsche lakene to reedene danne van Yngelscher wullen, ute ghedaen smalle laken’. See nn. 51 and 141 below.

of Ghent', were to be made 'from Fine March and Middle March wools, fine Cotswolds, and Cotswolds-Berkshire wools and from no others'.⁴¹ Similar if less explicit regulations can be found in the Flemish drapery *keuren* of Ypres (c. 1390) and Douai (May 1430).⁴²

In neighbouring Brabant, a fifteenth-century *keure* from the Leuven drapery similarly stipulated that, at least for the production of its sealed woollens, only the better quality English wools be used, and none worth less than 11 marks (£7 6s 8d sterling) a sack, clearly in the upper price range (see Tables 3-4).⁴³ A Brussels drapery *keure* from this same period similarly required its drapers to make their traditional woollens (the so-called *lakenen van de drie staten*) only from 'March wools, or the best Cotswolds wools, or the best Lindsay wools'.⁴⁴ In the county of Holland, to the north, the young cloth industry at Leiden (founded

⁴¹ Stadsarchief Gent, Reeks 93, reg. KK, fo. 103^v (which I have examined), reprinted, with different punctuation, in Marc Boone, ed., 'Nieuwe teksten over de Gentse draperie: wolaanvoer, productiewijze en controlepraktijken (ca. 1456 - 1468),' *Bulletin de la commission royale d'histoire*, 154 (1988), 1 - 61: 'up dmaecken ende drapieren van den finen lakene, gheheeten dickedinnen, ende andere lakenen, die men drapiert ende maect binnen der stede van Ghendt: eerst zal men maken de voorseide lakenen van fijnder maertse ende middelmaertse wulle, fijne cootswale, ende fine cootswale bartsiere, ende van gheender andere'. For the reissue of this same ordinance in 1546, see the texts in M.J. Lameere and Henri Simont, eds., *Recueil des ordonnances des Pays Bas*, 2nd ser.: 1506 - 1700, Commission Royale d'Histoire, Vol. V (Brussels, 1910), pp. 272-83 (22 May 1546).

⁴² See Espinas-Pirenne, ed., *Recueil de documents*, Vol. III, no. 792, pp. 633-38 (Ypres); and Vol. II, no. 380, p. 322 (Douai).

⁴³ Stedelijke Archief Leuven [SAL], no. 722, article 9, fo. 3^r (dated 19 January 1442 n.s.): 'en sel nyement egeen Inghelsche wolle te Loven mogen innebrengen onder elff merk te Calijs den Inghelsch sack...'. See also SAL, no. 1528, art. 2, fo. 86^v (24 June 1442); and art. 19, fo. 285^v (19 April 1466). In 1441-42, the Alien Hosting Accounts record Italian exports of English wools, chiefly from the Cotswolds, with an estimated average value of £8.294 per sack. Public Record Office, King's Remembrancer Accounts, Various, E.101/128/30-31.

⁴⁴ Stadsarchief Brussel (SAB), no. XVI: *Het Wit Correctieboek*, fo. 193^r (22 June 1443, reissued 20 March 1444): 'van Maertscher wollen, of vander bester Cudzewoutscher wollen, of vander bester Lindenzee wollen'. See also the *keuren*, for 27 January 1466, 16 November 1467, and 5 June 1497, in SAB, no. 1435, fos. 1^{r-v}, 30^v; and no. 1436, fo. 13^r. Some of these texts have been partially published in Felicien Favresse, ed., 'Note et documents sur l'apparition de la 'nouvelle draperie' à Bruxelles, 1441-1443,' *Bulletin de la Commission Royale d'Histoire*, 112 (1947), 143-67, reprinted in his *Études sur les métiers bruxellois au moyen âge* (Brussels, 1961); and Felicien Favresse, ed., 'Actes inédits du magistrat et de la Gilde de Bruxelles relatifs à la draperie urbaine, depuis 1343 environ jusqu' à l'apparition de la 'nouvelle draperie', vers 1440,' *Bulletin de la Commission Royale d'Histoire*, 112 (1947), 1-100. See also n. below. Similar *keuren* requiring the use of these very same English wools are to be found in the neighbouring Brabantine drapery of Lier (dated 23 March 1448), in Herman Van der Wee, 'Die Wirtschaft der Stadt Lier zu Beginn des 15. Jahrhundert', in H. Aubin, et al, eds., *Beiträge zur Wirtschafts- und Stadtgeschichte: Festschrift für*

c.1360), imposed the same ordinance for the production of its sealed woollens, in 1396, though possibly earlier;⁴⁵ and, in 1418, the Leiden magistrates more specifically banned ‘all Scottish, Newcastle, Flemish, and domestic woollens or any wools whatsoever, that have not come from the English Staple’, without mentioning any Spanish wools.⁴⁶

Similarly, the *nouvelles draperies* of the southern Low Countries, in imitating the finer cloths of the *drie steden*, necessarily also had to use at least some English wools to produce fabrics of convincing quality for European consumers, just as a medieval coin counterfeiter had to use some genuine gold or silver. Most of these *nouvelles draperies* had guild organizations and *keurboeken* of drapery regulations, chiefly for quality controls, similar to those of the traditional urban draperies; and two of them, those for Wervik and Diksmuide similarly contained articles forbidding the use of any but good quality English wools.⁴⁷ Two others, for whom complete drapery *keuren* are lacking, have also been recorded as using only English wools in this era.⁴⁸ Many others – for example Comines, Menen, and Estaires – while using good English wools for their best grade woollens, also used lower quality English and Scottish wools for second-grade woollens

Hektor Ammann (Wiesbaden, 1965), pp. 148-49.

⁴⁵ Nicolaas Posthumus, ed., *Bronnen tot de geschiedenis van de leidsche textielnijverheid, 1333-1795*, 3 vols. (The Hague, 1910-22), Vol. I, no. 12, pp. 20-21: ‘so en moet nyement binnen Leyden enige wol drapenieren, dair men die laken af reken sel, dan Engehesche sacwol jof Enghelesche vachtwol’. This may have been a reissue of an earlier ordinance.

⁴⁶ *Ibid.*, vol. I, no. 74:17 (Boek VII), p. 74. The English wool staple is the one established at Calais in 1363; see below, p. and n. . The term *Casteelsche velle* refers to Newcastle woollens, in England, not to Castile. This drapery *keure* was reconfirmed in 1423, 1434, and several times thereafter, in *Ibid.*, vol. I, no. 115, p. 132; no. 117, p. 133. In 1442, the Leiden drapery *keuren* also forbade the use of any wools cheaper than those from Lindsey (Lincolnshire): ‘lager in den prijs dan Lysa-Mersche wolle’. *Ibid.*, no. 1323, p. 147; no. 166, pp. 186-87. See also Munro, ‘Wool Price Schedules’, pp. 118-69.

⁴⁷ Henri de Sagher, *Recueil de documents*, vol. III, no. 577, p. 521; and no. 586:195, p. 564 (for Wervik); Vol. II, no. 232, pp. 101-02 (Diksmuide). See nn. 125-28, below.

⁴⁸ See Espinas-Pirenne, *Recueil de documents*, Vol. III, pp. 3-16; Emile Coornaert, ‘Draperies rurales, draperies urbaines: l'evolution de l'industrie flamande au moyenâge et au XVI siècle’, *Belgische tijdschrift voor filologie en gescheidenis/Revue belge de philologie et d'histoire*, 28 (1950), 60-96, esp. p. 72; and Coornaert, *Hondschoote*, pp. 190-91.

(possibly just for regional markets).⁴⁹ Other factors that permitted them to sell their woollens for lower prices than woollens of the *drie steden* included possibly simplified weaving and finishing techniques, and much cheaper dyes, and certainly lower labour costs; but largest component of production costs nevertheless was the wool itself, and the ordinances do not indicate that they ever used a lesser quantity of wool (per square metre of finished cloth; see Table 2).⁵⁰

At the same time, there can be no doubt that these draperies, those of the Flemish *drie steden* and the Brabantine drapery towns were also using a variety of non-English wools – principally Scottish and Flemish – for the production, as noted with the Bruges ordinance cited above, of *smalle lakenen*, which were generally unregulated, unsealed, and sold only in domestic or regional markets.⁵¹ Thus, for example, an appendix to the Ghent drapery ordinance of February 1462 authorized the production of such ‘small cloths’ (narrow and short), from *plootwulle*, and also lambs’ wool (i.e., rather than wools, as always required, from fully mature sheep).⁵² Furthermore, the few surviving and now much reduced *sayetteries* and related *draperies sèches*, those of Hondschoote and Arras in particular, certainly used non-English wools: principally from Flanders and Brabant (*hierlandsche wollen*), northern France, Lorraine, Pomerania, and parts of the

⁴⁹ See Espinas-Pirenne, *Recueil de documents*, Vol. II, no. 42, pp. 945-46 (Comines, 1390); De Sagher, *Recueil de documents*, Vol. II, no. 207, pp. 16-17 (Comines); Vol. II, no. 265, pp. 276-79 (Estaires); and Vol. III, no. 396, p. 37; no. 400, pp. 42-49 (Menen).

⁵⁰ See Coornaert, ‘Draperies rurales’, pp. 90-91; and see also Table 2 below, and n. 156. At Aalst, in the mid-fifteenth century master building masons and carpenters earned only 6d *groot* Flemish per day, compared to (summer) wages of 10d and then 12d per day for such building craftsmen in Bruges. Algemeen Rijksarchief België, Rekenkamer, registers 31,440-44 (Aalst), and 32,494-97 (Bruges).

⁵¹ For a reference to the use of local Flemish, Scottish, and Spanish wools in the manufacture of such petty *smalle lakenen* at Bruges in 1434, see Jos Vermaut, ‘Structural Transformation in a Textile Centre: Bruges from the Sixteenth to the Nineteenth Century,’ in Herman Van der Wee, ed., *The Rise and Decline of Urban Industries in Italy and in the Low Countries: Late Middle Ages - Early Modern Times* (Leuven, 1988), pp. 189-90, 200 (citing ‘Renouvellement de la loi’, register 1422-42, in Stadsarchief Brugge). See n. 40 above and n. 141 below.

⁵² See n. 40, above; Boone, ‘Nieuwe teksten over de Gentse draperie’, p. 42: ‘anders de wardere ende ordonnantie van den smalle lakenen, die men maecken mach van plootwulle, lamwulle, ende schuerlinc, naer tinhouden van der lester ordonnantie’.

British Isles.⁵³ But, the most important later-medieval draperies of the southern Low Countries, those producing for export to long-distance markets, whether in the Baltic (the Hanseatic zone), France, Germany, Central Europe, Iberia, Italy, and the Mediterranean basin, necessarily had to produce their cloths only from fine English wools.

English taxation of wool exports, Calais Staple, and the rise of the cloth trade, 1336 - 1420

The English government had been neither loath nor slow to exploit the Low Countries' growing dependency on its country's fine wools. The initial taxation of wool exports had begun much earlier, in 1272, when Edward I imposed a quite modest levy of 6s 8d per sack (364 lb or 166.45 kg). Subsequently, in September 1336, his grandson Edward III secured from the Nottingham Assembly of Merchants an additional 'subsidy' of 20s per sack, in order to finance his coming campaigns in France, those that commenced the Hundred Years' War. Shortly after, in March 1338, the crown increased the export duties to 33s 4d per sack in March 1338 and then, in November 1341, to 40s 0d for a total burden of 46s 8d per sack (50s 0d a sack for aliens), a rate that was periodically re-confirmed by subsequent merchant assemblies and parliaments. Nevertheless, the chief tax burden was evidently then born not by the overseas customers but by the English wool growers, in the form of lower prices. In March 1363, in evident response to the complaints of landowners, who dominated Parliament, Edward III established the Company of the Staple in the recently conquered French port of Calais, decreed that henceforth all English wool exports to northern Europe were to pass through this Staple, and empowered the new Company to manage the sale of all English wools there.

In 1369, the crown and parliament again increased the subsidy, to 43s 4d per sack, for a total duty on native exporters of 50s 0d a sack (51s 7d with the 'Calais duty'). The obvious intention of this Staple organization was to ensure that the tax incidence would be passed more fully on to the foreign buyers; but, as some studies have revealed, the Staplers took almost three decades to become effective as a cartel in achieving those

⁵³ Coornaert, *Hondschoote*, pp. 1898-98; and Coornaert, 'Draperies rurales', pp. 63-64. See also Van Uytven, 'Hierlandsche wol', pp. 5-16.

goals.⁵⁴

By the mid-1390s, the crown's fiscal policies were having a very deleterious effect on both wool exports and cloth production in the Low Countries, chiefly because of the impact of a stark deflation on the structure of wool export duties. While prices fell about 30 percent from the late 1370s, the wool export duties remained fixed and *specific* (rather than *ad valorem*), and thus constituted an ever higher proportion of the real wool prices, indeed 50 percent by the late 1390s (Table 3). By the early fifteenth century, tax-burdened English wools were responsible for as much as 75 percent of the pre-finishing manufacturing costs of luxury woollen cloth production in the Low Countries. Another consequence of the tax structure was to encourage or force their draperies to re-orient further to ultra-luxury production by purchasing only the most expensive Staple wools, for which the *specific* tax burden was thus a proportionately smaller burden.⁵⁵

An even more harmful consequence of English taxation policies was to provide a very substantial, if quite unintended, advantage to English woollen broadcloth exports, because of the large gulf between export taxes on wool and those on broadcloths (made from the same fine wools, purchased domestically tax free). Hansards were the first, in 1303, to be subjected to the cloth export tax, at just 12d per cloth; and denizens were taxed only from 1347, at 14d per cloth exported (taxes that remained unchanged until 1558).

⁵⁴ On this topic, see Terence H. Lloyd, *The English Wool Trade in the Middle Ages* (Cambridge, 1977); T. H. Lloyd, *The Movement of Wool Prices in Medieval England*, *Economic History Review* supplement no. 6 (London, 1973); W. M. Ormrod, 'The Crown and the English Economy, 1290 - 1348,' in Bruce M.S. Campbell, ed., *Before the Black Death: Studies in 'Crisis' of the Early Fourteenth Century* (Manchester and New York, 1991), pp. 149 - 83; F.R. Barnes, 'The Taxation of Wool, 1327-48', and George Unwin, 'The Estate of Merchants, 1336-1365', both in George Unwin, ed., *Finance and Trade under Edward III* (London, 1918), pp. 137-77, 179-204; Munro, 'Anglo-Flemish Competition,' pp. 37-60. Up to the 1390s, the crown had undermined the Calais Staplers' ability to function as a cartel by allowing Italian and Spanish merchants to bypass the Staple in exporting wools directly by sea to the Mediterranean (1378); by granting other exemptions to ship wools directly to Middelburg and Dordrecht; by selling export licences; and by periodically removing the Staple from Calais (intermittently in 1369-76, in 1382-88, and 1390-92). In the 1390s, further steep increases in the alien export duty virtually eliminated the Italians from the English wool trade.

⁵⁵ See John Munro, 'Industrial Protectionism in Medieval Flanders: Urban or National?' in David Herlihy, H.A. Miskimin, and A. Udovitch, eds., *The Medieval City* (London and New Haven, 1977), pp. 229-67, especially Table 13.2, p. 256 (Leuven, 1434: 76.2 percent of pre-finishing costs); also reprinted in Munro, *Textiles, Towns, and Trade*; Munro, 'Medieval Scarlet', Table 3.12, p. 52 (Ypres, 1501: 51.9 percent of total costs = 64.2 percent of pre-finishing costs). See also Lloyd, *English Wool Trade*, p. 12.

In the later fourteenth and early fifteenth centuries, that tax burden was only about 2.5 percent, with an average export value of just £2.0 to £2.5 per cloth, so that the English cloth trade had gained a cost advantage over its continental rivals of about 25 to 30 per cent.⁵⁶

The impact of the English fiscal policies on English exports and Flemish cloth production century can be seen in the following statistics (Tables 7 - 8), for the period 1361-65 to 1396-1400. Thus, quinquennial mean wool exports fell by 43.9 percent: from 30,129.2 to 16,889.6 sacks. Conversely broadcloth exports more than tripled over this period: from 11,757 cloths to 38,775 cloths. For the Flemish and Brabantine draperies of Ghent, Leuven, and Mechelen, we possess only the very imprecise indicators of the drapery tax farm sales, which undoubtedly exaggerate the fall, if rates also fell. For this same period, the quinquennial mean value of the Ghent tax farm sales fell by 84.1 percent. Those for Leuven, fell by 73.8 percent by one measure (in the silver-based *pond oude groot*, to 1391-95); 69.6 percent by another (in gold Rhine florins, from 1371-75 to 1396-1400). For the Mechelen drapery, these tax-farm indices fell by 40.0 percent, but partly because the tax rates were evidently raised. Part of this decline, but obviously not all, reflects the consequences of plague and war-induced depopulation and other economic disruptions of the late fourteenth-century economy.⁵⁷

The birth and the development of the Spanish *merino* wools in the fourteenth century

The initial Flemish response to this growing English threat, from as early as the 1350s, had been to ban all imports of English woollens (though not serges or worsteds).⁵⁸ A possibly more rational response

⁵⁶ Gras, *Early English Customs System*, pp. 81-83; Eleanora M. Carus-Wilson and Olive Coleman, *England's Export Trade, 1275-1547* (Oxford, 1963). A further cloth-export duty, the 'subsidy of poundage' was periodically levied from 1347 to 1373, at 6d per pound (2.5 percent); and thereafter at 12d in the pound (5.0 percent). But in 1410-11, it was abolished for Hansard and denizen merchants, and thereafter paid only by 'other aliens', who also paid a higher customs duty of 2s 9d (33d) per cloth.

⁵⁷ See Tables 1 and 3. From the Black Death era, the combined total of English woollens and broadcloth exports (at 4.333 cloths per sack) fell by 27.9 percent: from the equivalent of 120,348.30 cloths in 1346-50 to 111,962.80 cloths in 1396-1400.

⁵⁸ On this Flemish cloth ban, see John Munro, 'Bruges and the Abortive Staple in English Cloth,' *Belgische tijdschrift voor filologie en geschiedenis/Revue belge de philologie et d'histoire*, 44 (1966), 1138-59; and Munro, 'Industrial Protectionism', pp. 229-67; both reprinted in Munro, *Textiles, Towns, and Trade*; and John Munro, *Wool, Cloth and Gold: The Struggle for Bullion in Anglo-Burgundian Trade, ca. 1340-1478*

might have been to seek out an alternative source of good wools.⁵⁹ But evidently, no satisfactory alternative was then available. The complex problem, therefore, is to ascertain precisely when Spanish *merino* wools did become available to the Low Countries as a substitute for English wools.⁶⁰ While there is some speculative evidence that Roman-era Iberia had produced some relatively fine quality wools, they had evidently disappeared during the subsequent Visigothic era.⁶¹ Recently, in their authoritative book on the Spanish wool trade, Carla Rahn and William Phillips, contended that ‘much of the discussion about the Merino will remain speculative’; but many years earlier Robert Lopez had offered a compelling hypothesis on the origins of the true *merino* sheep: as the result of cross-breeding North African ‘Barbary’ sheep with indigenous Spanish sheep.⁶²

As other historians have also suggested, the name *merino* is probably derived from the Berber tribe,

(Brussels and Toronto, 1973), pp. 7-9; and for the temporary bans issued in Holland and Brabant, in 1428, see pp. 68-69, and 94. For an alternative interpretation (and in my view generally unconvincing) see Wilfrid Brulez, ‘Engels laken in Vlaanderen in de 14^e en 15^e eeuw’, *Handelingen van het genootschap ‘Société d’Emulation’ te Brugge*, 108 (1971), 10-20. In June 1359, after the Hanseatic League launched a strong protest, the Flemish granted the League a formal but highly limited exemption to re-export English cloths via Sluis on the Zwin (outport of Bruges), provided that such cloths ‘remain bound within the bales that they were packed in.. and that they be re-exported from the Zwin, even though this be greatly harmful to the drapery of Bruges’. See Konstantin Höhlbaum, et al, eds., *Hansische Urkundenbuch*, 11 vols. (Halle-Leipzig, 1876-1939), Vol. III, no. 430, p. 201.

⁵⁹ These statistics indicate that, contrary to the implicit expectations of the English crown, the demand for English wools was not so very inelastic, certainly not as much as for salt in the French *gabelle*; but that does not indicate the availability of substitute wools. The demand for wool is derived from the demand for the finished product, i.e., woollen broadcloths; and for that product the English broadcloth trade was obviously providing an effective substitute for some but not all: not for those who still prized the superiority of Flemish and Brabantine woollens, and were willing to pay the price differential.

⁶⁰ See above pp. and nn. 15-17.

⁶¹ A. T. Fear, ‘The Golden Sheep of Roman Andalusia’, *Agricultural History Review*, 40:ii (1992), 151 - 55; Reyna Pastor de Togneri, ‘La lana en Castilla y León antes de la organizacion de la Mesta’, *Moneda y crédito*, no. 112 (March 1970), 47-70, reprinted in Marco Spallanzani, ed., *La lana come materia prima: I fenomeni della sua produzione e circolazione nei secoli XIII-XVII*, Istituto internazionale di storia economica, Prato, Serie II (Florence, 1974), pp. 253-67; and also Phillips, *Golden Fleece*, p. 40, on Roman-era sheep, and the possibilities of cross-breeding with North African sheep; and the next note.

⁶² Lopez, ‘Origins of the Merino Sheep’, pp. 161-68 (see n. 1 above); Phillips, *Golden Fleece*, pp. 40-41, in which the authors do not, in my opinion, offer a truly fair summary or evaluation of the Lopez thesis. In citing a Genoese document of 1307 (for the first use of the term *merinus*) Lopez did not contend that the introduction or development of *merino* sheep dated from that early era. See the next note.

the *Banu Marin*, better known as the Marinids (or Merinids) of Morocco, who had invaded Spain in 1275, and almost succeeded in restoring the former Almohad Empire. Possibly, with their reconquest of Andalusia, the Marinids introduced some of their sheep. But, in Lopez's view, that introduction was more likely achieved through Spanish imports, and probably only after the final Castilian victory over the Marinid invaders, at the Battle of Rio Salado in 1340, which finally brought peace to Christian Spain. Shortly thereafter, according to royal records, Pedro IV of Aragon (1337-87) acquired some Barbary rams for his domains.⁶³ As Lopez also suggested, some considerable time would have been required for experimentations to result in a cross-breeding that would produce higher quality wools, those especially with the very short staples of under 5cm (2 in.); and even more time would have been required for the Castilians to increase their flocks of *merino* sheep to produce sufficient quantities of wool for export.

Evidently those sheep that did become known as *merino* were very different from not only the indigenous Spanish flocks but also from the Barbary sheep, perhaps because of genetic interactions of recessive genes in the two breeds of sheep. Possibly the shorter and finer wool-fibres were also, as in medieval England, the product of various environmental factors and flock management. . One such factor may have been the nature of, or changes in, Spain's famed *transhumance*: the annual migrations or itinerant pasturage, from the high northern plateaux of Leon and Segovia some 725 km to the southern plains of Extremadura and Andalusia. These migrations also involved sparse feeding in mountainous regions with often chilly climates, both of which evidently promoted an improved fineness.⁶⁴ Indeed, an English observer

⁶³ See also Phillips, *Golden Fleece*, pp. 40-41; Jaime Vicens Vives, *An Economic History of Spain*, 3rd edn. (Princeton, 1969), pp. 250-51, supporting the Lopez thesis; Jules Finot, *Étude historique sur les relations commerciales entre la Flandre et l'Espagne au moyen âge* (Paris, 1899), pp. 92-93, also suggesting, from this evidence on Pedro IV, a mid-fourteenth-century introduction; Fernand Braudel, *The Mediterranean and the Mediterranean World in the Age of Philip II*, 2nd rev. edn, trans Siân Reynolds, 2 vols. (New York, 1973), Vol. I, p. 93; see also Klein, *The Mesta*, p. 607.

⁶⁴ See Phillips, *Golden Fleece*, pp. 7-23, on 'the ecological context of Spanish transhumance'; pp. 33-39 for the medieval developments, and pp 97-125, on 'the annual cycle of Spanish Transhumance'. The authors cite some later Spanish authorities who denied that transhumance played in role in wool quality. They conclude, however, that: 'Nowadays there is little question that breeding is the most important determinant of fleece quality. Nonetheless, nutrition, climate, and other factors play roles as well', citing Yves Baticle, *La laine* (Paris, 1982); and they further state that 'seasonal migration contributed to wool quality in a variety of ways', in particular by providing 'a healthful and fairly consistent combination of

later commented that ‘there is nothing of this Nature wherein the Spaniards are more curious, than in the manner of feeding their Sheep, which contributeth much to the well growth and fineness of their Fleece’.⁶⁵

The first significant exports, while taking place only several decades after the initial establishment of *merino* flocks, were not, however, those of the fully evolved fine, short-stapled fleece of later renown. Thus, in the earliest Italian records of their commercial use, during the later 1380s and 1390s, the Spanish wools, under the name of *lane di San Matero*, variously ranked a poor fourth or fifth in value in the Italian draperies of Verona, Prato, Florence, and Genoa: after English, Minorcan, Majorcan, and French wools. They cost, at most, only 30 to 40 percent as much as the English Cotswolds wools used there.⁶⁶

The introduction of *merino* wools into the Flemish *nouvelles draperies* from the 1420s

temperature, light, humidity, and nutrition for the sheep, within the extreme conditions of the Iberian ecology’ (p. 99). See also Klein, *Mesta*, pp. 8, 12-15, 17-21, 28-30, 320, 708; Lipson, *Short History of Wool*, pp. 36-39 (stressing the positive physical role of the annual migrations). See also Claude Carrère, ‘Aspects de la production et du commerce de la laine en Aragon au milieu du XVe siècle,’ in Marco Spallanzani, ed., *La lana come materia prima: I fenomeni della sua produzione e circolazione nei secoli XIII-XVII*, Istituto internazionale di storia economica, Prato, Serie II (Florence, 1974), pp. 205-19. In this same volume, see also: Federico Melis, ‘La lana della Spagna mediterranea e della Barberia occidentale’, pp. 241-51; Pastor de Togneri, ‘La lana en Castilla y Léon antes de la organizacion de la Mesta’, and Felipe Ruiz Martin, ‘Pastos y granaderos en Castilla: la Mesta (1450-1600)’, pp. 271-85. Nobody, however, has yet explained how *merino* wools were subsequently improved to attain such a high degree of fineness.

⁶⁵ Sir William Godolphin, Secretary to the English Embassy in Spain (December 1667), cited in H. B. Carter, *His Majesty’s Spanish Flock: Sir Joseph Banks and the Merinos of George III of England* (London, 1964), p. 6, and n. 469: taken from *Hispania Illustrata* (London, 1703). See also, in Carter, pp. 4, 9, 420-1; and also Klein, *The Mesta*, pp. 8, 28-29, 320; and Lipson, *Short History of Wool*, pp. 36.

⁶⁶ Rossini and Mazzaoui, ‘Società e tecnica nel medioevo’, p. 47 (see note 17 above); Federigo Melis, *Aspetti della vita economica medievale: studi nell’archivio Datini di Prato*, Vol. I (Florence, 1962), part 5: ‘L’industria laniera,’ doc. no. 350 (Aug. 1390), p. 488; and pp. 536-37, 542, and table facing p. 554; Federigo Melis, ‘La lana della Spagna mediterranea e della Barbereia occidentale nei secoli XIV - XV’, in Marco Spallanzani, ed., *La lana come materia prima: I fenomeni della sua produzione e circolazione nei secoli XIII - XVII*, Istituto internazionale di storia economica “F. Datini”, Serie II (Florence, 1974), pp. 241-51; Jacques Heers, ‘Il commercio nel Mediterraneo alla fine del XIV secolo e nei primi anni del secolo XV’, *Archivio storico italiano*, 113 (1955), 192-95; Iris Origo, *The Merchant of Prato: Francesco di Marco Datini* (London, 1957), pp. 69-70, 74-76. San Mateo was then a Catalan town that served as a distribution centre for Castilian, but also other Iberian wools. In Florence and Prato, in 1396-98, the best Spanish wools were priced at 14.50 florins per 100 lb. were worth only 41.2 percent of the Cotswolds wools, priced at 35.17 florins per 100 lb. Another Prato wool price schedule of the 1390s similarly priced Spanish wools (£21 0s 06 *affiorino*) at just 41 percent of the English wools listed. At Genoa, in March 1395, Spanish wools cost 10 lire per cantaro, compared to 26-30 lire for English wools (including Cotswolds, at 26 to 28 lire) per cantaro.

In the Low Countries, the initial use of Spanish wools can be documented only from an even later era; and possibly this prolonged delay reflected a long-held historic prejudice against the pre-merino Spanish wools.⁶⁷ Certainly the reason does not lie in any lack of commercial relations with Iberia, which, despite the ongoing piracy, grew strongly during the fourteenth century. By the 1330s, the Catalans merchants had become so numerous at Bruges that they were able to form a consulate there, one of the oldest.⁶⁸ In 1343, the *drie leden* of Flanders granted the Catalan and other Spanish merchants a charter of privileges, which was expanded into a full treaty in November 1348, and subsequently reconfirmed in April 1367 and June 1389. The only commodities specifically listed in these charters and treaties, however, are wines, leather, and iron.⁶⁹ No Spanish wools are mentioned in any of the treaties, in fact, not before the famous charter of commercial privileges that Duke Philip the Good (as count of Flanders) granted the Castilian merchants at Bruges, on 11 October 1428. Now Spanish wools were indeed prominently mentioned.⁷⁰

Coincidentally, a few months earlier, in March 1428, Duke Philip had also bestowed upon the now declining Flemish drapery town of Ypres a seemingly signal victory against the upstart *nouvelles draperies* in its castellany along or near the Leie (Lys) Valley: by once more prohibiting Neuve-Église (Nieuwkerk) and a dozen nearby villages from any form of cloth-making, except for the production of cheap *douken*, from

⁶⁷ See above, p. and nn. 15-17.

⁶⁸ Biscayans can be found at Bruges from c. 1230; and Catalans, from c. 1230. See J. Maréchal, 'La colonie espagnole de Bruges du X^{IV}e au X^{VI}e siècle', *Revue du Nord*, 35 (1953), 5; Charles Verlinden, 'The Rise of Spanish Trade in the Middle Ages', *Economic History Review*, 1st ser., 10 (1940), 54-56; and also William D. Phillips, 'Merchants of the Fleece: Castilians in Bruges and the Wool Trade', in Peter Stabel, Bruno Blondé, and Anke Greve, eds., *International Trade in the Low Countries (14th - 16th Centuries): Merchants, Organisation, Infrastructure*, Studies in Urban, Social, Economic, and Political History of the Medieval and Early Modern Low Countries no. 10 (Leuven-Apeldoorn, 2000), pp.75-86; but this admirable essay has virtually no information on Flemish-Castilian trade in the fourteenth century.

⁶⁹ Louis Gilliodts-van Severen, ed., *Cartulaire de l'ancien consulat d'Espagne à Bruges*, 2 vols. (Bruges, 1901), Vol. I: 1280 - 1550, pp. 8-13; Gilliodts-Van Severen, *Archives de Bruges*, Vol. II, no. 564, pp. 130-31; Finot, *Relations commerciales*, pp. 97-99, 126-27, 147-48; and Charles Verlinden, 'A propos de la politique économique des ducs de Bourgogne à l'égard de l'Espagne', *Hispania: Revista española de historia*, 10 (1950), 700.

⁷⁰ Gilliodts-van Severen, *Archives de Bruges*, vol. IV, no. 970, pp. 496-98. See also Finot, *Relations commerciales*, pp. 159-60; and Verlinden, 'Politique économique', pp. 694-700.

local wools.⁷¹ But, despite some subsequent fines, this decree proved impossible to enforce;⁷² and from this era, the draperies of Ypres, Ghent, and Bruges, suffered an even more rapid decline, while many of the *nouvelles draperies* commenced a more rapid phase of expansion, specifically because they, and they alone, did resort to Spanish wools.

And in that same year, in September 1428, the small *nouvelle draperie* of Estaires, also on the Leie, issued the first extant Flemish drapery *keure* to permit the use of Spanish wools. While reserving and specifically requiring only ‘les meilleures laines d’Engleterre’ for the best woollens, drapers were free to choose either ‘la second laine d’Engleterre, ou de la meilleur d’Escoce, d’Espagne, ou de pays [Flanders]’ for their other woollens.⁷³ In fact, the earliest recorded use of Spanish wools in this region is a drapery *keure* for relatively cheap, coarse woollens, dated July 1407, in the neighbouring French bishopric of Tournai.⁷⁴ Furthermore, some Spanish wools may have been employed in some other Flemish *nouvelles draperies* around this time. For in 1420 – just after Duke Philip of Burgundy (1419-67) and Henry V had contracted a formal anti-French alliance – a petitioner in the English Parliament had complained that the Flemish were violating a long standing ‘agreement’ not to permit the use of Spanish wools so long as England did not contest the Flemish ban on English cloth imports. In reply, the bewildered king agreed to ‘serche’ for such

⁷¹ De Sagher, *Recueil de documents*, Vol. I, no. 1, pp. 107 (10 March 1428); and vol. II, no. 213, pp. 23-24. The ban was specifically directed against: Nieuwkerk, Niepkerk, Zuidberkin, Nordberkin, Eeke, Godeswaersvelde, Caestre, Hondegem, Steenvorde, Steenwerk, Meteren, Boescepe, and Flêtres. See n. above.

⁷² Ypres continued, in vain, to have the decree enforced, even as late as the 1540s. See I.L.A. Diegerick, ed., *Inventaire analytique et chronologique des chartes and documents appartenants de la ville d’Ypres*, 6 vols. (Bruges, 1853-60), Vol. III, pp. 138-39 (1429), 141 (1429), 144 (1431), 192 (1446); Vol. IV, pp. 61-72 (1483), 75 (1484), 101-09 (1485); Vol. V, p. 607 (1501), 8-13 (1502), 30-32 (1506); 36-37 (1507); 51 (1509); 96 (1515); 250 (1541); and De Sagher, *Recueil de documents*, Vol. I, pp. 7-24 (1428-31, 1443, 1446), 29-54 (1483-85); 63-64 (1485), 71-75 (1485), 75-77 (1501), 97-98 (1545); Vol. III, p. 102 (1455), 93-94 (1541), 141-42 (1545). Note that the entire Ypres archives were destroyed during World War I.

⁷³ Text in De Sagher, *Recueil de documents*, vol. II, no. 265, pp. 276-80 (18 September 1428). See also Georges Espinas, ‘Une draperie rurale dans la Flandre française au XVe siècle: la draperie rurale d’Estaires (Nord): 1428-1434,’ *Revue d’histoire des doctrines économiques et sociales*, 11 (1923), 1-44.

⁷⁴ For ‘draps appelés vacques’, an inferior woollen cloth with a weft ‘composée des grosses laines d’Espagne et d’Alemaigne’. Texts in M. Dubois, ed., ‘Textes et fragments relatifs à la draperie de Tournai au moyen âge,’ *Revue du Nord*, 32 (1950), no. 175, p. 160; no. 248, p. 221.

an agreement, one that was never produced.⁷⁵

The next specific evidence for the use of Spanish wools concern the Leie valley *nouvelle draperie* of Comines, in August 1430, when Hanseatic merchants informed its drapers that ‘they would not buy any of their cloths made from Spanish wools’. But this dispute may have concerned Hanseatic demands for exclusive rights in marketing such Comines woollens in their Baltic zone, rather than any complaints about the quality of the cloth; and, if so, that would indicate Comines’ current dependence on Spanish wools.⁷⁶ Subsequently, in February 1451, the Comines drapery issued a new set of industrial *keuren*, which stipulated, as had earlier ones, that its first-linen woollens were to be made exclusively from ‘fine English wools, and no other’; but the *keure* now added a series of second-grade woollens, named *breede Scotsche lakenen*, ‘which we have just newly begun to make at Comines... from diverse kinds of wools, such as English, Scottish, Flemish, Spanish, and Zuider Zee [i.e., Kampen] wools’, and in that order.⁷⁷ By this time the Nieuwkerk drapery, evidently unperturbed by the 1428 ducal ban, had been steadily increasing its cloth sales in the Bruges market;⁷⁸ and in 1449 a decree of the Parlement de Paris observed that its woollens, as well as those of Nieppe (Niepkerk) and Eecke, were ‘pannos ex lanis de Yspania, de Scotia, et de patria

⁷⁵ Great Britain, Parliament, *Rotuli parliamentorum ut et petitiones et placita in Parlamento*, 6 vols. (London, 1767-77), Vol. IV, no. 16, p. 126 (8 Hen. V); and no. 29, pp. 146-67 (9 Hen. V). The aim clearly was to force a revocation of the Flemish ban on English cloth. See n. above.

⁷⁶ De Sagher, *Recueil de documents*, Vol. II, no. 235:4, p. 62: ‘dat zy gheen lakenen coopen souden van Spaenscher wulle ghemaect’; and ‘eenen bode van den Oosterlinghen ... van dat men ghene Spaensche wulle drapieren zoude’. This threat was repeated in 1438: *Ibid.*, Vol. II, no. 235:10, p. 64. For subsequent Hanseatic policy in commissioning production of cloths woven from Spanish wools for their exclusive use, see below pp. and nn. 83-86.

⁷⁷ De Sagher, *Recueil de documents*, Vol. II, no. 220, pp. 30-32: for the first line woollens, ‘Inghelsche lakenen, breede ende smaele, sal men moeten [maken] van goede, fyne Inghelsche wulle ende van gheen andre wulle’; but, for second line woollens, see the *keure* ‘van anderen lakenen die men maken mach van diverse manieren van wullen, als inghelesche, scotsche, vlaemsche, spaensche, ende Zuudersche’.

⁷⁸ For records of such cloth sales at Bruges, from 1426, see the Bruges *stadsrekeningen*, in Algemeen Rijksarchief België, Rekenkamer, register no. 32,480. The town itself purchased such cloths to garb the civic musicians (‘trompers ende pijpers’).

Flandrie'.⁷⁹

Other records, concerning Flanders' foreign trade, indicate the steadily growing importance of Spanish wool by the mid-fifteenth century. In 1441, the Castilian merchants, led by Burgos, established their own separate consulate at Bruges;⁸⁰ and in August 1452, the Biscayan merchants followed suit.⁸¹ A few months earlier, in March, the Bruges magistrates had complained that the ducal toll-farmers were now demanding a higher tax on Spanish wool imports.⁸² In the following November 1452, the Spanish merchants at Bruges forwarded a petition to the Hanseatic Diet at Lübeck to request an end its current embargo on Flemish trade, because it had already caused serious injury to their own commerce.⁸³ When the Hanseatic merchants did restore their Flemish trade at the Bruges *kontor*, in August 1457,⁸⁴ they were eager to buy as many Flemish cloths woven from Spanish wools as possible. For example, in June 1458, several Hanse merchants stationed at Riga, in Livonia (modern Latvia), informed their colleagues in both Lübeck and the Bruges *kontor* that the Russians were now buying very few of the traditional woollens from Ypres, 'because English cloths can now be had here so cheaply'; but that Poperinge cloths, evidently made from Spanish wools, were selling well.⁸⁵ According to other documents, Poperinge woollens accounted for 23.1 percent

⁷⁹ De Sagher, *Recueil de documents*, Vol. III, no. 593, p. 600 (1449). See also the drapery *keure* for Nieuwkerk, dated 18 November 1462, in *Ibid.*, vol. III, no. 420, pp. 112-20.

⁸⁰ Vicens Vives, *Economic History of Spain*, pp. 267-68; Jan Van Houtte, *Bruges: essai d'histoire urbaine* (Brussels, 1967), p. 65. For Spanish trade in this period, see also Phillips, 'Merchants of the Fleece', pp. 77-78.

⁸¹ Gilliodts-Van Severen, *Consulat d'Espagne*, pp. 50-52. This decree contains what is evidently the first recognition of the Castilian consulate, though its establishment was explicitly permitted in the 1428 treaty (see n. 69).

⁸² Louis Gilliodts-Van Severen, ed., *Cartulaire de l'ancien grand tonlieu de Bruges*, 2 vols. (Bruges, 1906-08), Vol. II, no. 2687:10, pp. 78-79.

⁸³ Gilliodts-Van Severen, *Ancienne estaple de Bruges*, Vol. II, no. 922, pp. 10-11. For the embargo of 1451-57, see also E. R. Daenell, *Die Blütezeit der deutschen Hanse*, 2 vols. (Berlin, 1905), vol. I, pp. 401-06, 419-24; Philippe Dollinger, *The German Hansa*, trans. and ed. D.S. Ault and S.H. Steinberg (London, 1970), pp. 300-02.

⁸⁴ Gilliodts-Van Severen, *Ancienne estaple de Bruges*, vol. II, no. 991, pp. 69-70.

⁸⁵ Walther Stein, ed., 'Handelsbriefe aus Riga und Königsberg von 1458 und 1461', *Hansisches Geschichtsblätter*, 26 (1898), no. 10 (4 June 1458), pp. 90-91; no. 16 (6 June), p. 101; no. 18 (6 June), pp.

of the 1560 woollens on board one Hanse ship bound for Reval (modern Tallin, in Estonia) in 1469.⁸⁶ Subsequently, in 1483, the Hanse *kontor* at Bruges offered a contract to the Oudenaarde drapery to make woollens of Spanish wool, ‘in the style of those from Poperinge’, to be sold exclusively to Hanse merchants.⁸⁷ Various other documents from this era, or even earlier, indicate that Hanseatic merchants had made similar contracts ‘to drape the said Spanish wools into cloths solely for the *Oosterlings*’ with the *nouvelles draperies* of Poperinge, Comines, Warneton, Dendermonde, Aalst, Kortrijk, Wervik, Menen, Geraardsbergen, Bailleul, Ninove, and Tourcoign.⁸⁸

From the mid to later fifteenth century, the use of Spanish wools has also been documented for the following Flemish *nouvelles draperies*, chiefly in the south-west (Leie valley region): Armentières, Nieppe (Niepkerk), Meteren, Godewaersvelde, Eecke, Flêtre, Eeklo, Dranoûter, Kimmel, Wulvergem, and Tournai.⁸⁹ And a Ghent tax register of 1467-68 indicates that its merchants were selling Spanish wools, along with English and Scottish wools in its castellany, evidently to nearby *nouvelles draperies*; but there is no evidence that the Ghent drapery itself was then using Spanish (or Scottish) wools.⁹⁰

105-05. For other references to Poperinge cloths, see no. 1, p. 73; no. 9, p. 88; and also De Sagher, *Recueil de documents*, Vol. III, pp. 257-59.

⁸⁶ Cited in Hektor Amman, ‘Deutschland und die Tuchindustrie Nordwesteuropas im Mittelalter’, *Hansisches Geschichtsblätter*, 72 (1954), 50-57. Many of them were being purchased by the court of the Grand Duke of Moscow.

⁸⁷ Höhlbaum, *Hansische Urkundenbuch*, Vol. X, no. 1050, p. 639; De Sagher, *Recueil*, vol. III, p. 257.

⁸⁸ Documents in G. von der Ropp, ed., *Hanserecesse, 1431-1476*, Verein für Hansische Geschichte, second series, 7 vols. (Leipzig, 1876-92), vol. IV, no. 444:4, p. 312 (assigned a ‘probable’ date of 1455); Louis Gillidots-Van Severen, ed., ‘Les relations de la Hanse teutonique avec la ville de Bruges au commencement du XVI^e siècle’, *Compte rendu des séances de la Commission Royale d’Histoire*, 4th series, 7 (1879-80), no. 15. 216; no. 18 (dated 1512, but referring to the previous century); De Sagher, *Recueil de documents*, Vol. III, pp. 257-59.

⁸⁹ De Sagher, *Recueil*, Vol. I, no. 102, p. 36; vol. III, p. 2; no. 396, p. 37; no. 420, pp. 112-20; no. 581, p. 527; no. 587, pp. 582-85; no. 597, pp. 611-16; Diegerick, *Archives d’Ypres*, Vol. IV, no. 1037, pp. 9-10; Coornaert, *Hondschoote*, p. 191. Haubourdin was probably also using Spanish wools in this period; but its first extant *keure*, which does list Spanish wools, dates only from 1532. See De Sagher, *Recueil*, vol. III, no. 275, pp. 304-05.

⁹⁰ Boone, ‘Nieuwe teksten over de Gentse draperie’, doc. no. 4, pp. 43-53: assize on ‘Inghlescher ende Schotscher wullen, Spaensche balen, vliezen, hoetwullen, lamwullen and ghewasschen wulle’. Boone,

Otherwise, in the Burgundian Low Countries, during the entire fifteenth century, the use of Spanish wools was authorized in only two of the major traditional drapery towns, both in Brabant. In June 1443, the magistrates of Brussels issued the *keuren van der nuwer draperie*, which was authorized drapers to make an entirely new type of woollen, called *bellaerts*, to be woven from ‘domestic, English, Spanish, Scottish, and other good wools.’⁹¹ But this new drapery was to be kept strictly apart from the traditional drapery, manufacturing in particular those *lakenen van de drie staten*, which, as noted earlier, were to be woven exclusively from the very best English wools.⁹² In Leuven, Brabant’s other major and traditional drapery town, no indications for the use of Spanish wools can be found before 1481, at the earliest, and conclusive proof is not available until 1513. Then Spanish wools were to be used on terms of equality with the English for all woollens, except for the very finest *raemlaken*.⁹³

The catalyst for industrial change: English monetary policy and the Calais Ordinances, 1429-73

These fifteenth-century industrial changes in the use of wools for cloth manufacturing raise two interesting questions. First, why did so many of the *nouvelles draperies* decide to switch, in whole or just

however, published an undated Ghent drapery *keure*, which he believed was issued in the 1450s: one that clearly authorized the use of Spanish wools. Having myself examined this document, written in sixteenth-century script, and bound in a cartulary produced in the mid 1540s, I believe that it is instead the well known drapery *keure* of 1546. I have provided a lengthy rebuttal of Boone’s views and a defence of my dating in Munro, ‘The Origins of the English New Draperies’, n. 33, on pp. 97-98.

⁹¹ Stadsarchief Brussel, no. XVI (‘Het Wit Correctieboek), fo. 183^r; and no. 1435, fo. 1^r (January 1466); see Favresse, ‘La “nouvelle draperie” à Bruxelles’, pp. 143-67 (see n. 43 above).

⁹² See p. and n. 43 above.

⁹³ Stedelijke Archief Leuven, no. 722 (*keuren* from 1481 to 1528, not all of which are properly dated), fo. 47^v - 48^v (*lakenen van V loyen*); no. 2712 (1513), fo. 57^r; fo. 223^v (1556). Much earlier in the fifteenth century, however, in May 1415, the Leuven magistrates had officially authorized the establishment of a ‘new drapery’, using domestic and French wools, as well as English wools; but no mention is made of any Spanish wools. SAL, no. 1524, fo. 287^r - 9^v. And then, in June 1442, the Leuven magistrates had authorized the establishment of yet another new drapery, a serge-type *lichte drapperie*, using a greased carded weft and a dry combed warp: ‘in view of the fact that the wool-working industry is on the verge of perishing’. SAL, no. 1528, fo. 86^r: ‘datmen van alle wollen, uutgenomen noppen, scoedelinge, vlocken ende afscoeten, d’wevel [weft] dair kaerden sal mogen ende droech werpe [warp] te scheryen.’ See also Raymond Van Uytven, *Stadsfinanciën en stadseconomie te Leuven van de XIIe tot he einde der XVIe eeuw*, Verhandelingen van de koninklijke Vlaamse academie voor wetenschappen, letteren en schone kunsten van België, klasse der letteren, vol. XXIII (Brussels, 1961), pp. 361-69.

in part, to Spanish and Scottish wools, so suddenly, from the 1420s? And conversely, why did the major traditional urban draperies – with the partial exception of the Brabantine – not follow suit, so to speak?

The available and abundant documentary evidence strongly indicates that radical innovations in English monetary and fiscal policies provided the catalyst for this change in the Low Countries' wool usages, in the form of the Calais Staple Partition and Bullion Ordinances of 1429. The Bullion Ordinances themselves were in response to recent Burgundian monetary-fiscal policies, in the form of drastic coinage debasements of both the gold and silver Flemish coinages to finance Duke Philip the Good's war.. Unquestionably they had been very successful, by the late 1420s, in attracting bullion to Burgundian mints, just when the English mint outputs began to fall, and especially at Calais; and a further provocation came from Burgundian counterfeit imitations of the prized English gold *noble* coins.⁹⁴ Thus, to remedy this perceived loss of bullion, indeed a shortage at the Calais mint to provide sufficient coinage for the garrison's wages, the parliamentary statute imposed three changes in the Staple's payment regulations: first, to raise wool prices (reputably, by one third); second, to sell all wools only for 'ready cash in hand', in English coinage, thus forbidding any sales on credit; and third, to provide the Calais mint with one third of the payment in gold bullion.⁹⁵ Several times in the past, from the foundation of the Staple in 1363, the crown had imposed various measures to extort bullion for the mint from wool sales; but they had all failed with

⁹⁴ See much fuller analyses in Munro, *Wool, Cloth, and Gold*, pp. 65-126; and for the gold nobles, see Table F, pp. 202-03; Table J, pp. 209-10. See also John Munro, 'An Economic Aspect of the Collapse of the Anglo-Burgundian Alliance, 1428-1442,' *English Historical Review*, 85 (1970) 225-44; John Munro, 'Bullionism and the Bill of Exchange in England, 1272-1663: A Study in Monetary Management and Popular Prejudice,' in The Center for Medieval and Renaissance Studies of the University of California, ed., *The Dawn of Modern Banking* (New Haven and London 1979), pp. 169-239; both reprinted in John Munro, *Bullion Flows and Monetary Policies in England and the Low Countries, 1350 - 1500*, Variorum Collected Studies series (Aldershot, 1992); John Munro, 'Monetary Contraction and Industrial Change in the Late-Medieval Low Countries, 1335-1500,' in Nicholas Mayhew, ed., *Coinage in the Low Countries (880-1500): Third Oxford Symposium on Coinage and Monetary History*, British Archeological Reports, International Series no. 54 (Oxford, 1979), pp. 95-161.

⁹⁵ *Rotuli Parliamentorum*, vol. IV, no. 60, p. 359; and Great Britain, Record Commission, *The Statutes of the Realm*, 6 vols. (London, 1810-22), Vol. II, pp. 254-56 (statute 8 Henrici VI c. 18).

opposition from the Flemish and the Staples themselves.⁹⁶ This time, to ensure full co-operation from the leading and most powerful Staplers, the statute imposed as well the complementary Partition Ordinances, which required that sales receipts be ‘partitioned’ amongst the Staplers not in accordance with their sales, but with their wool inventories. Obviously the wealthiest Staplers, or those with the most capital, benefited the most, while many small merchants, who had depended on rapid turnovers of stocks to furnish the funds to buy new wools, were forced out of business.⁹⁷ According to subsequent Dutch charges, the entire Calais wool trade fell into the hands of a monopolistic clique of just twenty or thirty staplers, thus producing a more cohesive cartel better able to raise prices, reputedly by one third, and to enforce the draconian payment regulations. The same Dutch reports also indicate that some of these regulations had been imposed on the Staple a few years earlier, and thus before formal enactment of the official statute.⁹⁸

For the draperies of the Low Countries, the Calais Ordinances were a disastrous and most untimely blow. The sharp increases in wool prices were onerous enough, even if the customs duties were not increased (Table 3). But far more onerous, surely, were the bullionist payment regulations. For, in the past, drapers or wool-brokers from the Low Countries had been able to purchase wools at Calais with a ‘down payment’ of just one-third in cash, usually with their own gold and silver coins; and they would arrange payment for the remainder over a year or so, with letters obligatory or bills of exchange (usually two bills, six months apart), commonly redeemable at the various fairs in the Low Countries in Flemish currency. Very often, the Calais Stapler merchants sold their bills, for sterling, to London-based Mercers and Merchants Adventurer, who, in frequenting these fairs, redeemed or collected the bills and then used the Flemish receipts to buy goods

⁹⁶ See Munro, ‘Bullionism’, pp. 192-98 and Appendix C, pp. 226-27 (in 1340, 1343, 1348, 1364, 1379, 1391, 1397); Munro, *Wool, Cloth, and Gold*, chapter 2: ‘The War of the Gold Nobles’, pp. 43-64; and also Appendix I, pp. 187-97 (on mint outputs).

⁹⁷ Munro, *Wool, Cloth, and Gold*, pp. 84-86; and see also Eileen Power, ‘The Wool Trade in the Fifteenth Century,’ in Eileen Power and M. M. Postan, eds., *Studies in English Trade in the Fifteenth Century* (London, 1933), pp. 39-90; and Lloyd, *The English Wool Trade*, pp. 257-87.

⁹⁸ H. J. Smit, ed., *Bronnen tot de geschiedenis van de handel met Engeland, Schotland, en Ierland, 1150-1485*, 2 vols., Rijks Geschiedenkundige Publicatiën nos. 5-6 (The Hague, 1928), Vol. II, no. 1126, pp. 697-988 and no. 1128, p. 699 (May 1438).

there for import into England (thereby reducing bullion imports. to the consternation of the crown).⁹⁹

If these drapers now had to pay the full price at the time of purchase, they would have had to borrow the required English coinage and bullion from Italian, Hansard, or Flemish merchant bankers, at perhaps onerous rates of interest, while continuing to sell their cloths on credit. Whether or not the thirteenth-century Flemish industry had actually been dominated by merchant-capitalist drapers, the fifteenth-century draperies were operated by petty weaver-drapers who lacked capital resources or ready access to such funds and were already overly dependent on foreign merchants at Bruges, though also on Flemish merchant-bankers.¹⁰⁰ The one exception seems to have been the Leiden cloth industry, dominated by wealthier merchants who were actively engaged in the cloth export trade; and perhaps that is one reason why the Leiden industry survived this crisis more successfully than did the Flemish and Brabantine urban draperies.¹⁰¹

⁹⁹ See Munro, 'Bullionism and the Bill of Exchange', pp. 198-215; and especially John Munro, 'English "Backwardness" and Financial Innovations in Commerce with the Low Countries, 14th to 16th centuries,' in Peter Stabel, Bruno Blondé, and Anke Greve, eds., *International Trade in the Low Countries (14th - 16th Centuries): Merchants, Organisation, Infrastructure*, Studies in Urban, Social, Economic, and Political History of the Medieval and Early Modern Low Countries (Marc Boone, general editor), no. 10 (Leuven-Apeldoorn, 2000), pp. 105-67; Power, 'The Wool Trade', pp. 49-72; Michael Postan, 'Credit in Medieval Trade', *Economic History Review*, 1st ser. 1 (1928); reprinted in Michael Postan, *Medieval Trade and Finance* (Cambridge, 1973, pp. 1-27; Alison Hanham, 'Foreign Exchange and the English Wool Merchant in the Late Fifteenth Century,' *Bulletin of the Institute of Historical Research: University of London*, 46 (1973), 160-75; Alison Hanham, *The Celys and Their World: An English Merchant Family of the Fifteenth Century* (Cambridge, 1985).

¹⁰⁰ James M. Murray, 'Cloth, Banking, and Finance in Medieval Bruges,' in Erik Aerts and John Munro, eds., *Textiles of the Low Countries in European Economic History*, Proceedings of the Tenth International Economic History Congress, Studies in Social and Economic History, Vol. 19 (Leuven, 1990), pp. 24-31; Hans Van Werveke, *De koopman-ondernemer en de ondernemer in de Vlaamse lakennijverheid van de middeleeuwen*, Medelingen van de koninklijke Vlaamse academie voor wetenschappen, letteren, en schone kunsten van België, Klasse der letteren, no. VIII (Antwerp, 1946); Federigo Melis, 'Mercanti-imprenditori italiani in Fiandra alla fine de Trecenti,' *Economia e storia*, 5 (1958), 144-61; Herman Van der Wee, 'Structural Changes and Specialization in the Industry of the Southern Netherlands, 1100-1600,' *Economic History Review*, 2nd ser. 28 (1975), 203-21; Van der Wee, 'Stadt Lier', pp. 152-53.

¹⁰¹ Nicolaas W. Posthumus, *Geschiedenis van de Leidsche lakenindustrie*, 3 vols. (The Hague, 1908-1939), Vol. I: *De Middeleeuwen, veertiende tot zestiende eeuw* (1908), pp. 83-181, 254-55, 269-363, 368; Hanno Brand (A.J.), 'Crisis, beleid en differentiatie in de laat-middeleeuwse Leidse lakennijverheid,' in J.K.S. Moes and B.M.A. De Vries, eds., *Stof uit het Leidse verleden: zeven eeuwen textielnijverheid* (Leiden, 1991), pp. 53-65, 201-05; Hanno Brand, 'Urban Policy or Personal Government: The Involvement of the Urban Elite in the Economy of Leiden at the End of the Middle Ages,' in Herman Diederiks, Paul Hohenberg, and Michael Wagenaar, eds., *Economic Policy in Europe Since the Late Middle Ages: The Visible Hand and the Fortune of Cities* (Leicester and New York, 1992), pp. 17-34; Hanno Brand, 'A

Burgundian monetary policy, furthermore, compounded the problem for his subject drapers. After having extensively debased both the gold and silver coinages from 1425, thereby reducing cloth prices in terms of foreign currencies, Duke Philip decided, in October 1433, to unify the various coinages of the Burgundian Low Countries and, in doing so, to impose a monetary reform that strengthened the silver coinage by 29.7 percent and the gold, even more, by 38.8 percent; and he retained this austere ‘strong money’ policy until May 1466.¹⁰² The immediate result of this *renforcement* was to raise the exchange rates and thus the prices paid for Netherlander cloths in foreign markets; and, since all such coinage *renforcements* necessarily contract the money supply, by reminting the current stock into fewer but stronger coins, the longer term result, according to Keynesian theory, would have been a rise in interest rates; and indeed, they did rise in the 1430s and early 1440s, though perhaps more because of warfare during these years.¹⁰³ Furthermore, as Raymond De Roover has cogently argued, such a monetary contraction would have also produced a sharp reduction in both the cash reserves and credit resources of deposit-bankers (money-changers) in Bruges and Antwerp. Even worse, as an evident measure to forestall opposition to the monetary

Medieval Industry in Decline: The Leiden Drapery in the First Half of the Sixteenth Century,’ in Marc Boone and Walter Prevenier, eds., *La draperie ancienne des Pays Bas: débouchés et stratégies de survie (14e - 16e siècles)/Drapery Production in the Late Medieval Low Countries: Markets and Strategies for Survival (14th-16th Centuries)*, Studies in Urban Social, Economic and Political History of the Medieval and Modern Low Countries (Leuven/Appeldorn, 1993), pp. 121-49; Hanno Brand, *Over macht en overwicht: Stekelijke elites in Leiden (1420-1510)*, Studies in Urban Social, Economic and Political History of the Medieval and Modern Low Countries no. 6 (Leuven-Appeldoorn, 1996), pp. 169-180.

¹⁰² See Munro, *Wool, Cloth, and Gold*, pp. 87-103, Table C, pp. 198-99, Tables F-G, pp. 202-204; John Munro, ‘Bullion Flows and Monetary Contraction in Late-Medieval England and the Low Countries’, in John F. Richards, ed., *Precious Metals in the Later Medieval and Early Modern Worlds* (Durham, 1983), pp. 112-26, and Table 10, pp. 148-53, reprinted in Munro, *Bullion Flows and Monetary Policies*; Peter Spufford, *Monetary Problems and Policies in the Burgundian Netherlands, 1433-1496* (Leiden, 1970), pp. 2-8, 151-56.

¹⁰³ On the Bruges money-market, rates for short-term loans, already high, rose from a mean of 18.5 percent in 1426-30 to 20.5 percent in 1431-35; and were 20.25 in 1436-40 (during the Anglo-Burgundian war and the Dutch-Wendish war). See: Herman Van der Wee, *Growth of the Antwerp Market and the European Economy, 14th to 16th Centuries*, 3 vols. (The Hague, 1963), Vol. I: *Statistics*, Appendix 45/2, pp. 526; and for the coinage changes for Brabant, see also Table XV, pp. 127-128. The rise in exchange rates might also have discouraged exports, encouraged more imports, which would have led to an outflow of specie; and more specie might have been exported to foreign mints that continued to debase coins, thereby offering a higher mint price. See Munro, *Wool, Cloth, and Gold*, chap. 1, ‘The Economics of Bullionism’, pp. 11-41.

reform from such bankers, the ordinance that initiated that reform, in October 1433, also forbade any ‘money-changer or anyone else to operate a bank to make payments’, on three years’ banishment.¹⁰⁴

For the traditional, luxury-oriented urban draperies in the Low Countries, those in Flanders, in particular the Calais Ordinances and the Burgundian monetary reform were indeed poisonous pills to swallow. For in the early fifteenth century they had enjoyed, albeit to some limited degree, a recovery and brief Indian Summer of renewed prosperity, especially after the Prussians had forced English cloth merchants to withdraw from much of the Baltic.¹⁰⁵ Hektor Amman, in his analyses of German cloth markets of this era found that Flemish woollens, especially those of the *drie steden*, had regained their former pre-eminence, followed by the Brabantine and then Dutch woollens, while the much cheaper English broadcloths ranked a distant fourth.¹⁰⁶

Now, from the late 1420s the Low Countries’ drapers (or most) faced disaster, which indeed was to prove all too imminent. After the English Parliament had both strengthened and then indefinitely renewed

¹⁰⁴ Raymond De Roover, *Money, Banking, and Credit in Mediaeval Bruges: Italian Merchant-Bankers, Lombards, and Money Changers* (Cambridge, Mass., 1948), pp. 236-46, 339-41. The original text of the ordinance of 12 October 1433, in the Stadsarchief Gent, Chartes et documents, no. 561, article 11 reads: ‘Item que aucune personne, changeur ne autre, ne puisse tenir en la ville de Bruges, ne ailleurs, table de banc pour recevoir l’argent des marchans et faire leurs paiemens sur peine de ban de trois ans.’ On the virtual disappearance of deposit-banking in the fifteenth-century Burgundian Low Countries, because of such measures, see Herman Van der Wee, ‘European Banking in the Middle Ages and Early Modern Period (476-1789)’, in Herman Van der Wee and G. Kurgan-Van Hentenrijk, eds., *A History of European Banking*, 2nd edn. (Antwerp, 2000), pp. 87-90.

¹⁰⁵ Munro, ‘Anglo-Flemish Competition’, pp. 37-60; Munro, ‘The Symbiosis of Towns and Textiles’, pp. 53-58; Terence H. Lloyd, *England and the German Hanse, 1157 - 1611: A Study of Their Trade and Commercial Diplomacy* (Cambridge, 1991), pp. 50-132.

¹⁰⁶ Ammann, ‘Deutschland und die Tuchindustrie’, pp. 1-63; see also Simonne Abraham-Thisse, ‘Le commerce des draps de Flandre en Europe du Nord: Faut-il encore parler du déclin de la draperie flamande au bas moyen-âge?’ in Marc Boone and Walter Prevenier, eds., *La draperie ancienne des Pays Bas: débouchés et stratégies de survie (14e - 16e siècles)/ Drapery Production in the Late Medieval Low Countries: Markets and Strategies for Survival (14th-16th Centuries)*, Studies in Urban Social, Economic and Political History of the Medieval and Modern Low Countries (Leuven/Appeldorn, 1993), pp. 167-206. She found, though for more selected periods, some later, a somewhat similar picture in these German markets, though with a wider array of medium-priced Flemish and Artesian textiles. See also sources in n. 103.

the Calais Staple Ordinances, in July 1433,¹⁰⁷ and several subsequent diplomatic missions to Westminster had failed, Duke Philip the Good's only response, though a forceful one, was to extend the existing Flemish ban against English cloths to all of his domains in the Burgundian Low Countries; and his ordinance of 19 June 1434 made perfectly clear that its objective was to force the English to abolish the hated Calais ordinances, though undoubtedly protection of the Low Countries' draperies in facing this dire and very real threat was also a powerful motive.¹⁰⁸ That cloth ban did not, however achieve either of these goals, and instead fuelled an ongoing conflict that led Duke Philip to ally with the French king Charles VII (1435), and that *volte face* in turn led to the Anglo-Burgundian war of 1436, which also included a futile Burgundian assault on Calais itself. Finally, on 29 September 1439, the Burgundians concluded a truce and new commercial treaty with England, restoring the English cloth trade to all Burgundian lands, except Flanders; but not until 1442 did the English finally suspend the Calais Bullion ordinances. Subsequently the English surreptitiously restored the Calais Ordinances, in turn provoking a second Burgundian ban on English cloths, from 1447 to 1452. After an apparent stalemate, a new Anglo-Burgundian accord was signed, in 1459, by which Duke Philip promised to exclude all non-Staple wools from the Low Countries in return for England's revocation of the Calais Ordinances. But then, in 1463, the new Yorkist monarchy of Edward IV enacted a new version of the Calais bullion laws;¹⁰⁹ that, in turn, provoked a third Burgundian ban on English cloth imports, from 1464 to 1467. But subsequently the briefly deposed Edward IV required financial assistance from the new duke of Burgundy to regain his throne, Charles the Rash; and in return for that assistance the

¹⁰⁷ *Rotuli Parliamentorum*, Vol. IV, no. 63, p. 454; *Statutes of the Realm*, Vol. II, p. 287 (11 Henrici VI).

¹⁰⁸ Munro, *Wool, Cloth, and Gold*, pp. 94-108; Munro, 'Industrial Protectionism', pp. 238-50. The full text is in Charles Piot, ed., *Inventaire des chartes de la ville de Léau* (Brussels, 1879), no. 8, pp. 26-28: in particular, 'die coipman ende luyde van den selve conickricke [England], die haer wolle plegen to vercoepen ende te setten tot redenyken prise... hebben die selve zeere verhoecht ende geset tot meerdere weerden ende prise; ende dair toe en willen sy die selven wolle onsen onderseten niet vercoepen, ten sy by *billoen van goude of van silvere*, sonder te willen ontfangen gancbair munte...'

¹⁰⁹ *Statutes of the Realm*, Vol. II, pp. 392-94 (3 Edwardi IV c. 1). It was somewhat milder, in requiring that only half of the wool payment be made at the time of sale in English coin and/or bullion.

1473 Parliament agreed to revoke and abolish forever the Calais Ordinances.¹¹⁰

The aftermath of the Calais Bullion Ordinances: for the traditional draperies

For most of the traditional urban draperies of the southern Low Countries, however, that seeming victory had come far too late; for the damages inflicted by English fiscal and bullionist policies, if not yet mortal, were certainly punitive. By this time, too many markets had been lost to the English cloth trade – and to the *nouvelles draperies*.¹¹¹ Too much capital and labour had deserted the luxury woollen draperies; and undoubtedly some *nouvelles draperies* benefited from receiving such welcome resources. To be sure, literary evidence may be untrustworthy; and undoubtedly the Hanseatic members of the Bruges *kontor* had greatly exaggerated in stating, as early as October 1433, that because of ‘the greatly severe Calais Ordinance’, and ‘because of the costliness of wool, more than half of the [traditional Flemish] drapery industry has perished’.¹¹²

Nevertheless the statistics in Tables 3-4 do present a grim picture of decline for the traditional draperies, especially in Flanders. Overall, one should first note the marked rise in prices of woollens from the major urban draperies (Tables 9-11) from the 1430s, even during the ensuing period of general deflation (from the late 1430s to the 1470s); and they certainly rose more than did those from the *nouvelle draperies*.¹¹³

¹¹⁰ *Rotuli Parliamentorum*, Vol. VI, no. 59, p. 60. The formal renunciation actually formed part of a new Anglo-Burgundian commercial treaty in July 1478. Thomas Rymer, ed., *Foedera, conventiones, literae, et acta publica*, 12 vols. (London, 1709-12), vol. XII, pp. 77-78; Smit, *Bronnen tot de geschiedenis van de handel met Engeland*, Vol. II, no. 1829, p. 1139. On all these events, see Munro, *Wool, Cloth, and Gold*, pp. 93-179; Lloyd, *Wool Trade*, pp. 276-87.

¹¹¹ See the comments of Hanse merchants, in 1458-61, in Stein, ‘Handelsbriefe aus Riga’, pp. 90-92.

¹¹² Von der Ropp, *Hanserecesse*, Vol. I, no. 192, p. 136; and earlier (p. 135): ‘so hebben de Engelschen langhe tijt hewaeret to Callis grote zwaer ordinancien up de Englesche wulle upgesat und gemaket, und bezwaert de wulle van tyden to tyden also zeere, dat se nymand van daer krygen en mach, daer lakene af te makende... daerute dat de neringhe van der draperie zeer medde to nichte gheet’.

¹¹³ On this deflation, see Munro, ‘Mint Outputs, Money, and Prices in Late-Medieval England and the Low Countries,’ pp. 31-122; John Munro, ‘Deflation and the Petty Coinage Problem in the Late-Medieval Economy: The Case of Flanders, 1334 - 1484,’ *Explorations in Economic History*, 25 (October 1988), 387-423; reprinted in Munro, *Bullion Flows and Monetary Policies*; and John Munro, ‘The Central European Mining Boom, Mint Outputs, and Prices in the Low Countries and England, 1450 - 1550,’ in Eddy H.G. Van Cauwenberghe, ed., *Money, Coins, and Commerce: Essays in the Monetary History of Asia and Europe (From Antiquity to Modern Times)*, Studies in Social and Economic History, Vol. 2 (Leuven: Leuven

By far the worst production indices are those for the Ypres drapery, the one most threatened by both the *nouvelles draperies* and the English cloth trade.¹¹⁴ Thus, from 1416-20 to 1481-85 (i.e., before the French war and the second Flemish revolt), the mean number of stalls rented in its cloth halls (*wulle ende lakenhallen*) fell 95.5 percent, from 550.9 to just 24.9; and the mean value of the drapery excise-tax farms, by 74.0 percent; in Ghent, over the same period, the mean value of the drapery excise -tax farms (*ramen ende nuuw huusgeld*) fell by 78.7 percent (81.2 percent from 1426-30).¹¹⁵ The production indices for the Mechelen drapery (Brabant), however, show a lesser degree of decline: a maximum of 61.8 percent, from £357.12 *oude groot* in 1421-25 to £136.15 *oude groot* in 1456-60; but then the tax farm sales achieved a partial recovery to £235.75 *oude groot* in 1481-85. During this period, the Mechelen drapery benefited from the now rapid expansion of the revived overland continental trade routes from Italy via South Germany and the Rhineland to the Brabant Fairs (Antwerp and Bergen-op-Zoom), from the South German silver-copper mining boom, and indeed from the dramatic growth of the Antwerp market.¹¹⁶

University Press, 1991), pp. 119 - 83.

¹¹⁴ Henri Pirenne, 'Les dénombrements de la population d'Ypres au XVe siècle (1412-1506),' *Vierteljahrsschrift für Sozial- und Wirtschaftsgeschichte*, 1 (1903), and Henri Pirenne, 'Une crise industrielle au XVIe siècle: la draperie urbaine et la nouvelle draperie en Flandre', *Bulletin de l'Académie royale de Belgique: Classe des Belles Lettres* (Brussels, 1905), both reprinted in *Histoire économique de l'occident médiéval*, ed. Emile Coornaert (Bruges, 1951), pp. 458-88, 621-43.

¹¹⁵ For further evidence of industrial decline, see John Munro, 'Economic Depression and the Arts in the Fifteenth-Century Low Countries,' *Renaissance and Reformation*, 19 (1983), 235-50; reprinted in John Munro, *Textiles, Towns, and Trade*; Munro, 'Monetary Contraction and Industrial Change', pp. 95-161; and Munro, 'Industrial Protectionism', pp. 229-68; and Munro, 'Symbiosis of Towns and Textiles', pp. 1-74. The first Flemish revolt against the Habsburg prince Maximilian (husband of the late duchess Marie) was brief, from 1483-85, followed by war with France, in 1486-89, during which the far more serious revolt took place, from 1488 to 1493.

¹¹⁶ See Van der Wee, *Growth of the Antwerp Market*, vol. II: *Interpretation*, pp. 73-87 113-18; Herman Van der Wee, 'Structural Changes in European Long-Distance Trade, and Particularly in the Re-export Trade from South to North, 1350-1750,' in James Tracy, ed., *The Rise of Merchant Empires: Long-Distance Trade in the Early Modern World, 1350-1750* (Cambridge, 1990), pp. 14-33; Munro, 'Central European Mining Boom', pp. 119-83; Munro, 'Changing Fortunes of Fairs', pp. 1-47; Munro, 'Low Countries' Export Trade', pp. 1-30; Wenceslaus Mertens, 'Changes in the Production and Export of Mechelen Cloth, 1330 - 1530,' in Aerts and Munro, *Textiles of the Low Countries*, pp. 114-23; Wenceslaus Mertens, 'Toenemende economische welvaart,' in Raymond Van Uytven, ed., *De geschiedenis van Mechelen: van heerlijkheid tot stadgewest* (Lannoo, 1991), pp. 83-93.

The Dutch drapery in Leiden evidently fared the best of all, though we have no usable data before 1446-50; but from then until 1481-85, its quinquennial mean imports of English wools rose 2.35 fold from the equivalent of 714.14 sacks to one of 1,678.53 sacks. Apart from the reasons given above, the prime reason for its success in surviving the English threat so well were the Dutch victories in gaining virtual mastery over the Baltic trades from the Hanse, after their victory in the Dutch-Wendish war (1436-39), but especially during the Hanseatic embargo of Flanders (1451-57).¹¹⁷

Nevertheless the bitter fruits of the English fiscal-monetary policies and the threat posed by the expansion of the English cloth trade were very cruel, as revealed by the statistics on English wool and cloth exports, in Table 1: thus, from 1416-20 to 1481-85, woolsack exports fell 50.1 percent, from a mean of 13,355.4 sacks to one of 6,669.6 sacks; and cloth exports, despite encountering a slump during the mid-century depression, virtually doubled during this period, from a mean of 27,977 in 1416-20 broadcloths to one of 54,198 broadcloths in 1481-85.¹¹⁸ By the early 1480s, they were enjoying the beginning of a sixty-year export boom, which would reach a quinquennial mean peak of 118,056 cloths in 1541-45. But, even in the 1480s, a German observer in the Netherlands had compared the current influx of English woollen to an ‘immense inundation of the sea’.¹¹⁹

The aftermath of the Calais Bullion Ordinances: for the *nouvelles draperies*

¹¹⁷ See Table 6 below; and the sources cited in n. 99 above, especially Brand, ‘The Leiden Drapery’, pp. 121-49; Dollinger, *The German Hansa*, pp. 285, 293-94, 298-317 ; T.S. Jansma, ‘Philippe le Bon et la guerre hollando-wende’, *Revue du Nord*, 42 (1960), 5-18; Daenell, *Die Blütezeit der deutschen Hanse*, Vol. I, pp. 221-61, 275-85; F. Ketner, *Handel en scheepvaart van Amsterdam in de vijftiende eeuw* (Leiden, 1946), pp. 16-20; Michael Postan, ‘Economic and Political Relations of England and the Hanse, 1400-1475’, in Michael Postan and Eileen Power, eds., *Studies in English Trade in the Fifteenth Century* (London, 1933), pp. 91-154; Marian Malowist, ‘L’expansion économique des Hollandais dans le bassin de la Baltique aux XIVe et XVe siècles’, from his *Studia z dziejow rzemiosla w okresie kryzysu feudalizmu w Europie Zachodniej w XIV i XV wieku* (Warsaw, 1954); republished in his *Croissance et regression en Europe, XIVe - XVIIe siècles*, in the series Cahiers des Annales, No. 34 (Paris, 1972), pp. 91-138.

¹¹⁸ On this mid-century depression, see in particular: Pamela Nightingale, ‘England and the European Depression of the Mid-Fifteenth Century,’ *The Journal of European Economic History*, 26:3 (Winter 1997), 631-56; John Hatcher, ‘The Great Slump of the Mid-Fifteenth Century,’ in Richard Britnell and John Hatcher, eds., *Progress and Problems in Medieval England* (Cambridge and New York, 1996), pp. 237-72.

¹¹⁹ An ‘*inundacionis maris immensis*’, in Dietrich Schäfer, ed., *Hanserecesse, 1477-1530*, 3rd ser., 9 vols. (Leipzig, 1881-1913), Vol. III, p.105 (1487).

Nevertheless, as the earlier evidence on the quite radical changes in wool usages would suggest, many if not all the Flemish *nouvelles draperies* were able to circumvent the Calais Staple bullion ordinances and thus avoid, or at least postpone the fate of the traditional urban draperies, by resorting to the use of Spanish *merino* wools. As early as 1436, when the Duke Philip was enlisting support from the Flemish urban militias for his attack on Calais, the Sovereign Bailiff of Flanders reported, with obvious and expected exaggeration, that ‘the wools of Spain and Scotland are beginning to be adopted in conformance with English wools, and these said wools are now being used to almost the same extent as the English wools used to be’.¹²⁰ Two years later, in May 1438, the Dutch and Burgundian ambassadors sent to Westminster, to negotiate a truce, also pointed out to King Henry VI’s councillors that, as a direct result of the Calais Ordinances, English wool sales had fallen by over one half and that merchants from Spain and Scotland, ‘have succeeded in selling three times more [of their] wool in our towns, which used to buy large amounts of English wool’.¹²¹ As a final example to be cited, during the 1467 treaty negotiations, to end the third Burgundian cloth ban, Duke Philip’s ambassadors once more warned the English that, if they did not revoke the Calais Ordinances, the draperies in the Low Countries ‘would be forced either to give up cloth-making entirely, or else find their wools elsewhere, which would mean giving up entirely the said English wools’.¹²²

As the English undoubtedly surmised, the traditional urban draperies would not – not yet – dare forsake the very essence of their ultra-luxury woollens, and thus would not risk losing more customers. But perhaps, at this time, neither fully appreciated the growing threat posed by the Flemish *nouvelles draperies*, so many of whom now had an avid desire to acquire Spanish wools. The difference in industrial attitudes is not that difficult to understand. For, if the *nouvelles draperies* were, by their very nature, cost-cutting ‘counterfeiters’ or, in rational imitators, yet another compromise in production processes and standards in

¹²⁰ François Morand, ed., *Chronique de Jean le Fève de St. Remy*, 2 vols. (Paris, 1876), Vol. II, p. 378. He also noted that ‘English wool has become so costly that merchants cannot profit by it; and, what is more, they must pay a third of the price in bullion’.

¹²¹ Smit, *Bronnen tot de geschiedenis van de handel met Engeland*, vol. II, no. 1126, p. 698.

¹²² Marie-Rose Thielemans, *Bourgogne et Angleterre: relations politiques et économiques entre les Pays-Bas bourguignons et l’Angleterre, 1435-1467* (Brussels, 1966), doc. no. 8, pp. 473-74.

resorting to Spanish wools was not such a very large step to take, and certainly not if it ensured a greater likelihood of survival, with such steeply rising costs for English wool. Of course, there is no adequate method of measuring that degree of compromise involved, in terms of the relative qualities of the two short-fibred, fine wools. That Spanish *merino* wools were, in the 1430s, still much inferior to the English was not to be disputed, according to the anonymous author of the *Libelle of Englysche Polycye*, who poetically asserted that:¹²³

The Wolle of Spayne, hit cometh not to presse, but if it be tosled and mended [mixed] well
Amonges Englysshe wolle the gretter delle; hit is of lytelle valeue, trust unto me,
Wyth Englysshe wolle, but if it mended be....

Such views were not just mere English prejudice. Many of the fifteenth-century industrial *keuren* of the Flemish *nouvelles draperies* certainly do rank Spanish wools well below the second grade English wools, and sometimes even below Scottish wools.¹²⁴

Furthermore, by no means all of the *nouvelles draperies* were so willing to experiment with Spanish wools, despite the rising costs of English wools. Many of the older ones, especially this group's leaders in the later fourteenth century, were now manifesting attitudes about quality production more akin to those of the *drie steden*. In Wervik for example, its urban magistrates required all drapers, in 1447, 'to swear a holy oath yearly upon the cross to use none but English wools'.¹²⁵ But twelve years later, in 1458, a group of Wervik drapers petitioned the duke's officials to revoke this regulation.¹²⁶ A lengthy investigation was then held at the ducal *Chambre de Comptes* in Lille. In finally issuing their report in 1463, the ducal officers agreed, on the one hand, that the high cost of English wools, and especially the requirement that they 'must

¹²³ George Warner, ed., *The Libelle of Englysche Polycye* (Oxford, 1926), p. 6. He also stated (p. 5): 'But ye flemmynges, if ye be not wrothe, the grete substance of youre cloothe, at the fulle, ye wot ye make hit of youre Englissh wolle...'

¹²⁴ See those for Comines, Estaires, and Menen, in De Sagher, *Recueil de documents*, Vol. II, no. 220, pp. 30-32; Vol. II, no. 265, pp. 276-80; Vol. III, no. 396, p. 37.

¹²⁵ De Sagher, *Recueil de documents*, Vol. III, no. 586:195, p. 564: 'Ende zullen elc drapier ende drapierghe jaerlicx eed doen ten helegghen up een cruus gheen andre wulle dan Inghelsche te drapierne'.

¹²⁶ De Sagher, *Recueil de documents*, Vol. III, no. 577, pp. 520-21.

be paid for fully in ready money' did justify the substitution of Scottish and Spanish wools.¹²⁷ On the other hand, they reported staunch opposition to such usage, on the grounds that 'if cloths were to be made from all manner of wools, then merchants would no longer wish to come here, so that the said town would become scandalized and outcast'.¹²⁸ With the Brussels *nouvelle draperie* (1443) as a possible model, the ducal officials decided to authorize the use of Spanish, Scottish, and domestic wools at Wervik, but only for those drapers who swore to make only *petits draps*, bearing a distinctly different seal, and not to use any English wools.¹²⁹ About this same time, another 'old' *nouvelle draperie*, Kortrijk, also belatedly adopted Spanish wools; but not those old stalwarts Diksmuide and Langemark. Indeed, indicates, none of these draperies fared all that well during the fifteenth century.¹³⁰

Spanish wools and textile production in the sixteenth-century Low Countries

Certainly, those newer *nouvelles draperies* that did survive and then expand were those that did make the switch, in whole or in part, to Spanish wools; and by the early sixteenth century that switch may have been further justified by an improvement in the quality of *merino* wools, though they probably did not surpass the finest English wools until the late sixteenth century.¹³¹ Thus, in 1525, almost a century after the

¹²⁷ De Sagher, *Recueil de documents*, Vol. III, no. 582 (Oct. 1463), pp. 528-29: on English wools, 'veu qu'elles se sont tres chieres et qu'il les fault paier d'argent comptant'.

¹²⁸ De Sagher, *Recueil de documents*, Vol. III, nos. 581-82, pp. 527-28 (June, Oct. 1463).

¹²⁹ De Sagher, *Recueil de documents*, Vol. III, nos. 583, pp. 530-31 (16 Nov. 1463).

¹³⁰ De Sagher, *Recueil de documents*, Vol. III, no. 581, p. 527. On these draperies, see in particular, Peter Stabel, 'Décadence ou survie? Économies urbaines et industries textiles dans les petite villes drapières de la Flandre orientale (14e-16e s.),' in Marc Boone and Walter Prevenier, eds., *Draperies Production in the Late Medieval Low Countries: Markets and Strategies for Survival (14th-16th Centuries)*, (Leuven/Appeldorn, 1993), pp. 63-84; Peter Stabel, *De kleine stad in Vlaanderen, 14de - 16de eeuw*, Verhandelingen van de Koninklijke Academie voor Wetenschappen, Letteren en Schone Kunsten van België, Klasse der Letteren Jaargang 57 (Brussels, 1995); Peter Stabel, *Dwarfs among Giants: The Flemish Urban Network in the Late Middle Ages*, Studies in Urban Social, Economic and Political History of the Medieval and Modern Low Countries no. 8 (Leuven-Apeldoorn, 1997); and see n. 151 below.

¹³¹ Or by the early seventeenth century. In England, during the 1640s, Spanish wools cost on average 3s 3d per pound, compared to 3s 0d per pound for the best Herefordshire 'Ryelands'; and in the 1660s, Spanish 'superfine' wools averaged 4s 2d per pound, while the better English wools averaged only 1s 5d per pound. See Carter, *His Majesty's Spanish Flock*, pp. 9, 11, 413, 420-22; Bowden, *The Wool Trade*, p. 27, citing in particular *England's Glory by the Benefit of Wool Manufactured Therein* (anonymous, 1669); Julia

Libelle, an English merchant named Clement Armstrong, in his *Treatise Concerning the Staple and the Commodities of this Realme*, similarly contended that Spanish wools had to be mixed with English wools to produce cloths of ‘durable weryng’; but he also voiced the current opinion that ‘Spaynish woll is almost as good as English woll, which may well be soo, by that Spayn hath housbondid ther wolle from wurse to better, and England from better to wurst’.¹³² The best evidence to support both of these views, and the importance of Spanish wools, is to be found in *keure* for what had now become the most aggressive leaders of the ‘new’ *nouvelles draperies*, the famed Armentières. For the manufacture of its best *draps outtreffins*, it specified a mixture of the two as follows: ‘le tierch de laine Englesse et les deux pars fins laine d’Espagne’, while requiring that the Spanish wools ‘soit de sy bon poil pour corespondre alle laine englesse’. As for the latter, only the best were to be used: Cotswolds, Berkshires, Lindseys, and Young Cotswolds. Scottish wools, on the other hand, and other *laines désléables* were strictly forbidden.¹³³ Such a mixture of wools was probably still necessary to maximize the fulling properties of the wool; but, whatever the reason, that demand for English wools, and the expansion of the more aggressive *nouvelle draperies*, along, of course, with continued demand from the Leiden drapery, also ensured some survival of the Calais

de Lacy Mann, *The Cloth Industry in the West of England from 1640 to 1880* (Oxford, 1971), pp. 257-59; John Smith, *Chronicon-Rusticum*, vol. II, pp. 410-11, 499, 514-15, 542. Mann also state (pp. 266-67) that in the eighteenth century, Spanish *merino* wools had a staple length of only 0.50 - 0.75 inch, compared to one of 1.50 inch for Herefordshire wools. But both Carter, *His Majesty’s Spanish Flock*, p. 421 and A.P. Usher, *The Industrial History of England* (Boston, 1920), p. 195 provide the following figures for the modern era: 2.25 - 2.50 inches for *merino* wools, compared to 10.5 inches for Lincolnshire wools.

¹³² Text in Richard H. Tawney and Eileen Power, eds., *Tudor Economic Documents*, 3 vols. (London, 1924), Vol. III, p. 102. Indeed, one of Armstrong’s objectives in this treatise was to attack the current Tudor Enclosure movement, on the grounds that, in so altering the grazing patterns of English sheep, ‘because the erthe is now putt to idulness to bryng forth rank, foggy, wild gresse’, it was thereby irreparably impairing the quality of English wools, producing indeed ‘wild hevye wolle’ and ‘so is the gift of fyne wolle yerly lost’. See Bowden, *Wool Trade*, pp. 4-6, 26-27, and his ‘Wool Supply and the Woollen Industry’, pp. 44-51, for similar arguments that enclosures, by producing richer, year round ample feeding, produced much bigger, heavier weight sheep, with longer, coarser-stapled fleeces, whose wools were more suited to worsteds than to woollens. For similar arguments, see Mann, *Cloth Industry in the West of England* pp. 257-79; and William Youatt, *Sheep: Their Breeds, Management, and Diseases* (London, 1837).

¹³³ De Sagher, *Recueil de documents*, Vol. I, no. 36, pp. 102-05 (October 1510).

Staple trade (which endured Calais was restored to France in 1558).¹³⁴

Possibly, some significant improvement in the quality of *merino* wools by the early sixteenth century had become a powerful enough incentive for the surviving remnants of the traditional urban draperies finally to adopt the use of Spanish wools, all the more so when they faced not just contracting but very limited demand for their traditional products. As noted earlier, Leuven may have done so as early as the 1480s; but it had certainly done so by 1513.¹³⁵ By 1519, the Ghent drapery had also begun using Spanish wools; and its drapery *keuren* was evidently closely modelled on those of Leuven.¹³⁶

A few years later, in June 1522, the Leiden *gerecht* (magistrates) officially also authorized the use of Spanish *merino* wools – which had been first mentioned, and banned, in 1479.¹³⁷ Leiden's cloth production had in fact peaked by the early 1520s (Table 6); and, according to the 1522 ordinance, the Leiden drapers had been encountering further difficulties and higher prices at the Calais Staple, so that *merino* wools were now 25 percent cheaper than English Staple wools.¹³⁸ Nevertheless, the *merino* wools were used in only limited quantities, usually mixed with some English wools, as elsewhere. Even so, many drapers began to complain that Spanish wools were not only inferior to the English, but were more difficult to comb, and that

¹³⁴ See E. E. Rich, ed., *The Ordinance Book of the Merchants of the Staple*, Cambridge Studies in Economic History (Cambridge, 1937), pp. 14-35.

¹³⁵ See above, p. and n. 93.

¹³⁶ Stedelijk Archief Leuven, no. 723, fo. 1^r - 5^v; and no. 1526, fo. 203^r - 10^v (referring to the Ghent *keuren* of 1519). For Marc Boone's contention that Ghent had begun using Spanish wools in the 1450s, and my reply, see n. 88 above, and Munro, 'The Origins of the English New Draperies', pp. 97-98, n. 33. The first extant and complete drapery *keure* for Ghent that stipulates the requirements for manufacturing woollens from Spanish wools is dated 22 May 1546, and is published in Lameere and Simont, *Recueil des ordonnances des Pays Bas*, Vol. V, pp. 272-83. See n. 41 above.

¹³⁷ Posthumus, *Bronnen tot de geschiedenis van de leidsche textielnijverheid*, vol. I, no. 440:37, p. 503. For earlier punishments of drapers caught using non-English wools, see nos. 115-16, pp. 131-33 (1434); no. 474, pp. 590-91 (1476).

¹³⁸ Posthumus, *Bronnen tot de geschiedenis van de leidsche textielnijverheid*, vol. II, no. 903, pp. 316-17. For complaints about rising English wool prices at the Staple, see nos. 867 (1518), 869 (1519), on pp. 194-5, 297-9, and also pp. 331-2. See also Posthumus, *Geschiedenis van de Leidsche lakenindustrie*, vol. I, pp. 206-15, stating that Spanish wools then cost 75 percent as much as the English; and Brand, 'A Medieval Industry in Decline', pp. 121-49; J. A. Van Houtte, *An Economic History of the Low Countries, 800 - 1800* (London, 1967), pp. 156-62.

fulling cloths containing such wools required much more effort and time. As the data in Table 6 indicate, this resort to Spanish wools did nothing to stave off the industry's continuing decline, with the relentless growth in English competition; and in 1536, the Leiden drapery decided that, to safeguard its reputation and retain its existing customers, it would resume the exclusive use of English Staple wools. Amsterdam and Gouda, on the other hand, long having produced cheaper-quality woollens, were quite content to retain the use of Spanish wools.¹³⁹

During this period, the Bruges drapery, or rather its remnant, remained quite unchanged; and indeed in July 1533, its magistrates remarked, in letters to the Dowager Queen of Hungary, that their woollens still 'se fait des laines Dangleterre';¹⁴⁰ and in that same year, they also explicitly reaffirmed the traditional ban on non-English wools¹⁴¹. Bruges had not, however, been oblivious to the significance of Spanish wools; for in December 1493 the town magistrates had skilfully secured exclusive staple rights for their importation into the Low Countries, a growing trade that ensured some continuing prosperity for the Flemish port in the sixteenth century.¹⁴² Indeed, in 1486-87, 43 of the 75 ships entering Bruges' outport were Iberian; and of the latter, 19 were carrying wool, with a capacity of 2,845 tonnes (34.4 percent of that year's total tonnage).¹⁴³

¹³⁹ Brand, 'A Medieval Industry in Decline', pp. 135-49.

¹⁴⁰ Gilliodts-Van Severen, 'Relations de la Hanse', no. 24, p. 272.

¹⁴¹ Rijksarchief West-Vlaanderen te Brugge, Charters Blauwennummers, no. 8321: accusation of the *deken* of the wool-weavers guild, before the college of civic *schepenen*, on 17 November 1533, against a dyer-drapeer who had made some woollens from Flemish and Rhenish wools, 'contrarie t'inhouden vanden drientseventich [73rd] article vanden keure vanden voors. ambochte dat expresselic verbiet and interdiceert eenighe Brugsche lakene te reedene dan van Inghelsche wulle, uuteghedaen smalle lakenen'. (A similar case was heard on 19 Jan. 1534 *ns*: CB no. 8322.) See also nn. 40 and 51 above, for references to use of Spanish wools in Bruges' *smalle lakenen* as early as 1434.

¹⁴² Gilliodts-Van Severen, *Estaple de Bruges*, vol. I, no. 1277-16, pp. 290-91; no. 1279, pp. 291-92 (12 December 1493). Reconfirmed on 7 August 1540: in Lameere, *Recueil des ordonnances des Pays Bas*, Vol. IV, pp.221-22. Note that this was three years before Archduke Philip's marriage to Joanna of Spain. In the 1490s, Bruges also tried, and failed, to secure a staple in English cloth; but it finally did succeed in 1540. See Munro, 'Bruges and the Abortive Staple', pp. 1138-59; Munro, 'Industrial Protectionism', pp. 251-54. On the Spanish wool trade, see Van Houtte, *Bruges*, pp. 91-92.

¹⁴³ Gilliodts-Van Severen, *Archives de Bruges*, Vol. VI, no. 1221, pp. 275-76. Three other unidentified ships were also carrying wool; and they were probably Spanish. See also Finot, *Relations commerciales*, p. 223: contending that in 1484 Bruges had received more than 150,000 kg. of Spanish wool.

Furthermore, in the very early sixteenth century, the Bruges town government also tried, but failed, to establish various *nouvelles draperies*, in the style of Armentières, Nieuwkerk, and Tournai; and these undoubtedly would have used Spanish wools.¹⁴⁴

Subsequently, in November 1533, the Bruges magistrates once again sought to introduce a *nieuwe draperie*, ‘in the style of Armentières’, but one that would use only Spanish wools.¹⁴⁵ Perhaps the fact that the aforementioned ban on non-English wools was re-affirmed in that very same month may explain why this project was, once more, abortive. Only in September 1544 did Bruges finally succeed in establishing a *nieuwe draperie* based exclusively on Spanish wools.¹⁴⁶ On 7 July 1546, the Bruges magistrates ruled that, while the *nieuwe draperie* with Spanish wools would continue to be regulated by the recent ordinances, the former *keuren* for the *oude draperie* with English wools were to remain in force.¹⁴⁷ In June 1548 the drapers of the *oude draperie* stated that because of the great scarcity of English wools at Calais, and the imminent extinction of their drapery, they wished to secure the right to continue making their traditional woollens from Spanish wools in the very same ‘manner as declared in the *keure* of the old drapery based on English wool’;

¹⁴⁴ De Sagher, *Recueil de documents*, Vol. III, no. 425, pp. 126-28 (1503); Gilliodts-Van Severen, *Etaple de Bruges*, Vol. II, no. 1367, pp. 376-77 (1507); Jan Van Houtte, ‘De draperie van Leidse lakens in Brugges, 1503-1516: Een vroege poging tot inplanting van nieuwe nijverheden,’ in *Album Antoon Viaene* (Bruges, 1970), pp. 331-39; reprinted in J. A. Van Houtte, *Essays on Medieval and Early Modern Economy and Society*, Symbolae Facultatis Litterarum et Philosophiae Lovaniensis Series A: vol. 5 (Leuven, 1977), pp. 291-302; Van Houtte, *Bruges*, p. 102.

¹⁴⁵ Rijksarchief West-Vlaanderen te Brugge, Charters Blauwennummers, no. 8320: petitions dated 12 Nov. 1533, concerning the ‘nieuwe draperie onlancx upghestelt ende beghonnen binnen der zelve stede van Spaensche wulle’, to produce woollens in the style of Armentières for three years. See also Gilliodts-Van Severen, *Cartulaire de l’ancien consulat d’Espagne*, Vol. I, pp. 296-97.

¹⁴⁶ The drapery *keuren* (63 articles) are published in M. G. Willemsen, ed., ‘Le règlement sur la draperie brugeoise du 20 septembre 1544’, *Annales de l’Académie Royale d’Archéologie de Belgique*, 69 (1921), 5-74: ‘op te stellene een nieuwe draperie ende aldaer te drapierene ende reedene diverse soorten van lakenen van Spaensche wulle [dobbel leeuwen, inkel leeuwen, ghecronde B, griffoen]’. In Rijksarchief West-Vlaanderen te Brugge, Charters Blauwennummers, nos. 8415-19, 8365, 8371-72 are other contemporary Bruges drapery ordinances (*tempore* Charles V) concerning ‘eene nieuwe draperie’ to produce ‘diverse sorte van lakenen van Inghelsche ende Spaensche wulle’ (CB no. 8414); and in others, ordinances for the production of *lammekins* and *effen* woollens: ‘vander welke Spaensche wulle men sal moghen maken als hier ghemacet vander Yngelsche wulle’ (CB no. 8419).

¹⁴⁷ Rijksarchief West-Vlaanderen te Brugge, Charters Blauwennummers, no. 8365.

and from 1548 all woollen cloths in Bruges were indeed made only from Spanish wools.¹⁴⁸ Finally, in virtually the same years – 1544 and 1545 – Mechelen and then Ypres issued new drapery *keuren* that authorized the use of Spanish wools in certain sealed cloths; but both continued to make cloths from English wools as well.¹⁴⁹

Although very fine and costly woollens from both Mechelen and Ypres, along with Spanish-wool based woollens from Bruges (*dobbelen leeuw*), can be found on the Antwerp market, as late as the 1570s, they were certainly outnumbered there not only by the English woollens, but also by those from the surviving *nouvelles draperies*, especially those of Armentières, Menen, Nieuwkerk, Lier, and also Herenthals.¹⁵⁰

Although clearly the *nouvelles draperies* were by far the predominant and pre-eminent producer of genuine woollens in the mid-sixteenth century Low Countries, many that had been prominent in the fourteenth and fifteenth centuries (e.g., Wervik, Kortrijk, Comines, Langemark, Diksmuide) no longer survived. Some had become extinct because of their failure to adopt Spanish wools soon and fully enough; but others who had adopted Spanish wools failed for a variety of reasons. The resort to Spanish wools, while providing salvation for some, was not in itself a guarantee of survival.¹⁵¹ Those that had flourished, such as Armentières, Nieuwkerk, and Menen, evidently reached their peak in the 1530s or 1540s, when, according to some reports, 40,000 to 50,000 sacks of *merino* wools were being imported annually.¹⁵² But subsequently they proved no

¹⁴⁸ Rijksarchief West-Vlaanderen te Brugge, Charters Blauwennummers, no. 8372: ‘van Spaensche wolle ... in maniere als inhoudt ende verclaerst de keure vander ouder draperie vanden Inghelsche wulle’.

¹⁴⁹ M.G. Willemsen, ed., ‘Le règlement général de la draperie malinoise de 1544’, *Bulletin du cercle archéologique de Malines*, 20 (1910), 156-90; Diegerick, *Archives d’Ypres*, vol. V, Appendix S, pp. 305-12 (1545); Vol. VI, no. 1753, p. 41 (1552). See the following note.

¹⁵⁰ Alfons K. L. Thijs, ‘Les textiles au marché anversois au XVIe siècle,’ in Erik Aerts and John Munro, eds., *Textiles of the Low Countries in European Economic History* (Leuven, 1990), pp. 76-86.

¹⁵¹ See n. 130 above, especially Stabel, *Dwarfs among Giants*; Stabel, ‘Décadence ou survie? Économies urbaines et industries textiles dans les petite villes drapières’, pp. 63-84.

¹⁵² For Flanders alone, some 30,000 sacks imported in 1530, according to a Flemish report in Gilliodts-Van Severen, *Cartulaire de l’ancien consulat d’Espagne*, Vol. I, pp. 303-04. See Van Houtte, *Bruges*, p. 91, for an estimate of 40,000 sacks in 1540; but for a ‘peak’ estimate of 50,000 sacks, see Phillips, ‘Merchants of the Fleece’, p. 79. In 1541-45, English wool exports to Calais averaged just 3,879.3 sacks a year. See Table 1. In 1527, a Stapler merchant had bitterly complained that Spanish wools ‘bine brought

more able to withstand the continuing onslaught from the English cloth trade than did the Leiden drapery.¹⁵³

Nouvelles draperies and draperies légères (sayetteries) in the 1560s and the Pirenne thesis

Certainly their hey-day had passed by the 1560s, when, according to a recent study on textile manufacturing, the production of woollen cloths from the *nouvelles draperies* and the very few remaining traditional draperies was then about 2.07 million metres, while output from the various *sayetteries* and other *draperies légères (sèches)* was 3.64 million metres, i.e., about 76 per cent greater.¹⁵⁴ For indeed, from the later fifteenth century, these latter industries, once again led by Hondschoote, had enjoyed a remarkable revival and renewed expansion (Table 6), for a number of complex reasons that I have discussed at length elsewhere: chiefly structural changes in international trade, involving a sharp fall in transaction costs in particular, strong demographic and economic growth in general, and other market changes that had once again favoured an international trade in the relatively cheaper and lighter textiles, especially to the Mediterranean basin, and also to the New World.¹⁵⁵

It is fitting to conclude this study by citing the truly seminal article by Henri Pirenne on ‘an industrial crisis of the sixteenth century: the urban draperies and the *nouvelle draperies* in Flanders’, published almost a century ago.¹⁵⁶ Though Pirenne’s historical studies were those that chiefly inspired me to become an economic historian, I must, however, point out four serious faults that have misled so many scholars since

into Flaundres in great abundance more in one year nowe, than hath bine heeretofore in three’. Text in Georg Schanz, ed., *Englische Handelspolitik gegen Ende des Mittelalters*, 2 vols. (Leipzig, 1881), Vol. II: *Zoll- und Handelsstatistik, Urkunden, und Beilagen*, no. 129, p. 568.

¹⁵³ See Table 6 below; and Brand, ‘A Medieval Industry in Decline’, pp. 121-49; and Herman Van der Wee, ‘The Woollen Industries, 1500 - 1750’, in David Jenkins, ed., *The Cambridge History of Western Textiles* (Cambridge, 2003).

¹⁵⁴ Hugo Soly and Alfons Thijs, ‘Nijverheid in de zuidelijke Nederlanden’, in J.A. Van Houtte, et al., eds., *Algemene geschiedenis der Nederlanden*, 12 vols. (Haarlem, 1977-1979), Vol. VI, pp. 27-57.

¹⁵⁵ Munro, ‘The Origin of the English New Draperies’, pp. 83-87; Munro, ‘Changing Fortunes of Fairs’, pp. 1-47; Munro, ‘Low Countries’ Export Trade’, pp. 1-30.

¹⁵⁶ Pirenne, ‘Une crise industrielle au XVIe siècle’ (1905), pp. 621-43. See n. 114 above.

then.¹⁵⁷ First, he incorrectly thought that Spanish wools were totally different from the English and were used only in these ‘light draperies’, when in fact they were never used in any of the *sayetteries*.¹⁵⁸ Second, therefore, he badly confused the true *nouvelles draperies*, such as those in Armentières and Nieuwkerk (Neuve-Église), which belonged to the heavy-weight *draperie ointe*, with those of the light-weight *sayetteries*, such as Hondschoote, which were also vastly cheaper in the sixteenth century.¹⁵⁹ Third, he thought that they were all ‘new draperies’ when in fact the *sayetteries* and related draperies were an ancient industry that enjoyed a remarkable ‘resurrection’, as just noted, from the later fifteenth century; and the true *nouvelles draperies* were actually born with the industrial transformations of the mid-fourteenth century.¹⁶⁰ Fourth, the ultimate pre-eminence of the latter two was from being just a simple victory of rural ‘free enterprise’ over rigid, sclerotic, guild-dominated protectionist urban draperies. Indeed, just as with the later English ‘New Draperies’ both the *nouvelles draperies* and the *sayetteries* in the southern Low Countries were or became essentially urban, with their own guild organizations and sets of urban-sanctioned industrial regulations.¹⁶¹ Several studies, including my own, have sought to provide a truer if far more complex

¹⁵⁷ See in particular Donald C. Coleman, ‘An Innovation and its Diffusion: The ‘New Draperies’,’ *Economic History Review*, 2nd ser. 12 (1969), 417-29.

¹⁵⁸ See Maurice Van Haeck, *Histoire de la sayetterie à Lille*, 2 vols. (Lille, 1910), Vol. II, doc. no. 10, p. 42 (May 1527): ‘ne user de laines d’Espagne, plis, mortin, ne aignelin, mais usent doresenavant de laines veaurices, Escoches, de Noef Chaslet [Newcastle] suellement;’ and also, in Vol. I, pp. 15, 75, 238-9. See also the Hondschoote *keuren* in De Sagher, *Recueil de documents*, Vol. II, nos. 287-303, pp. 346-448; Coornaert, *Hondschoote*, pp. 189-98, 200, 2141-5; and his ‘Draperies rurales’, p. 82.

¹⁵⁹ In the mid-sixteenth century, the prices of Hondschoote says ranged from £1.733 to £1.933 *groot* Flemish, compared to a range of £2.750 to £5.333 for the Armentières woollens. See De Sagher, *Recueil de documents*, Vol. I, nos. 36-54 (pp. 102-201); Vol. II, nos. 287-303, pp. 346-448 (Hondschoote); Thijs, ‘Les textiles au marché anversoïis’, pp. 76-86; and Table 6 below.

¹⁶⁰ See above, pp.

¹⁶¹ For the *sayetteries*, in particular: first in Hondschoote, Bergues-Saint-Winoc (from 1433), and Tournai; then in Lille, Amiens, Arras, Mons, and Saint-Omer; and finally, by the early to mid-sixteenth century, in Bruges, Ghent, Ypres, Mechelen, Leuven, Brussels, Leiden, Armentières, Valenciennes, Neuve-Église, Bailleul, Béthune, Orchies, Diksmuide, Poperinge, Menen, Halluin, Oudenburg, Lo, Douai, Mons, Beauvais, Montreuil, Cambrai, Saint-Quentin, Aubenton, Huy, Péronne, Reims, and Abbeville. See Emile Coornaert, *Une industrie urbaine du XIVe au XVIIe siècle: l’industrie de la laine à Bergues-Saint-Winoc* (Paris, 1930); Coornaert, *Hondschoote*, pp. 13-4, 81-2, 214-5; Van Haeck, *Sayetterie à Lille*, Vol. I, pp. . 46-95; E. Maugis, ‘La saietterie à Amiens, 1480-1587,’ *Vierteljahrschrift für Sozial-und*

explanation for these industrial transformations, but Pirenne's views evidently still prevail.¹⁶²

There was, of course, yet another set of industrial transformation in textiles, about to unfold, from the late 1560s, with the outbreak of the Revolt of the Low Countries (1566-68), and the brutal Spanish reconquest of the southern Low Countries. Many Flemish textile artisans from the *sayetteries* fled for sanctuary both north, into Holland, and west, across the Channel, into East Anglia, re-establishing their 'new draperies' in both places. Ultimately, by the mid-seventeenth century, the English New Draperies (producing says, bays, stuffs) would gain a comparative advantage in the field of the cheaper light textiles, while Leiden would successfully restore its *oude draperie* and gain a similar comparative advantage in the markets for heavy-weight woollens.¹⁶³

Wirtschaftsgeschichte, 5 (1907), 1-115; Chorley, 'Draperies Légères', pp. 151-66; Robert Duplessis, 'One Theory, Two Draperies, Three Provinces, and a Multitude of Fabrics: The New Drapery of French Flanders, Hainaut, and the Tournaisis, c. 1500- c.1800', and Luc Martin, 'The Rise of the New Draperies in Norwich, 1550-1622', both in Negley Harte, ed., *The New Draperies in the Low Countries and England, 1300 - 1800*, Pasold Studies in Textile History no. 10 (Oxford and New York, 1997), pp. 129-72, 245-74; Vermaut, 'Structural Transformation', pp. 187-92.

¹⁶² Seven decades ago, in 1930, Coornaert sought to correct many of Pirenne's errors in his *La draperie-sayetterie d'Hondschoote, XIVe-XVIIIe siècles*; and then again, in 1950, in his article 'Draperies rurales, draperies urbaines', pp. 60-96, but too little avail. For my other studies on this theme, see in particular: 'The Origins of the English New Draperies', pp. 35-127; 'Symbiosis of Towns and Textiles', pp. 1-74. See n. 50 above.

¹⁶³ See Leo Noordegraaf, 'The New Draperies in the Northern Netherlands, 1500 - 1800'; B.A. Holderness, 'The Reception and Distribution of the New Draperies in England'; and Luc Martin, 'The Rise of the New Draperies in Norwich, 1550-1622', all in Negley Harte, ed., *The New Draperies in the Low Countries and England* (Oxford, 1997), pp. 173-196, 217-44, 245-74; Posthumus, *Geschiedenis van de Leidsche lakenindustrie*, Vols. I and II, passim; Charles Wilson, 'Cloth Production and International Competition in the Seventeenth Century', *Economic History Review*, 2nd ser., 12:2 (1960), republished in Charles Wilson, *Economic History and the Historian: Collected Essays* (London, 1969), pp. 94-113; and Van der Wee, 'The Woollen Industries, 1500-1750'.

Table 1.

English Woolsack and Broadcloth Exports, in 5 year means, 1321-25 to 1536-40

| Year | Woolsacks: | Woolsacks: | Total | Broadcloth | Broadcloth | Broadcloth | Broadcloth | Total as |
|------------|-------------|------------|-----------|------------|------------|--------------|------------|------------|
| Michaelmas | by Denizens | by Aliens | Sacks | Exports | Exports | Exports | Exports | Equivalent |
| | | | | Denizens | Hansards | Other Aliens | Total | Broadcloth |
| 1321-25 | 14,074.30 | 11,241.73 | 25,315.40 | | | | | 109,699.22 |
| 1326-30 | 17,888.87 | 7,108.73 | 24,997.60 | | | | | 108,322.10 |
| 1331-35 | 24,633.00 | 9,012.60 | 33,645.60 | | | | | 145,796.48 |
| 1336-40 | 13,180.00 | 7,344.80 | 20,524.80 | | | | | 88,940.12 |
| 1341-45 | 10,565.51 | 7,510.07 | 18,075.58 | | | | | 78,326.89 |
| 1346-50 | n.a. | n.a. | 27,183.13 | 2,246 | | 310 | 2,556 | 120,348.30 |
| 1351-55 | 10,169.40 | 20,581.00 | 30,750.40 | 1,586 | | 335 | 1,921 | 135,171.91 |
| 1356-60 | n.a. | n.a. | 32,666.40 | 7,376 | 174 | 1,511 | 9,061 | 150,614.31 |
| 1361-65 | 20,899.95 | 9,229.25 | 30,129.20 | 9,099 | 1,020 | 1,598 | 11,717 | 142,276.06 |
| 1366-70 | 16,345.60 | 10,106.20 | 26,451.80 | 10,978 | 1,310 | 2,240 | 14,527 | 129,150.78 |
| 1371-75 | 16,712.02 | 9,155.78 | 25,867.80 | 9,102 | 1,240 | 1,869 | 12,211 | 124,304.34 |
| 1376-80 | 16,898.00 | 3,572.20 | 20,470.20 | 9,673 | 1,383 | 2,586 | 13,643 | 102,346.12 |
| 1381-85 | 13,886.80 | 3,630.60 | 17,517.40 | 13,949 | 2,800 | 5,493 | 22,242 | 98,150.15 |
| 1386-90 | 15,574.20 | 3,737.80 | 19,312.00 | 17,192 | 3,125 | 5,293 | 25,610 | 109,294.69 |
| 1391-95 | 13,593.20 | 4,920.60 | 18,513.80 | 22,974 | 6,346 | 10,205 | 39,525 | 119,751.05 |
| 1396-00 | 14,515.80 | 2,373.80 | 16,889.60 | 23,318 | 5,646 | 9,811 | 38,775 | 111,962.80 |
| 1401-05 | 11,803.40 | 1,100.80 | 12,904.20 | 19,450 | 6,548 | 8,571 | 34,570 | 90,487.37 |
| 1406-10 | 13,392.80 | 1,575.40 | 14,968.20 | 12,997 | 6,568 | 12,181 | 31,746 | 96,607.90 |
| 1411-15 | 12,633.20 | 960.00 | 13,593.20 | 12,284 | 4,980 | 9,919 | 27,183 | 86,086.81 |
| 1416-20 | 13,355.40 | 1,009.60 | 14,365.00 | 14,051 | 5,722 | 8,205 | 27,977 | 90,225.05 |
| 1421-25 | 13,363.60 | 881.60 | 14,245.20 | 21,180 | 6,935 | 12,160 | 40,275 | 102,003.33 |
| 1426-30 | 12,429.00 | 929.60 | 13,358.60 | 20,334 | 5,304 | 14,768 | 40,406 | 98,292.42 |
| 1431-35 | 8,679.40 | 705.20 | 9,384.60 | 25,474 | 4,062 | 10,492 | 40,027 | 80,693.69 |
| 1436-40 | 4,197.80 | 1,181.00 | 5,378.80 | 22,864 | 9,145 | 15,063 | 47,072 | 70,379.95 |
| 1441-45 | 6,502.20 | 1,527.20 | 8,029.40 | 28,163 | 11,336 | 16,957 | 56,456 | 91,249.60 |
| 1446-50 | 9,176.80 | 588.40 | 9,765.20 | 25,286 | 9,301 | 11,259 | 45,847 | 88,162.34 |
| 1451-55 | 7,654.60 | 1,136.20 | 8,790.80 | 20,785 | 8,214 | 7,701 | 36,700 | 74,793.17 |
| 1456-60 | 5,246.80 | 1,139.60 | 6,386.40 | 18,911 | 10,017 | 7,562 | 36,489 | 64,163.19 |
| 1461-65 | 5,902.40 | 483.60 | 6,386.00 | 16,046 | 8,584 | 4,371 | 29,002 | 56,674.05 |
| 1466-70 | 8,508.80 | 784.80 | 9,293.60 | 21,255 | 5,807 | 10,386 | 37,447 | 77,719.36 |
| 1471-75 | 7,381.20 | 1,072.20 | 8,453.40 | 20,705 | 3,415 | 12,417 | 36,537 | 73,168.32 |
| 1476-80 | 7,822.80 | 913.20 | 8,736.00 | 32,185 | 8,226 | 10,030 | 50,441 | 88,296.51 |
| 1481-85 | 6,669.60 | 951.80 | 7,621.40 | 29,191 | 13,439 | 11,568 | 54,198 | 87,223.61 |
| 1486-90 | 8,923.60 | 827.40 | 9,751.00 | 25,892 | 13,740 | 10,373 | 50,005 | 92,259.21 |

Table 1. English Woolsack and Broadcloth Exports, in 5 year means, 1321-25 to 1536-40

| Year | Woolsacks: | Woolsacks: | Total | Broadcloth | Broadcloth | Broadcloth | Broadcloth | Total as |
|-------------------|--------------------|-------------------|--------------|-------------------|-------------------|---------------------|-------------------|-------------------|
| Michaelmas | by Denizens | by Aliens | Sacks | Exports | Exports | Exports | Exports | Equivalent |
| | | | | Denizens | Hansards | Other Aliens | Total | Broadcloth |
| 1491-95 | 5,881.20 | 874.00 | 6,755.20 | 29,513 | 15,100 | 12,332 | 56,945 | 86,216.91 |
| 1496-00 | 8,676.80 | 260.40 | 8,937.20 | 35,668 | 17,175 | 9,740 | 62,583 | 101,310.97 |
| 1501-05 | 6,735.20 | 1,071.60 | 7,806.80 | 44,803 | 17,638 | 14,830 | 77,271 | 111,100.01 |
| 1506-10 | 6,230.40 | 1,095.80 | 7,326.20 | 46,832 | 16,984 | 20,987 | 84,803 | 116,549.22 |
| 1511-15 | 6,758.80 | 328.40 | 7,087.20 | 49,110 | 21,621 | 15,861 | 86,592 | 117,302.96 |
| 1516-20 | 7,521.60 | 672.80 | 8,194.40 | 51,128 | 20,411 | 18,559 | 90,099 | 125,607.59 |
| 1521-25 | 4,598.60 | 533.00 | 5,131.60 | 48,675 | 18,457 | 15,137 | 82,269 | 104,505.56 |
| 1526-30 | 4,491.00 | 343.80 | 4,834.80 | 56,942 | 20,402 | 16,190 | 93,534 | 114,485.04 |
| 1531-35 | 2,235.20 | 770.00 | 3,005.20 | 53,966 | 24,274 | 15,847 | 94,087 | 107,109.23 |
| 1536-40 | 3,815.60 | 135.80 | 3,951.40 | 61,008 | 30,747 | 17,523 | 109,278 | 126,400.60 |

one woolsack = 364 lb. avoirdupois = 4.333 broadcloths

one broadcloth of assise = 24 yards by 1.75 yards tented and finished

Sources:

E.M. Carus Wilson and Olive Coleman, eds., *England's Export Trade, 1275-1547* (Oxford, 1963), pp. 36-119; A.R. Bridbury, *Medieval English Clothmaking: An Economic Survey* (London, 1982), Appendix F, pp. 118-22.

Table 2. Dimensions, Compositions, and Weights of Selected Textiles in the Low Countries and England

| Drapery: Town | Name of Textile | Dates of the Ordinances | Wools Used | Warp Count | Weight in kg on Loom |
|--|----------------------------|------------------------------------|---|-----------------------|---------------------------------|
| A. Traditional Old Draperies: Woollens | | | | | |
| Ghent | Dickedinnen 5 Seal | 1456-62; 1546 | English: Fine March, Cotswolds, Berkshire | 2066 | 38.179 |
| Leuven | Oppersten Zegel | 1519 | English: Middle March, Cotswolds, Berkshire | 2400 | 42.090 |
| Mechelen | Gulden Aeren | 1544 | English: Leominster (Herefordshire) | 3120 | n.s |
| Suffolk, Essex | Suffolk Short Cloths | 1552 | English: short-stapled | n.s | n.s |
| B. Nouvelles Draperies: Woollens | | | | | |
| Armentières | Oultreffin | 1510; 1546 | Spanish (2/3) + English: Cotswolds, Lindsay, Berks. | 1800 | 40.823 |
| Diksmuide | Grooten Claus | 1523; 1546 | Spanish, English, Scottish, Rhenish, Flemish | 1968 | 38.968 |
| Haubourdin | Oultreffin | 1539 | Spanish (2/3) + English | 1800 | 38.040 |
| Bruges | Dobbel Leeuwen | 1544 | Spanish merino exclusively | 2010 | n.s |
| C. Draperies Légères: Worstedes, Says, Stuffs | | | | | |
| Bergues-St.-Winoc | Fine narrow say | 1537 | Flemish, Artesian | 1400 | n.s |
| Hondshoote | Small double say | 1571; 1576 | Flemish, Scottish, Frisian, Kempen | 1800 | n.s |
| Colchester (Essex) | Single bays | 1579 | English long (warp) & short (weft)-stapled | n.s | n.s |
| Essex | Broad says | 1579 | English long stapled (warp); wefts n.s. | n.s | n.s |

Table 2. Dimensions, Compositions, and Weights of Selected Textiles in the Low Countries and England

| Drapery: Town | Length on Loom in m. | Width on Loom in m. | Final Length Metres | Final Width Metres | Area in m2 | Warps per cm | Weight in kg. | Weight g/m2 |
|--|-------------------------------------|--------------------------------|--------------------------------|-------------------------------|-----------------------|-------------------------|--------------------------|------------------------|
| A. Traditional Old Draperies: Woollens | | | | | | | | |
| Ghent | 29.750 | 2.5375 | 21.0000 | 1.663 | 34.913 | 12.43 | 22.126 | 633.77 |
| Leuven | 29.885 | 2.7800 | 20.8500 | 1.738 | 36.227 | 13.81 | 25.254 | 697.11 |
| Mechelen | 33.072 | 2.7560 | 20.6700 | 1.723 | 35.604 | 18.11 | 27.217 | 764.42 |
| Suffolk, Essex | n.s | n.s | 22.5552 | 1.645 | 37.095 | n.s | 29.030 | 782.58 |
| B. Nouvelles Draperies: Woollens | | | | | | | | |
| Armentières | 29.400 | 2.1000 | 21.0000 | 1.400 | 29.400 | 12.86 | 24.123 | 820.5 |
| Diksmuide | 28.700 | 2.5375 | 21.0000 | 1.488 | 31.238 | 13.23 | 23.195 | 742.54 |
| Haubourdin | 29.400 | 2.1000 | 21 | 1.488 | 31.238 | 12.10 | 22.267 | 712.84 |
| Bruges | 30.800 | 2.4500 | 21.0000 | 1.488 | 31.238 | 13.51 | 22.267 | 712.84 |
| C. Draperies Légères: Worstedes, Says, Stuffs | | | | | | | | |
| Bergues-St.- Winoc | n.s | n.s | 28.0000 | 0.700 | 19.600 | 20.00 | 5.103 | 260.35 |
| Hondshoote | 28.000 | 1.006 | 25.7250 | 0.875 | 22.509 | 20.57 | 7.257 | 322.42 |
| Colchester (Essex) | n.s | n.s | 31.9532 | 0.940 | 30.030 | n.s | 9.979 | 332.31 |
| Essex | n.s | n.s | 9.3984 | 0.940 | 8.833 | n.s | 1.247 | 141.19 |

Sources:

Georges Espinas and Henri Pirenne, eds., *Recueil de documents relatifs à l'histoire de l'industrie drapière en Flandre: Ire partie: des origines à l'époque bourguignonne*, 4 vols. (Brussels, Commission royale d'histoire, 1906-1924); Georges Espinas, ed., *Documents relatifs à la draperie de Valenciennes au moyen âge* (Paris, 1931); Georges Espinas, *La draperie dans la Flandre française au moyen âge*, 2 vols. (Paris, 1923); Henri De Sagher et al., eds., *Recueil de documents relatifs à l'histoire de l'industrie drapière en Flandre, IIe partie: le sud-ouest de la Flandre depuis l'époque bourguignonne*, 3 vols. (Brussels, 1951-66); Octave Delepierre and M.F. Willems, eds., *Collection des keuren ou statuts de tous les métiers de Bruges* (Ghent, 1842); Marc Boone, 'Nieuwe teksten over de Gentse draperie: wolaanvoer, productiewijze en controlepraktijken (ca. 1456 - 1468)', *Bulletin de la commission royale d'histoire de Belgique*, 154 (1988), 40, doc. no. 3:v; M. Lameere, H. Simont, eds., *Recueil des ordonnances des Pays Bas: deuxième série, 1506 - 1700*, vol. V (Brussels, 1910); Stadsarchief Leuven, no. 1526, fo. 203r-10v; Great Britain, Record Commission, *Statutes of the Realm*, 6 vols. (London, 1810-22), Vol. IV:i, 136-7 (5-6 Edward VI, cap. 6, pt. 1); H. De Schryver, *De oude landmaten in Vlaanderen* (Brussels, 1968), pp. 15-8; Émile Coornaert, *Une industrie urbaine; du XIVe au XVIIe siècle: l'industrie de la laine à Bergues-Saint-Winoc* (Paris, 1930); Émile Coornaert, *La draperie-sayetterie d'Hondschoote, XIVe-XVIIIe siècles* (Paris, 1930); Florence Edler, 'Le commerce d'exportation des sayes d'Hondschoote vers Italie d'après la correspondance d'une firme anversoise, entre 1538 et 1544', *Revue du Nord*, 22 (1936), 255-6; Guy De Poerck, *La draperie médiévale en Flandre et en Artois: Technique et terminologie*, 3 vols. (Bruges, 1951); Patrick Chorley, 'The Cloth Exports of Flanders and Northern France During the Thirteenth Century: A Luxury Trade?' *Economic History Review*, 2nd ser. 40 (1987), 349-79; A. P. Usher, *The Industrial History of England* (Boston, 1920), p. 200; J.E. Pilgrim, 'The Rise of the "New Draperies" in Essex', *University of Birmingham Historical Journal*, 7 (1959-60), 36-59; John Munro, 'The "Industrial Crisis" of the English Textile Towns, 1290 - 1330,' *Thirteenth-Century England: VII*, ed. Michael Prestwich, Richard Britnell, and Robin Frame (Woodbridge, UK: Boydell Academic Press, 1999), pp. 103-41.

Table 3. Prices of English Wools, in Pounds Sterling per Sack of 364 lb., Export Taxes in shillings per sack and Price Indices for English Wools, for Phelps Brown & Hopkins Composite Price Index mean of 1451-75 =100

| Years | Mean | Index | Mean | Index | Phelps Brown & Hopkins Composite 1451-75=100 | Denizen | Denizen | Alien | Alien |
|---------|--------------------------------|---------------------------------|------------------------------------|---------------------------------|--|--|--|--|--|
| | Price per Sack All wools | 1451-75 = 100 £3.4917 st. | Price per Sack better wools* | 1451-75 = 100 £4.8544 st. | | Export Duties on Woolsacks in shillings | Export Duties as Percent of Wool Prices | Export Duties on Woolsacks in shillings | Export Duties as Percent of Wool Prices |
| 1301-05 | 5.498 | 157.47 | 5.441 | 112.08 | 92.35 | 6.667 | 6.13% | 8.667 | 7.96% |
| 1306-10 | 7.063 | 202.27 | 7.006 | 144.32 | 109.81 | 6.667 | 4.76% | 10.000 | 7.14% |
| 1311-15 | 5.775 | 165.39 | 6.087 | 125.39 | 115.33 | 6.667 | 5.48% | 6.667 | 5.48% |
| 1316-20 | 6.734 | 192.84 | 7.012 | 144.44 | 161.91 | 8.332 | 5.94% | 9.166 | 6.54% |
| 1321-25 | 7.446 | 213.25 | 7.834 | 161.37 | 137.97 | 8.000 | 5.11% | 12.000 | 7.66% |
| 1326-30 | 6.211 | 177.88 | 6.649 | 136.96 | 111.07 | 12.227 | 9.19% | 15.560 | 11.70% |
| 1331-35 | 5.031 | 144.08 | 5.370 | 110.61 | 114.12 | 10.373 | 9.66% | 14.559 | 13.56% |
| 1336-40 | 4.264 | 122.11 | 4.646 | 95.70 | 94.32 | 29.556 | 31.81% | 41.501 | 44.67% |
| 1341-45 | 4.499 | 128.83 | 4.947 | 101.91 | 90.06 | 40.247 | 40.68% | 43.333 | 43.80% |
| 1346-50 | 4.222 | 120.91 | 4.713 | 97.09 | 102.70 | 40.000 | 42.43% | 43.333 | 45.97% |
| 1351-55 | 3.923 | 112.36 | 4.446 | 91.58 | 132.18 | 40.000 | 44.99% | 43.333 | 48.74% |
| 1356-60 | 4.050 | 116.00 | 5.243 | 108.01 | 129.46 | 40.000 | 38.14% | 43.333 | 41.32% |
| 1361-65 | 4.306 | 123.31 | 5.606 | 115.47 | 146.64 | 42.776 | 38.16% | 46.110 | 41.13% |
| 1366-70 | 5.624 | 161.08 | 6.689 | 137.80 | 146.10 | 46.667 | 34.88% | 50.000 | 37.37% |
| 1371-75 | 6.422 | 183.92 | 7.895 | 162.64 | 135.26 | 50.000 | 31.67% | 53.333 | 33.78% |
| 1376-80 | 6.582 | 188.49 | 7.536 | 155.24 | 110.62 | 50.000 | 33.17% | 53.333 | 35.38% |
| 1381-85 | 5.097 | 145.96 | 5.995 | 123.49 | 112.90 | 50.000 | 41.70% | 53.333 | 44.48% |
| 1386-90 | 4.111 | 117.74 | 5.071 | 104.46 | 102.53 | 48.516 | 47.84% | 52.166 | 51.43% |
| 1391-95 | 4.266 | 122.17 | 4.953 | 102.04 | 106.33 | 49.830 | 50.30% | 53.163 | 53.66% |
| 1396-00 | 4.814 | 137.86 | 5.241 | 107.97 | 110.84 | 50.000 | 47.70% | 56.555 | 53.95% |
| 1401-05 | 5.065 | 145.05 | 5.702 | 117.46 | 114.84 | 51.187 | 44.89% | 61.187 | 53.66% |
| 1406-10 | 4.974 | 142.44 | 5.759 | 118.64 | 111.23 | 50.000 | 43.41% | 60.000 | 52.09% |
| 1411-15 | 5.426 | 155.38 | 5.954 | 122.65 | 108.11 | 50.000 | 41.99% | 60.000 | 50.39% |
| 1416-20 | 4.155 | 119.00 | 4.592 | 94.59 | 113.40 | 50.000 | 54.45% | 68.000 | 74.05% |
| 1421-25 | 4.205 | 120.42 | 5.269 | 108.54 | 101.48 | 43.841 | 41.60% | 62.658 | 59.46% |
| 1426-30 | 4.613 | 132.11 | 5.015 | 103.30 | 112.27 | 40.000 | 39.88% | 53.333 | 53.18% |
| 1431-35 | 4.928 | 141.13 | 5.613 | 115.63 | 108.48 | 40.000 | 35.63% | 57.103 | 50.86% |

Table 3. Prices of English Wools, in Pounds Sterling per Sack of 364 lb., Export Taxes in shillings per sack and Price Indices for English Wools, for Phelps Brown & Hopkins Composite Price Index mean of 1451-75 =100

| Years | Mean Price per Sack All wools | Index 1451-75 = 100 £3.4917 st. | Mean Price per Sack better wools* | Index 1451-75 = 100 £4.8544 st. | Phelps Brown & Hopkins Composite 1451-75=100 | Denizen Export Duties on Woolsacks in shillings | Denizen Export Duties as Percent of Wool Prices | Alien Export Duties on Woolsacks in shillings | Alien Export Duties as Percent of Wool Prices |
|---------|--|--|--|--|--|---|---|---|---|
| 1436-40 | 4.440 | 127.16 | 5.322 | 109.63 | 122.01 | 40.000 | 37.58% | 62.267 | 58.50% |
| 1441-45 | 4.188 | 119.93 | 5.201 | 107.15 | 92.53 | 40.000 | 38.45% | 63.333 | 60.88% |
| 1446-50 | 4.119 | 117.96 | 5.379 | 110.80 | 100.90 | 40.000 | 37.19% | 63.333 | 58.88% |
| 1451-55 | 3.184 | 91.19 | 4.699 | 96.79 | 100.25 | 42.981 | 45.74% | 77.244 | 82.19% |
| 1456-60 | 2.923 | 83.71 | 3.775 | 77.77 | 97.06 | 50.000 | 66.22% | 110.000 | 145.69% |
| 1461-65 | 4.056 | 116.17 | 5.186 | 106.82 | 102.73 | 48.833 | 47.08% | 106.110 | 102.31% |
| 1466-70 | 4.387 | 125.65 | 5.645 | 116.28 | 106.75 | 40.000 | 35.43% | 76.667 | 67.91% |
| 1471-75 | 2.908 | 83.29 | 4.968 | 102.34 | 97.76 | 41.200 | 41.47% | 80.667 | 81.19% |
| 1476-80 | 2.974 | 85.18 | 5.848 | 120.46 | 90.06 | 40.000 | 34.20% | 76.667 | 65.56% |
| 1481-85 | 5.473 | 156.74 | 8.621 | 177.59 | 127.38 | 40.000 | 23.20% | 76.667 | 44.46% |
| 1486-90 | 3.358 | 96.16 | 7.462 | 153.71 | 102.77 | 40.000 | 26.80% | 76.667 | 51.37% |
| 1491-95 | 3.230 | 92.51 | 5.768 | 118.82 | 106.80 | 40.000 | 34.67% | 76.667 | 66.46% |
| 1496-00 | 3.376 | 96.69 | 5.265 | 108.46 | 96.70 | 40.000 | 37.99% | 76.667 | 72.81% |

Column D in this table is the mean of the prices in columns 2-5, 10-13 in T.H. Lloyd, *Movement of Wool Prices in Medieval England* (1973)

They are prices for wools from the Wiltshire, Hampshire and St. Swithins manors of the Bishop of Winchester, Wiltshire and the Berkshire Downs, the Vale of White Horse to Thames Valley; Oxfordshire, Berkshire, and adjacent Wiltshire; Worcestershire, the Cotswolds (Oxfordshire, Gloucestershire, and adjacent Wiltshire); the Chilterns (Oxfordshire, Buckinghamshire, Hertfordshire); NE Oxfordshire and northern Buckinghamshire.

Sources: Terence H. Lloyd, *The Movement of Wool Prices in Medieval England*, Economic History Review Supplements no. 6 (Cambridge, 1973), Statistical Appendix, cols. 2-5, 10-13; pp.35-51; *Calendar of the Fine Rolls, Edward II - Henry VII*, Vols. IV (1327-1337) to XXI (1471-1485); *Rotuli parliamentorum ut et petitiones et placita in Parlamento*, 6 vols. (London, 1767-77), Vols. II - V; F.R. Barnes, 'The Taxation of Wool, 1327-1348', in G. Unwin, ed., *Finance and Trade Under Edward III* (London, 1918), pp. 137-77; N.S.B. Gras, *The Early English Customs System* (Cambridge, Mass., 1918), pp. 76-80; E.M. Carus Wilson and Olive Coleman, eds., *England's Export Trade, 1275-1547* (Oxford, 1963), pp. 194-96; W.M. Ormrod, 'The Crown and the English Economy, 1290-1348', in Bruce M.S. Campbell, ed., *Before the Black Death: Studies in the 'Crisis' of the Early Fourteenth Century* (Manchester, 1991), pp. 149-83; E.H. Phelps Brown and S.V. Hopkins, 'Seven Centuries of the Prices of Consumables Compared with Builders' Wage-Rates,' *Economica*, 23 (Nov. 1956), reprinted in their *A Perspective of Wages and Prices* (London, 1981), pp. 24-50, containing additional statistical appendices.

Table 4

Prices of English Wools, by Sack Weight, at the Calais Staple, in 1475 and 1499

| No. | Name of Wool: County of Origin | 1475 Calais Weight in £ sterling | 1475 English Sack Weight in £ ster | 1475 English Sack Weight in £ groot Flemish | 1499 Calais Weight in £ sterling | 1499 English Sack Weight in £ ster | 1499 English Sack Weight in £ groot Flemish | 1499 Index % of Leominster Wool Price |
|-----|-------------------------------------|--|--|---|--|--|---|---|
| 1 | Leominster, Hereford | | | | 22.333 | 25.807 | 37.498 | 100.00 |
| 2 | March Wools, Shropshire/Hereford | 13.333 | 15.407 | 18.134 | 17.000 | 19.644 | 28.543 | 76.10 |
| 3 | Middle Leominster | | | | 15.667 | 18.104 | 26.305 | 70.20 |
| 4 | Fine Cotswolds (Glouc., Worc. Oxf.) | 12.000 | 13.867 | 16.321 | 13.000 | 15.022 | 21.827 | 58.20 |
| 5 | High Lindsey, Lincolnshire | 11.000 | 12.711 | 14.961 | 9.333 | 10.785 | 15.670 | 41.80 |
| 6 | Fine Berkshire | 11.000 | 12.711 | 14.961 | 11.667 | 13.482 | 19.589 | 52.20 |
| 7 | Leominster Refuse | | | | 11.000 | 12.711 | 18.469 | 49.30 |
| 8 | Middle March: Shropshire/Hereford | | | | 11.000 | 12.711 | 18.469 | 49.30 |
| 9 | Fine Young Cotswolds | | | | 10.333 | 11.940 | 17.349 | 46.30 |
| 10 | Middle Cotswolds | | | | 9.000 | 10.400 | 15.111 | 40.30 |
| 11 | Low Lindsey, Lincolnshire | | | | 9.000 | 10.400 | 15.111 | 40.30 |
| 12 | Kesteven, Lincolnshire | 10.333 | 11.940 | 14.054 | 8.667 | 10.015 | 14.552 | 38.80 |
| 13 | Wiltshire | 10.333 | 11.940 | 14.054 | | | | |
| 14 | Oxfordshire: Henley | 10.333 | 11.940 | 14.054 | | | | |
| 15 | Nottinghamshire | 10.000 | 11.556 | 13.601 | | | | |
| 16 | Clay Wolds | 10.000 | 11.556 | 13.601 | | | | |
| 17 | Nottinghamshire: Hatfield | 9.833 | 11.363 | 13.374 | | | | |
| 18 | Warwickshire | 9.833 | 11.363 | 13.374 | | | | |
| 19 | Lindsey Marsh, Lincolnshire | 9.833 | 11.363 | 13.374 | | | | |
| 20 | North Holland, Lincolnshire | 9.833 | 11.363 | 13.374 | 8.333 | 9.629 | 13.991 | 37.30 |
| 21 | South Holland, Lincolnshire | 9.833 | 11.363 | 13.374 | 8.333 | 9.629 | 13.991 | 37.30 |
| 22 | Leicestershire | 9.667 | 11.170 | 13.148 | | | | |
| 23 | Rutland | 9.667 | 11.171 | 13.148 | 8.333 | 9.629 | 13.991 | 37.30 |
| 24 | March Refuse | | | | 8.333 | 9.629 | 13.991 | 37.30 |
| 25 | Middle Berkshire | | | | 8.333 | 9.629 | 13.991 | 37.30 |
| 26 | Staffordshire | 9.500 | 10.978 | 12.921 | | | | |
| 27 | Buckinghamshire | 9.333 | 10.785 | 12.694 | | | | |
| 28 | Northamptonshire | 9.333 | 10.785 | 12.694 | | | | |
| 29 | Bedfordshire | 9.333 | 10.785 | 12.694 | | | | |
| 30 | Huntingdonshire | 9.333 | 10.785 | 12.694 | | | | |
| 31 | Hertfordshire | 9.167 | 10.593 | 12.467 | | | | |
| 32 | Cambridgeshire | 9.167 | 10.593 | 12.467 | | | | |

Table 4

Prices of English Wools, by Sack Weight, at the Calais Staple, in 1475 and 1499

| No. | Name of Wool: County of Origin | 1475 Calais Weight in £ sterling | 1475 English Sack Weight in £ ster | 1475 English Sack Weight in £ groot Flemish | 1499 Calais Weight in £ sterling | 1499 English Sack Weight in £ ster | 1499 English Sack Weight in £ groot Flemish | 1499 Index % of Leominster Wool Price |
|-----|-----------------------------------|--|--|---|--|--|---|---|
| 33 | Derbyshire | 9.167 | 10.593 | 12.468 | | | | |
| 34 | Hampshire | 9.167 | 10.593 | 12.467 | | | | |
| 35 | Surrey | 8.833 | 10.207 | 12.014 | 7.333 | 8.474 | 12.313 | 32.80 |
| 36 | Yorkshire Wolds | 8.833 | 10.207 | 12.014 | | | | |
| 37 | Derbyshire: Peak District | 8.333 | 9.629 | 11.334 | | | | |
| 38 | Dorset | 8.667 | 10.015 | 11.787 | | | | |
| 39 | Essex | 8.333 | 9.630 | 11.334 | | | | |
| 40 | Sussex | 8.333 | 9.629 | 11.334 | | | | |
| 41 | Kent | 8.000 | 9.244 | 10.881 | 7.667 | 8.860 | 12.873 | 34.30 |
| 42 | Norfolk | 7.667 | 8.859 | 10.427 | 7.333 | 8.474 | 12.312 | 32.80 |
| 43 | Yorkshire | 7.000 | 8.089 | 9.521 | | | | |
| 44 | Middle Young Cotswolds | | | | 7.000 | 8.089 | 11.753 | 31.30 |
| 45 | Cotswolds Refuse | | | | 6.333 | 7.318 | 10.634 | 28.40 |
| 46 | Middle Kesteven | | | | 6.000 | 6.933 | 10.074 | 26.90 |
| 47 | Middle Holland | | | | 5.666 | 6.547 | 9.513 | 25.40 |
| 48 | Middle Rutland | | | | 5.667 | 6.548 | 9.514 | 25.40 |

Calais sack = 315 lb.

English sack weight = 364 lb.

Source: 'Noumbre of Weyghtes', in British Library, Cotton Vespasian E. IX, fo. 106r-7r; Algemeen Rijksarchief België, Rekenkamer, doc. no. 1158, fo. 226; John Munro, 'Wool-Price Schedules and the Qualities of English Wools in the Later Middle Ages, ca. 1270 - 1499,' *Textile History*, 9 (1978), 118-69.

Table 5 Annual Sales of the Drapery Tax Farms and Rentals of Cloth Stalls in the Flemish and Brabantine Traditional Draperies: Ghent, Ypres, Mechelen, and Leuven, in five-year means: 1316-20 to 1546-50

| Years Ending | Ghent: Tax Farm Sales: Ramen & Nieuw Huusgeld in £ paiement | Ypres: Total Drapery Tax Farms in £ parisis | Ypres: Total Stalls Rented in the Wulle and Lakenhallen | Mechelen: Total Drapery Tax Tax Farms in in £ oude groot | Leuven: ponden assisegeld rate- adjusted | Leuven: Total Drapery Tax Farms in £ oude groot actual | Leuven: Drapery Tax Farms Rijn- Gulden |
|---------------------|--|--|--|---|---|---|---|
| 1316-20 | 7,442.28 | | | 1,177.17 | 17,004.72 | 250.29 | |
| 1321-25 | 4,136.92 | | | 1,210.02 | 16,497.32 | 240.81 | |
| 1326-30 | 3,408.60 | | | 1,277.82 | 18,670.87 | 351.44 | |
| 1331-35 | 4,339.40 | | | 1,563.71 | 25,817.38 | 709.40 | |
| 1336-40 | 3,516.50 | | | 1,045.05 | 24,072.47 | 803.34 | |
| 1341-45 | 3,360.60 | | | 782.31 | 15,551.40 | 525.56 | |
| 1346-50 | 2,689.60 | | | 506.86 | 13,558.63 | 564.94 | |
| 1351-55 | 2,755.00 | | | 707.91 | 9,463.95 | 394.33 | |
| 1356-60 | 2,468.80 | | | 467.72 | 6,218.75 | 259.11 | |
| 1361-65 | 2,231.10 | | | 496.24 | 5,393.53 | 224.73 | |
| 1366-70 | 1,383.60 | | | 597.66 | 4,091.02 | 169.34 | |
| 1371-75 | 912.00 | | | 540.70 | 3,306.44 | 135.07 | 2,253.00 |
| 1376-80 | 774.18 | | | 471.24 | 4,164.30 | 170.87 | 2,801.35 |
| 1381-85 | 576.07 | | | 397.29 | 3,482.17 | 143.18 | 2,374.66 |
| 1386-90 | 469.70 | | | 353.35 | 1,979.51 | 81.77 | 1,471.87 |
| 1391-95 | missing | | | 297.67 | 1,426.88 | 58.93 | 989.32 |
| 1396-00 | missing | | | 300.80 | | | 685.18 |
| 1401-05 | 235.40 | | | 270.29 | | | 567.12 |
| 1406-10 | 306.17 | 2,198.30 | 422.33 | 272.01 | | | 513.36 |
| 1411-15 | 292.37 | 3,202.83 | 437.80 | 275.45 | | | 344.49 |
| 1416-20 | 330.13 | 3,202.94 | 500.90 | 276.33 | | | 302.18 |
| 1421-25 | 344.93 | 3,187.60 | 421.20 | 357.12 | | | 277.77 |
| 1426-30 | 373.23 | 2,997.80 | 367.30 | 352.71 | | | 211.77 |
| 1431-35 | 290.70 | 2,823.92 | 325.60 | 220.53 | | | 213.64 |
| 1436-40 | 170.67 | 1,872.26 | 192.60 | 186.98 | | | 257.44 |
| 1441-45 | 176.73 | 2,117.44 | 182.40 | 190.88 | | | 286.89 |
| 1446-50 | 190.93 | 2,129.40 | 152.20 | 162.95 | | | 268.32 |
| 1451-55 | 138.17 | 1,812.20 | 97.00 | 140.63 | | | 451.77 |
| 1456-60 | 70.57 | 1,761.76 | 70.00 | 136.15 | | | 998.36 |
| 1461-65 | 52.17 | 1,121.12 | 63.80 | 154.52 | | | 458.64 |
| 1466-70 | 75.13 | 1,123.72 | 70.60 | 162.74 | | | 590.21 |

Table 5 Annual Sales of the Drapery Tax Farms and Rentals of Cloth Stalls in the Flemish and Brabantine Traditional Draperies: Ghent, Ypres, Mechelen, and Leuven, in five-year means: 1316-20 to 1546-50

| Years Ending | Ghent: Tax Farm Sales: Ramen & Nieuw Huusgeld in £ paiement | Ypres: Total Drapery Tax Farms in £ parisis | Ypres: Total Stalls Rented in the Wulle and Lakenhallen | Mechelen: Total Drapery Tax Farms in £ oude groot | Leuven: ponden assisegeld rate-adjusted | Leuven: Total Drapery Tax Farms in £ oude groot actual | Leuven: Drapery Tax Farms Rijn-Gulden |
|---------------------|--|--|--|--|--|---|--|
| 1471-75 | 110.40 | 983.84 | 77.80 | 185.39 | | | |
| 1476-80 | 74.30 | 795.42 | 40.80 | 225.44 | | | |
| 1481-85 | 70.20 | 832.52 | 24.90 | 235.75 | | | |
| 1486-90 | 17.17 | 1,306.37 | 8.40 | 258.11 | | | |
| 1491-95 | 7.60 | 1,235.42 | | 212.67 | | | |
| 1496-00 | 19.20 | 1,723.72 | | 243.39 | | | |
| 1501-05 | 22.00 | | | 224.30 | | | |
| 1506-10 | 15.60 | | | 224.33 | | | |
| 1511-15 | 16.20 | | | 185.16 | | | |
| 1516-20 | 10.40 | | | 190.05 | | | |
| 1521-25 | | | | 181.21 | | | |
| 1526-30 | | | | 143.71 | | | |
| 1531-35 | | | | 127.51 | | | |
| 1536-40 | | | | 94.97 | | | |
| 1541-45 | | | | 115.40 | | | |
| 1546-50 | | | | 87.75 | | | |

Ghent: the sum of the Ramen (Tentering Frames) and Nieuw Huusgeld in de Ramen Excises, which are the only ones indisputably measuring cloth production. The pond or livre de paiement was worth 6d. groot Flemish; and thus £1 groot Flemish = £40 paiement

Ypres Drapery Tax Farms: the sum of the Waghe & Wullescale, Lakene, Snede (Retail), and Blauvaerwers (blue-dyers) excise-tax farms. The livre (pond) parisis was worth 20d groot Flemish; and thus £1 groot Flemish = £12 parisis = £40 paiement.

Ypres Cloth Stalls: the sum of the stalls rented for the 'Waghe ende Wullescale' (Weights and Wool-Scale), 'Lakene' (Woollen Cloth Sales: Wholesale) 'Snede' (Retail Cloth Sales), 'Blauvaerwers' (Blue-Dyers).

Mechelen: Total of the Wolle, Rocghewande, and Ghereede Ghewande Excise-Tax Farms.

To take account of sudden tax increases in 1372, the sums for the previously sold farms were increased by 3.48413 for the Wolle, by 2.34436 for the Rocghewande, and 1.96205 for the Ghereeden Ghewande originally equivalent to 240 silver gros tournois of Louis IX, as struck from 1266-1303 ((4.044 g pure silver) Thus one livre or pond = 970.56 g pure silver (theoretical)

Leuven: Total of the Laken, Wolle, Weet (Woad), Zieden (Dyeing), Uutvaert (Export) and 6d op de Halle (6d groot tax): Excise-Tax Farms
 The sums in £ assisegeld were periodically adjusted for perceived tax increases, using 1384 as the standard (100)
 £24 assisegeld = £1 oude groot. At Leuven, from 1399 - 1410, 1 Rijngulden = 32d - 33d groot Brabantine and Flemish = £0.1333 groot (strong)
 Brabantine and Flemish = £1.4222 assisegeld £1 groot strong = £6 groot weak = £0.4444 groot oude = £10.667 assisegeld
 In 1424, £1 groot Brabant = £0.333 groot oude

Sources: Stadsarchief Gent, Stadsrekeningen, Reeks 400:4-43, 1335-1520; Algemeen Rijksarchief België, Rekenkamer, registers nos. 38,635 - 722 (Stadsrekeningen Ieper); Stadsarchief Mechelen, Stadsrekeningen, 1316-1550, Series I: nos. 3-225; Algemeen Rijksarchief, Rekenkamer, reg. nos. 41,219-85; Stedelijke Archief Leuven, Stadsrekeningen, 1345-1500, nos. 4986-5124.

Table 6.

Leiden and Hondschoote: Production Indices for Woollens and Says

| Years Ending | Leiden: Woolfell Imports | Leiden: Equivalent Woolsacks | Leiden: Cloth Outputs Halvelaken | Hondschoote: Say Tax Farm in £ parisis | Hondschoote: No. of Says in Tax Farm | Hondschoote: No. Says Exported |
|--------------|-----------------------------|------------------------------------|--|--|--|--------------------------------------|
| 1376-80 | | | | 44.000 | 1,320 | |
| 1381-85 | | | | 29.600 | 888 | |
| 1386-90 | | | | 37.600 | 1,128 | |
| 1391-95 | | | | 39.200 | 1,176 | |
| 1396-00 | | | | 50.000 | 1,500 | |
| 1401-05 | | | | 54.800 | 1,644 | |
| 1406-10 | | | | 78.000 | 2,340 | |
| 1411-15 | | | | 85.600 | 2,568 | |
| 1416-20 | | | | 117.600 | 3,528 | |
| 1421-25 | | | | 152.800 | 4,584 | |
| 1426-30 | | | | 165.800 | 4,974 | |
| 1431-35 | | | | 172.000 | 5,160 | |
| 1436-40 | | | | 176.000 | 5,280 | |
| 1441-45 | | | | 180.000 | 5,400 | |
| 1446-50 | 171,393.00 | 714.14 | | 278.000 | 8,340 | |
| 1451-55 | 288,911.40 | 1,203.80 | | 345.600 | 10,368 | |
| 1456-60 | 308,069.80 | 1,283.62 | | 388.000 | 11,640 | |
| 1461-65 | 297,906.00 | 1,241.28 | | 404.000 | 12,120 | |
| 1466-70 | 286,951.50 | 1,195.63 | 14,745.00 | 435.200 | 13,056 | |
| 1471-75 | 342,359.90 | 1,426.50 | 16,555.50 | 464.000 | 13,920 | |
| 1476-80 | 409,500.12 | 1,706.25 | 24,198.50 | 424.000 | 12,720 | |
| 1481-85 | 402,846.80 | 1,678.53 | 24,259.70 | 455.000 | 13,650 | |
| 1486-90 | 240,073.45 | 1,000.31 | 21,289.00 | 488.700 | 14,661 | |
| 1491-95 | 129,472.00 | 539.47 | 20,780.00 | 399.950 | 11,999 | |
| 1496-00 | 321,236.60 | 1,338.49 | 22,223.60 | 424.000 | 12,720 | |
| 1501-05 | 290,307.40 | 1,209.61 | 25,148.20 | 588.000 | 17,640 | |
| 1506-10 | 298,237.30 | 1,242.66 | 23,782.80 | 667.200 | 20,016 | |
| 1511-15 | 324,643.20 | 1,352.68 | 24,673.20 | 757.600 | 22,728 | |
| 1516-20 | 344,888.40 | 1,437.04 | 26,244.90 | 980.000 | 29,400 | |
| 1521-25 | 190,610.60 | 794.21 | 24,334.60 | 1,071.60 | 32,148 | |
| 1526-30 | 194,221.00 | 809.25 | 23,094.20 | 1,163.20 | 34,896 | 31,583.44 |
| 1531-35 | 168,948.00 | 703.95 | 17,257.60 | 1,452.80 | 43,584 | 41,184.50 |
| 1536-40 | 228,837.00 | 953.49 | 16,646.20 | 1,439.20 | 43,176 | 42,761.40 |

Table 6. Leiden and Hondschoote: Production Indices for Woollens and Says

| Years Ending | Leiden: Woolfell Imports | Leiden: Equivalent Woolsacks | Leiden: Cloth Outputs Halvelaken | Hondschoote: Say Tax Farm in £ parisis | Hondschoote: No. of Says in Tax Farm | Hondschoote: No. Says Exported |
|---------------------|---------------------------------|-------------------------------------|---|---|---|---------------------------------------|
| 1541-45 | 190,428.81 | 793.45 | 14,971.00 | | | |
| 1546-50 | | | 11,747.00 | | | |

Hondschoote: each say produced was taxed at 8d. parisis; and thus each livre parisis represented the output of 30 single says

Sources:

Nicolaas W. Posthumus, *Geschiedenis van de Leidsche lakenindustrie*, 3 vols. (The Hague, 1908-1939), Vol. I: *De Middeleeuwen, veertiende tot zestiende eeuw* (1908), pp. 370-425; Nicholas W. Posthumus, ed., *Bronnen tot de geschiedenis van de leidsche textielnijverheid, 1333-1795*, 3 vols. (The Hague, 1910-1922), Vol. II, 317-20; Émile Coornaert, *La draperie-sayetterie d'Hondschoote, XIVe-XVIIIe siècles* (Paris, 1930); calculated from Appendix IV, pp. 485-90.

Table 7

Woollen Cloth Prices in the 15th Century

I. Prices of Flemish, Brabantine, and Dutch Woollens as Purchased by Various Town Governments in the Low Countries, c. 1438 - 1443

| Town | Textile | Ells Long | Value in £ groot Flemish | Value in Florentine Florins: 50d | Value in £ sterling | No. Days Mason's Wages to Buy 30 ells: Flem. d. gr. Bruges 10.000d per day | Antwerp 6.667d per day |
|--------------------------------|------------------------|--------------|--------------------------------|--|------------------------|---|------------------------------|
| A. Traditional Woollens | | | | | | | |
| Ypres | Scarlet (full-grained) | 35 | 12.567 | 60.322 | 11.383 | 258.520 | 387.780 |
| Ypres | Black Broadcloth | 35 | 7.000 | 33.600 | 6.341 | 144.000 | 216.000 |
| Bruges | Scarlet (full-grained) | 33 | 11.000 | 52.800 | 9.964 | 240.000 | 360.000 |
| Bruges | Black Broadcloth | 33 | 8.000 | 38.400 | 7.246 | 174.550 | 261.820 |
| Ghent | Dickedinnen | 30 | 7.000 | 33.600 | 6.341 | 168.000 | 252.000 |
| Mechelen | Blue Broadcloth | 30 | 7.275 | 34.920 | 6.590 | 174.600 | 261.900 |
| Leuven | Fine Broadcloth | 30 | 4.152 | 19.930 | 3.761 | 99.650 | 149.470 |
| Leiden | Pair halvelakenen | 36 | 5.304 | 25.459 | 4.804 | 106.080 | 159.120 |
| B. Nouvelles Draperies | | | | | | | |
| Wervik | Scarlet (full-grained) | 20 | 7.000 | 33.600 | 6.341 | 252.000 | 378.000 |
| Wervik | Fine Black Broadcloth | 20 | 5.750 | 27.600 | 5.208 | 207.000 | 310.500 |
| Wervik | Dark Green | 27 | 3.900 | 18.720 | 3.533 | 104.000 | 156.000 |
| Kortrijk | Red Broadcloth | 30 | 3.500 | 16.800 | 3.170 | 84.000 | 126.000 |
| Menin | Fine Black Broadcloth | 30 | 6.000 | 28.800 | 5.435 | 144.000 | 216.000 |
| Menin | Perse-Blue Broadcloth | 30 | 4.600 | 22.080 | 4.167 | 110.400 | 165.600 |
| Neuve-Eglise | Medley Broadcloth | 30 | 2.125 | 10.200 | 1.925 | 51.000 | 76.500 |
| Hesdin | Green Broadcloth | 30 | 3.000 | 14.400 | 2.717 | 72.000 | 108.000 |
| Niepkerke | Red Broadcloth | 30 | 2.125 | 10.200 | 1.925 | 51.000 | 76.500 |
| Roeselaere | Red Broadcloth | 30 | 2.500 | 12.000 | 2.264 | 60.000 | 90.000 |
| Diest (Brabant) | Green Broadcloth | 30 | 2.687 | 12.898 | 2.434 | 64.490 | 96.730 |

**C. Draperies
Légères (Sèches)**

| | | | | | | | |
|--------------|-----------------|----|-------|-------|-------|--------|--------|
| Eecke | dukers, witkins | 30 | 0.563 | 2.702 | 0.510 | 13.510 | 20.270 |
| Meunekereede | dukers, witkins | 30 | 0.563 | 2.702 | 0.510 | 13.510 | 20.270 |

II. Prices of English Woollens and Worsteds and Foreign Linens in the Royal Wardrobe Accounts, 1438 - 1439

| Place | Textile | Yds Long | Value in | Value in | Value in | No. Days | |
|---------|----------------------------|-------------|--------------------|----------------------------|------------|---|--------------------|
| | | | £ groot Flemish | Florentine Florins: 44d | £ sterling | Mason's Wages to buy 24 yards London: 8 d per day | Oxford 6d/daily |
| England | Scarlet (highest value) | 30 | 31.464 | 155.455 | 28.500 | 547.200 | 912.000 |
| England | Scarlet (mean value) | 30 | 19.911 | 98.373 | 18.035 | 346.270 | 577.120 |
| England | Dyed Long Cloth (highest) | 30 | 15.456 | 76.364 | 14.000 | 268.800 | 448.000 |
| England | Dyed Long Cloth (mean) | 30 | 8.237 | 40.698 | 7.461 | 143.260 | 238.760 |
| England | Dyed Short Cloth (highest) | 24 | 4.416 | 21.818 | 4.000 | 96.000 | 160.000 |
| England | Dyed Short Cloth (mean) | 24 | 2.810 | 13.882 | 2.545 | 61.080 | 101.800 |
| England | Dyed Short Cloth (lowest) | 24 | 1.546 | 7.636 | 1.400 | 33.600 | 56.000 |
| England | Kersey (mean) | 18 | 1.485 | 7.335 | 1.345 | 43.030 | 71.720 |
| England | Straits (mean) | 12 | 0.364 | 1.800 | 0.330 | 15.840 | 26.400 |
| England | Worsted | 12 | 0.258 | 1.276 | 0.234 | 11.230 | 18.720 |
| Holland | linens | 12 | 1.607 | 7.942 | 1.456 | 69.890 | 116.480 |
| Brabant | linens | 12 | 0.349 | 1.724 | 0.316 | 15.170 | 25.280 |

**III. Prices of Flemish, French, Italian, Spanish, and English Woollens in Spain (Barcelona, Valencia, Majorca):
Sales by the Datini Firm, 1394 - 1410**

| Place/Town | Textile | Rank | Value in £ groot Flemish 34d/florin | Value in Florentine Florins | Value in £ sterling 36d/florin |
|-------------------|--------------------------|-------------|--|--|---|
| Flanders | | | | | |
| Wervik, Kortrijk | dyed woollen broadcloths | mean | 3.953 | 27.900 | 4.185 |
| Comines, Menin | dyed woollen broadcloths | mean | 3.953 | 27.900 | 4.185 |
| Bruges | dyed woollen broadcloths | mean | 6.235 | 44.010 | 6.602 |
| Brabant | | | | | |
| Brussels | dyed woollen broadcloths | mean | 6.259 | 44.180 | 6.627 |
| Mechelen | dyed woollen broadcloths | mean | 6.259 | 44.180 | 6.627 |
| France | | | | | |
| Montivilliers | dyed woollen broadcloths | mean | 4.460 | 31.480 | 4.722 |
| Italy | | | | | |
| Florence | dyed woollen broadcloths | mean | 9.128 | 64.430 | 9.665 |
| Prato, Genoa | dyed woollen broadcloths | mean | 8.873 | 62.630 | 9.395 |
| Spain | | | | | |
| Perpignano | dyed woollen broadcloths | lowest | 1.512 | 10.670 | 1.601 |
| Perpignano | dyed woollen broadcloths | mean | 1.930 | 13.620 | 2.043 |
| Perpignano | dyed woollen broadcloths | highest | 2.645 | 18.670 | 2.801 |
| Puigcerda | dyed woollen broadcloths | mean | 1.512 | 10.670 | 1.601 |
| Villefranca | dyed woollen broadcloths | mean | 1.247 | 8.800 | 1.320 |
| Villefranca | dyed woollen broadcloths | mean | 1.190 | 8.400 | 1.260 |
| Barcelona | dyed woollen broadcloths | mean | 1.680 | 11.860 | 1.779 |
| England | | | | | |
| Essex | straits (dozens) | mean | 0.867 | 6.120 | 0.918 |

IV. Prices of Italian, Catalan, French, Flemish Woollens sold in Naples and Sicily, 1380 - 1410:

| Place/Town | Textile | Rank | Value in £ groot Flemish 34d/florin | Value in Florentine Florins | Value in £ sterling 36d/florin |
|--------------------|--------------------------|-------------|--|--|---|
| Italy | | | | | |
| Florence | San Martino woollens | lowest | 8.293 | 58.540 | 8.781 |
| Florence | San Martino woollens | mean | 8.605 | 60.740 | 9.111 |
| Florence | San Martino woollens | highest | 8.915 | 62.930 | 9.440 |
| Milan, Como | dyed woollen broadcloths | lowest | 5.667 | 40.000 | 6.000 |
| Milan, Como | dyed woollen broadcloths | mean | 6.143 | 43.360 | 6.504 |
| Milan, Como | dyed woollen broadcloths | highest | 6.375 | 45.000 | 6.750 |
| Prato, Pisa, Siena | dyed woollen broadcloths | lowest | 3.071 | 21.680 | 3.252 |
| Prato, Pisa, Siena | dyed woollen broadcloths | mean | 3.686 | 26.020 | 3.903 |
| Prato, Pisa, Siena | dyed woollen broadcloths | highest | 4.300 | 30.350 | 4.553 |
| Catalonia | | | | | |
| Perpignano | dyed woollen broadcloths | mean | 2.408 | 17.000 | 2.550 |
| Villefranca | dyed woollen broadcloths | mean | 1.327 | 9.370 | 1.406 |
| France | | | | | |
| Languedoc | dyed woollen broadcloths | mean | 2.267 | 16.000 | 2.400 |
| Gignac, Beziers | dyed woollen broadcloths | mean | 2.479 | 17.500 | 2.625 |
| Carcassonne | dyed woollen broadcloths | mean | 2.692 | 19.000 | 2.850 |
| Flanders | | | | | |
| Wervik | dyed woollen broadcloths | | 3.683 | 26.000 | 3.900 |

**V. Prices for Italian, Catalan, French, Flemish, Brabantine, and English Textiles in the Levant
(A: Alexandria, D: Damascus, and C: Constantinople, c.1390 - 1435)**

| Place/Town | Textile | Place of Sale and date | Value in | Value in | Value in |
|------------------|--------------------------|------------------------------|--|-----------------------|--|
| | | | £ groot Flemish 34d/florin 50d/florin | Florentine Florins | £ sterling 36d/florin 40d/florin |
| Florence | grade 1 woollens | D: 1390 | 4.958 | 35.000 | 5.250 |
| Florence | grade 2 woollens | D: 1390 | 6.517 | 46.000 | 6.900 |
| Florence | grade 3 woollens | D: 1390 | 7.650 | 54.000 | 8.100 |
| Florence | panni di fontego | D: 1390 | 3.825 | 27.000 | 4.050 |
| Florence | grade 1 woollens | D: 1398 | 4.250 | 30.000 | 4.500 |
| Florence | grade 2 woollens | D: 1398 | 6.134 | 43.300 | 6.495 |
| Florence | grade 2 woollens | D: 1398 | 6.375 | 45.000 | 6.750 |
| Florence | grade 1 woollens | A: 1400 | 4.250 | 30.000 | 4.500 |
| Florence | grade 1 woollens | A: 1402 | 5.313 | 37.500 | 5.625 |
| Catalonia | | | | | |
| Villefranca | dyed woollen broadcloths | D: 1390 | 2.338 | 16.500 | 2.475 |
| Villefranca | dyed woollen broadcloths | D: 1395 | 2.054 | 14.500 | 2.175 |
| Barcelona | dyed woollen broadcloths | D: 1390 | 2.196 | 15.500 | 2.325 |
| Barcelona | dyed woollen broadcloths | D: 1395 | 1.700 | 12.000 | 1.800 |
| Puigcerda | dyed woollen broadcloths | D: 1395 | 1.771 | 12.500 | 1.875 |
| Perpignano | woollen 'simples' | D: 1395 | 2.054 | 14.500 | 2.175 |
| Perpignano | panni alla francesca | D: 1395 | 2.451 | 17.300 | 2.595 |
| France | | | | | |
| Louviers | dyed woollen broadcloths | A:1390 | 3.613 | 25.500 | 3.825 |
| Narbonne | dyed woollen broadcloths | A: 1396 | 1.488 | 10.500 | 1.575 |
| Narbonne | dyed woollen broadcloths | D: 1396 | 1.488 | 10.500 | 1.575 |
| Narbonne | dyed woollen broadcloths | A: 1399 | 2.754 | 19.440 | 2.916 |
| Flanders | | | | | |
| Wervik | dyed woollen broadcloths | D: 1395 | 2.720 | 19.200 | 2.880 |
| Wervik | dyed woollen broadcloths | C: 1436 | 5.896 | 28.300 | 4.717 |
| Wervik | dyed woollen broadcloths | C: 1436 | 4.583 | 22.000 | 3.667 |
| Brabant | | | | | |

| | | | | | |
|-------------------|--------------------------|---------|-------|--------|-------|
| Mechelen | dyed woollen broadcloths | D: 1395 | 5.454 | 38.500 | 5.775 |
| England | | | | | |
| Worcestershire | Cotswolds | D: 1405 | 4.958 | 35.000 | 5.250 |
| | Cotswolds | D: 1410 | 2.083 | 14.700 | 2.205 |
| | Panni Bastardi | D: 1414 | 3.542 | 25.000 | 4.167 |
| | Panni Bastardi | D: 1414 | 3.967 | 28.000 | 4.667 |
| | Panni Bastardi | D: 1416 | 2.833 | 20.000 | 3.333 |
| Salisbury | Wiltshires | D: 1416 | 2.833 | 20.000 | 3.333 |
| Essex | straits (dozens) | D: 1416 | 0.850 | 6.000 | 1.000 |
| Norfolk/ Ireland? | Saia d'Irlanda | D: 1394 | 0.638 | 4.500 | 0.675 |
| Norfolk/ Ireland? | Saia d'Irlanda | D: 1395 | 0.751 | 5.300 | 0.795 |
| Norfolk/ Ireland? | Saia d'Irlanda | D: 1397 | 0.850 | 6.000 | 0.900 |
| Norfolk/ Ireland? | Saia d'Irlanda | D: 1398 | 0.503 | 3.550 | 0.533 |

VI. VI. Prices for Italian, English, Flemish, Brabantine, Dutch, French, and Rhenish Textiles in Poland (Cracow), c. 1400: Prices for Woollens of 35 Flemish Ells

| Place/Town | Textile | Groszes per ell | Value in £ groot Flemish 34d/florin | Value in Florentine Florins | Value in £ sterling 36d/florin |
|-----------------|--------------------------|--------------------|--|-----------------------------------|--------------------------------------|
| Italy | | | | | |
| Florence | dyed woollen broadcloths | 20 | 4.132 | 29.170 | 4.376 |
| Florence | dyed woollen broadcloths | 22 | 4.545 | 32.080 | 4.812 |
| Flanders | | | | | |
| Bruges | dyed woollen broadcloths | 30 | 6.198 | 43.750 | 6.563 |
| Dendermonde | dyed woollen broadcloths | 15 | 3.098 | 21.870 | 3.281 |
| Kortrijk | dyed woollen broadcloths | 12 | 2.479 | 17.500 | 2.625 |
| Geraardsbergen | dyed woollen broadcloths | 12 | 2.479 | 17.500 | 2.625 |
| Brabant | | | | | |
| Brussels | dyed woollen broadcloths | 20 | 4.132 | 29.170 | 4.376 |
| Brussels | dyed woollen broadcloths | 32 | 6.612 | 46.670 | 7.001 |
| Mechelen | dyed woollen broadcloths | 17 | 3.512 | 24.790 | 3.719 |
| Leuven | dyed woollen broadcloths | 16 | 3.305 | 23.330 | 3.499 |

| | | | | | |
|------------------|--------------------------|----|-------|--------|-------|
| Lier | dyed woollen broadcloths | 24 | 4.958 | 35.000 | 5.250 |
| Lier | dyed woollen broadcloths | 18 | 3.719 | 26.250 | 3.938 |
| Tienen | dyed woollen broadcloths | 14 | 2.893 | 20.420 | 3.063 |
| Tienen | small cloths | 9 | 1.859 | 13.120 | 1.968 |
| Herentals | dyed woollen broadcloths | 18 | 3.719 | 26.250 | 3.938 |
| Holland | | | | | |
| Leiden ? | Ostrodommensis | 15 | 3.098 | 21.870 | 3.281 |
| England | | | | | |
| London | dyed woollen broadcloths | 12 | 2.479 | 17.500 | 2.625 |
| London | dyed woollen broadcloths | 24 | 4.958 | 35.000 | 5.250 |
| unspecified | dyed woollen broadcloths | 14 | 2.893 | 20.420 | 3.063 |
| Artois | | | | | |
| Arras | sayes | 3 | 0.619 | 4.370 | 0.656 |
| Enghien | unspecified | 8 | 1.653 | 11.670 | 1.751 |
| Rhineland | | | | | |
| Aachen | unspecified | 8 | 1.653 | 11.670 | 1.751 |

Sources:

Based upon cloth-price sources utilized in John Munro, 'Industrial Protectionism in Medieval Flanders: Urban or National?' in Harry Miskimin, David Herlihy, and A. L. Udovitch, eds., *The Medieval City* (New Haven and London, 1977), pp. 229-6; John Munro, 'The Medieval Scarlet and the Economics of Sartorial Splendour,' in , ed. Negley B. Harte and Kenneth G. Ponting, eds., *Cloth and Clothing in Medieval Europe: Essays in Memory of Professor E. M. Carus-Wilson* Pasold Studies in Textile History No. 2 (London, 1983), pp. 13-70; John Munro, 'Industrial Transformations in the North-West European Textile Trades, c. 1290 - c. 1340: Economic Progress or Economic Crisis?' in Bruce M. S. Campbell, ed., *Before the Black Death: Studies in the 'Crisis' of the Early Fourteenth Century* (Manchester and New York, 1991), pp. 110 - 48; John Munro, 'The Origins of the English 'New Draperies': The Resurrection of an Old Flemish Industry, 1270 - 1570,' in Negley B. Harte, ed., *The New Draperies in the Low Countries and England, 1300 - 1800*, Pasold Studies in Textile History no. 10 (Oxford and New York, 1997), pp. 35-127; John Munro, 'Textiles as Articles of Consumption in Flemish Towns, 1330 - 1575,' *Bijdragen tot de geschiedenis*, 81:1-3 (1998): 275-88; John Munro, 'The Symbiosis of Towns and Textiles: Urban Institutions and the Changing Fortunes of Cloth Manufacturing in the Low Countries and England, 1270 -1570,' *The Journal of Early Modern History: Contacts, Comparisons, Contrasts*, 3:1 (February: 1999): 1-74.

Table 8

**Values of English Woollen Cloths (24 yds by 1.75 yds):
Those Purchased for Scholars and Servants at Winchester College and Cambridge
and Those Exported from London & Southampton and from All English Ports, 1360 - 1520**

| Year Ending | Cambridge 1st quality in £ sterling | Cambridge 2nd quality in £ sterling | Winchester 1st quality in £ sterling | Winchester 2nd quality in £ sterling | Mean Price Exported: London/Southampton in £ sterling | Mean in £ groot Flemish | Mean in Floren- tine florins |
|------------------------|--|--|---|---|--|------------------------------------|---|
| 1361-65 | 2.177 | | | | | | |
| 1366-70 | 2.506 | | | | | | |
| 1371-75 | 2.200 | | | | 1.751 | 1.611 | 11.673 |
| 1376-80 | 2.363 | | | | | | |
| 1381-85 | 3.200 | | | | 2.265 | 2.522 | 15.100 |
| 1386-90 | 2.000 | | | | 1.887 | 1.979 | 12.580 |
| 1391-95 | 1.949 | | 2.025 | 1.813 | | | |
| 1396-00 | 2.100 | | 2.050 | 1.706 | | | |
| 1401-05 | 2.100 | | 2.075 | 1.708 | 2.618 | 2.745 | 17.453 |
| 1406-10 | 2.183 | 2.017 | 2.394 | 1.960 | | | |
| 1411-15 | 2.130 | 2.175 | 2.406 | 1.908 | | | |
| 1416-20 | 2.100 | 1.750 | 2.358 | 1.867 | | | |
| 1421-25 | 2.113 | 1.875 | 2.325 | 1.722 | 2.402 | 2.505 | 14.412 |
| 1426-30 | 2.423 | 1.963 | 2.175 | 1.817 | 1.669 | 1.860 | 10.011 |
| 1431-35 | 2.650 | 2.000 | 2.240 | 1.789 | 2.299 | 2.638 | 13.456 |
| 1436-40 | 2.075 | 1.883 | 2.213 | 1.879 | 2.735 | 3.019 | 15.626 |
| 1441-45 | 2.400 | 1.900 | 2.360 | 1.912 | 2.194 | 2.422 | 11.700 |
| 1446-50 | 2.437 | 1.813 | 2.400 | 1.884 | 2.532 | 2.795 | 13.503 |
| 1451-55 | 2.380 | 1.892 | 2.400 | 1.830 | 2.228 | 2.460 | 11.883 |
| 1456-60 | 2.850 | 2.000 | 2.400 | 1.800 | 2.227 | 2.459 | 11.877 |
| 1461-65 | 3.183 | 1.900 | 2.400 | 1.800 | 2.113 | 2.333 | 11.271 |
| 1466-70 | 3.246 | 1.800 | 2.520 | 1.920 | 2.140 | 2.158 | 10.270 |
| 1471-75 | 2.400 | 2.267 | 2.520 | 1.900 | 2.048 | 2.177 | 9.829 |
| 1476-80 | 2.825 | 2.358 | 2.641 | 1.963 | 2.598 | 3.306 | 12.268 |
| 1481-85 | 3.250 | 2.450 | 2.667 | 2.000 | 2.799 | 4.295 | 12.918 |
| 1486-90 | 3.380 | 2.617 | 2.667 | 2.000 | 2.427 | 4.605 | 11.200 |
| 1491-95 | 3.613 | 2.706 | 2.667 | 2.000 | 2.822 | 3.684 | 12.898 |
| 1496-00 | 3.467 | 2.400 | 2.765 | 2.000 | 2.271 | 3.332 | 10.002 |
| 1501-05 | 3.500 | 2.458 | 2.847 | 2.000 | 2.975 | 4.379 | 12.982 |
| 1506-10 | 3.408 | 2.625 | 3.159 | 2.000 | 3.502 | 5.155 | 15.283 |
| 1511-15 | 3.250 | 2.900 | 2.883 | 2.000 | 3.606 | 5.308 | 15.735 |
| 1516-20 | 4.120 | 3.000 | 2.883 | 2.000 | | | |

Table 8

**Values of English Woollen Cloths (24 yds by 1.75 yds):
Those Purchased for Scholars and Servants at Winchester College and Cambridge
and Those Exported from London & Southampton and from All English Ports, 1360 - 1520**

| Year Ending | From all Ports Mean Price in £ st. | Mean Price in £ groot Flemish | Mean Price in Florentine florins | Denizen Export duties (14d) as % of Mean Price |
|----------------|---|-------------------------------------|---|---|
| 1361-65 | | | | |
| 1366-70 | | | | |
| 1371-75 | 1.751 | 1.611 | 11.673 | 3.33% |
| 1376-80 | 2.314 | 2.240 | 15.427 | 2.52% |
| 1381-85 | 2.161 | 2.406 | 14.405 | 2.70% |
| 1386-90 | 1.857 | 1.974 | 11.966 | 3.14% |
| 1391-95 | 1.694 | 1.741 | 11.001 | 3.44% |
| 1396-00 | 1.403 | 1.471 | 9.350 | 4.16% |
| 1401-05 | 1.769 | 1.855 | 11.791 | 3.30% |
| 1406-10 | 1.536 | 1.542 | 10.237 | 3.80% |
| 1411-15 | 1.501 | 1.193 | 9.003 | 3.89% |
| 1416-20 | 1.200 | 1.178 | 7.200 | 4.86% |
| 1421-25 | 2.402 | 2.505 | 14.412 | 2.43% |
| 1426-30 | 1.669 | 1.860 | 10.011 | 3.50% |
| 1431-35 | 2.299 | 2.638 | 13.456 | 2.54% |
| 1436-40 | 2.091 | 2.308 | 11.947 | 2.79% |
| 1441-45 | 2.180 | 2.406 | 11.625 | 2.68% |
| 1446-50 | 2.243 | 2.476 | 11.962 | 2.60% |
| 1451-55 | 1.614 | 1.782 | 8.608 | 3.61% |
| 1456-60 | 2.111 | 2.313 | 11.175 | 2.76% |
| 1461-65 | 1.856 | 2.041 | 9.860 | 3.14% |
| 1466-70 | 1.866 | 1.881 | 8.956 | 3.13% |
| 1471-75 | 1.877 | 2.002 | 9.011 | 3.11% |
| 1476-80 | 2.385 | 3.044 | 11.262 | 2.45% |
| 1481-85 | 2.274 | 3.435 | 10.498 | 2.56% |
| 1486-90 | 2.427 | 4.605 | 11.200 | 2.40% |
| 1491-95 | 2.822 | 3.684 | 12.898 | 2.07% |
| 1496-00 | 2.271 | 3.332 | 10.002 | 2.57% |
| 1501-05 | 2.975 | 4.379 | 12.982 | 1.96% |
| 1506-10 | 3.502 | 5.155 | 15.283 | 1.67% |
| 1511-15 | 3.606 | 5.308 | 15.735 | 1.62% |
| 1516-20 | | | | |

Sources:

London: Public Record Office, King's Remembrancer Exchequer, Particulars Accounts: Customs E.122/76/13, 74/11, 77/11, 73/23, 73/25, 194/14-18, 78/7, 79/5, 81-1-2; Lord Treasurer's Remembrancer, Enrolled Customs, E.356/19-24

Southampton: P.R.O., K.R. Exchequer, Customs E.122/139/4/ 139/7-8, 141/4, 141/21-22, 209/1, 141/25, 140/62, 141.29, 141/31, 141/33, 141/35-36, 209/8, 141/38, 142/1, 142/3, 142/8, 142/10, 143/1, 142/11-12, 209/2, and L.T.R. Enrolled Customs E. 356/19-24.

Cambridge and Winchester: James E. Thorold Rogers, *A History of Agriculture and Prices in England from the Year after the Oxford Parliament (1259) to the Commencement of the Continental War (1793)*, Vol. I: 1259-1400 (Oxford, 1866), pp. 587-92; Vol. IV: 1401 - 1582 (Oxford, 1882), pp. 583-588; William Beveridge, *Prices and Wages in England from the Twelfth to the Nineteenth Centuries*, vol. I: *Price Tables: Mercantile Era* (London: Longmans Green, 1939; republished London, 1965).

Table 9

Prices of Ghent Strijpte (Rayed) and Dickedinnen Woollens in £ groot Flemish

| | Strijpte Laken for Magistrates in £ groot Flemish | Dickedinnen for Magistrates in £ groot Flemish | Value of Flemish Commodity Basket in d. groot | Value of Ghent Dickedinnen in Commodity Baskets | Bruges: Mean Craftsman's Daily Wage in d. groot | No. Days' Wages to Buy a Ghent Dickedinnen | Antwerp: Mean Craftsman's Daily Wage in d. groot Fl. | No. Days' Wages to Buy a Ghent Dickedinnen |
|---------|--|---|---|--|---|--|--|--|
| 1331-35 | 1.550 | 2.747 | | | | | | |
| 1336-40 | 1.573 | 2.788 | | | | | | |
| 1340-45 | 1.982 | 3.512 | | | | | | |
| 1346-50 | 1.742 | 2.874 | | | | | | |
| 1351-55 | 3.375 | 3.749 | 77.224 | 11.651 | 5.200 | 173.019 | | |
| 1356-60 | 2.944 | 4.330 | 111.488 | 9.321 | 6.000 | 173.198 | | |
| 1361-65 | 3.449 | 4.857 | 120.264 | 9.693 | 6.850 | 170.186 | | |
| 1366-70 | 4.469 | 5.377 | 136.898 | 9.427 | 8.000 | 161.310 | | |
| 1371-75 | 5.705 | 5.333 | 146.884 | 8.713 | 8.000 | 159.978 | | |
| 1376-80 | 6.977 | 6.890 | 142.264 | 11.623 | 8.800 | 187.909 | | |
| 1381-85 | 6.998 | 7.500 | 151.892 | 11.851 | 8.800 | 204.545 | | |
| 1386-90 | 5.559 | 5.958 | 159.060 | 8.990 | 10.867 | 131.588 | | |
| 1391-95 | 5.167 | 5.538 | 112.734 | 11.790 | 9.000 | 147.680 | | |
| 1396-00 | 5.373 | 5.759 | 114.500 | 12.071 | 9.850 | 140.319 | | |
| 1401-05 | 5.579 | 5.980 | 111.494 | 12.872 | 10.000 | 143.517 | | |
| 1406-10 | 5.236 | 5.843 | 131.588 | 10.658 | 10.000 | 140.242 | | |
| 1411-15 | 4.805 | 5.853 | 121.454 | 11.566 | 10.000 | 140.472 | | |
| 1416-20 | 4.935 | 6.077 | 136.504 | 10.684 | 10.200 | 142.979 | | |
| 1421-25 | 4.871 | 5.997 | 141.156 | 10.196 | 10.200 | 141.101 | | |
| 1426-30 | 5.226 | 6.047 | 151.820 | 9.559 | 10.200 | 142.273 | | |
| 1431-35 | 5.433 | 7.061 | 158.614 | 10.684 | 10.800 | 156.916 | | |
| 1436-40 | 5.533 | 7.182 | 180.456 | 9.551 | 10.800 | 159.591 | 6.667 | 258.538 |
| 1441-45 | 5.661 | 8.008 | 145.264 | 13.231 | 11.000 | 174.729 | 7.733 | 248.537 |
| 1446-50 | 5.700 | 7.719 | 139.490 | 13.281 | 11.000 | 168.419 | 8.000 | 231.576 |
| 1451-55 | 5.635 | 6.828 | 127.926 | 12.810 | 11.000 | 148.977 | 8.000 | 204.843 |
| 1456-60 | 5.656 | 7.857 | 149.838 | 12.584 | 11.000 | 171.417 | 8.000 | 235.698 |
| 1461-65 | 5.207 | 8.000 | 113.930 | 16.852 | 11.000 | 174.545 | 8.000 | 240.000 |
| 1466-70 | 4.890 | 8.188 | 121.596 | 16.160 | 11.000 | 178.636 | 8.000 | 245.625 |
| 1471-75 | 5.520 | 8.690 | 123.340 | 16.909 | 11.000 | 189.600 | 8.000 | 260.700 |

Table 9 Prices of Ghent Strijpte (Rayed) and Dickedinnen Woollens in £ groot Flemish

| | Strijpte Laken for Magistrates in £ groot Flemish | Dickedinnen for Magistrates in £ groot Flemish | Value of Flemish Commodity Basket in d. groot | Value of Ghent Dickedinnen in Commodity Baskets | Bruges: Mean Craftsman's Daily Wage in d. groot | No. Days' Wages to Buy a Ghent Dickedinnen | Antwerp: Mean Craftsman's Daily Wage in d. groot Fl. | No. Days' Wages to Buy a Ghent Dickedinnen |
|----------------|--|---|---|--|---|--|--|--|
| 1476-80 | 6.715 | 9.063 | 146.476 | 14.849 | | | 8.000 | 271.875 |
| 1481-85 | 8.460 | 10.998 | 200.862 | 13.140 | | | 8.000 | 329.928 |
| 1486-90 | 12.260 | 16.914 | 242.018 | 16.773 | | | 8.600 | 472.024 |
| 1491-95 | 12.850 | 14.367 | 195.352 | 17.650 | | | 8.000 | 431.001 |
| 1496-00 | 11.500 | 14.667 | 131.056 | 26.859 | | | 8.133 | 432.797 |
| 1501-05 | 11.100 | 14.667 | 143.080 | 24.602 | | | 8.167 | 431.030 |
| 1506-10 | 11.740 | 14.130 | 130.936 | 25.900 | | | 8.167 | 415.255 |
| 1511-15 | 12.750 | 13.000 | 157.286 | 19.837 | | | 8.967 | 347.955 |
| 1516-20 | 13.500 | 13.130 | 171.383 | 18.387 | | | 10.000 | 315.120 |

Sources:

Ghent Cloth: Stadsarchief Gent, Stadsrekeningen, Reeks 400: vols. 1-58; Algemeen Rijksarchief België, Rekenkamer, reg. nos. 34,862.

Price Indices: John Munro, 'Mint Outputs, Money, and Prices in Late-Medieval England and the Low Countries,' in *Münzprägung, Geldumlauf und Wechselkurse/ Minting, Monetary Circulation and Exchange Rates*, ed. Eddy Van Cauwenberghe and Franz Irsigler, *Trierer Historische Forschungen*, 7: *Akten des 8th International Economic History Congress, Section C-7, Budapest 1982* (Trier: University Press, 1984), pp. 31-122; Herman Van der Wee, 'Prijzen en lonen als ontwikkelingsvariabelen: Een vergelijkend onderzoek tussen Engeland en de Zuidelijke Nederlanden, 1400 - 1700,' in *Album offert à Charles Verlinden à l'occasion de ses trente ans de professoriat* (Ghent, 1975), pp. 413-35.

Table 10 **Prices of Fine Woollens from the Drie Steden of Flanders in pounds groot Flemish in Quinquennial Means: 1391-95 to 1516-20**

| Five-Year Period | Ghent Fine Dyed Dickedinnen for Magistrates 30 ells (21 m.) | Ghent Fine Strijpte Laken for Magistrates 30 ells (21 m.) | Bruges Fine Dyed Woollens for Magistrates 30 ells (21 m.) | Bruges Fined Dyed Woollens in May for Magistrates per piece* | Ypres Fine Dyed Woollens for Magistrates 30 ells (21 m.) | Ypres Fine Dyed Woollens for Brugse Vrije per piece* |
|-------------------------|--|--|--|---|---|---|
| 1391-95 | 5.538 | 5.167 | 6.218 | 9.500 | | |
| 1396-00 | 5.759 | 5.373 | 6.186 | 9.500 | | 5.203 |
| 1401-05 | 5.980 | 5.579 | 6.627 | 9.800 | | 5.998 |
| 1406-10 | 5.843 | 5.236 | 6.069 | 7.555 | 5.435 | 6.075 |
| 1411-15 | 5.853 | 4.805 | 5.532 | 6.585 | 5.280 | 5.948 |
| 1416-20 | 6.077 | 4.935 | 5.350 | 6.800 | 5.303 | 6.166 |
| 1421-25 | 5.997 | 4.871 | 5.473 | 7.100 | 5.200 | 7.317 |
| 1426-30 | 6.047 | 5.226 | 5.605 | 6.915 | 5.110 | 8.312 |
| 1431-35 | 7.061 | 5.433 | 6.024 | 7.132 | 6.000 | 9.338 |
| 1436-40 | 7.182 | 5.533 | 6.577 | 7.319 | 6.528 | 7.956 |
| 1441-45 | 8.008 | 5.661 | 6.742 | 7.740 | 6.658 | 8.800 |
| 1446-50 | 7.719 | 5.700 | 6.700 | 7.650 | 7.408 | |
| 1451-55 | 6.828 | 5.635 | 6.838 | 7.104 | 7.197 | |
| 1456-60 | 7.857 | 5.656 | 6.986 | 7.228 | 7.768 | |
| 1461-65 | 8.000 | 5.207 | 6.830 | 7.301 | 7.886 | |
| 1466-70 | 8.188 | 4.890 | 6.990 | 7.916 | 7.608 | |
| 1471-75 | 8.690 | 5.520 | 7.505 | 9.034 | 7.553 | |
| 1476-80 | 9.063 | 6.715 | 7.394 | 7.822 | 7.742 | |
| 1481-85 | 10.998 | 8.460 | 9.336 | 10.308 | 10.715 | |
| 1486-90 | 16.914 | 12.260 | 14.223 | 15.975 | 11.287 | |
| 1491-95 | 14.367 | 12.850 | 8.862 | 8.689 | 13.710 | |
| 1496-00 | 14.667 | 11.500 | 9.300 | 9.600 | 12.252 | |
| 1501-05 | 14.667 | 11.100 | | | | |
| 1506-10 | 14.130 | 11.740 | | | | |
| 1511-15 | 13.000 | 12.750 | | | | |
| 1516-20 | 13.130 | 13.500 | | | | |

* Bruges: length of cloth: from 38.5 ells in early 15th century to 30.0 ells in later 15th century

Sources:

Stadsarchief Gent, Stadsrekeningen, Reeks 400: vols. 1-58; Stadsarchief Brugge, Stadsrekeningen 1390-91 to 1519-20; Algemeen Rijksarchief België, Rekenkamer, nos. 32,461-564 (stadsrekeningen Brugge, from 1406); Algemeen Rijksarchief België, Rekenkamer, registers nos. 38,635 - 722 (stadsrekeningen Ieper); Stadsarchief Mechelen, Stadsrekeningen, 1316-1550, Series I: nos. 3-225; Algemeen Rijksarchief, Rekenkamer, reg. nos. 41,219-85; Stadsarchief Leuven, Stadsrekeningen, 1345-1500, nos. 4986-5124.

Table 11

**Prices of Fine Woollens from the Brabantine Draperies
Leuven and Mechelen: in Pounds Groot Brabant and Flemish
in Quinquennial Means: 1366-70 to 1516-20**

| Five Year Period | Leuven Mean Values in £ groot Brabant [new] | Leuven Mean Values in £ groot Flanders | Mechelen Mean Values in £ groot Brabant [old] | Mechelen Mean Values in £ groot Brabant [new] | Mechelen Mean Values in £ groot Flanders | Antwerp Daily Summer Wage of M. Mason in d groot Brabant | No. Days' Wages for Antwerp Mason to Buy One Mechelen Woollen |
|---------------------------------|--|---|--|--|---|---|--|
| 1366-70 | | | 8.453 | | 5.375 | | |
| 1371-75 | | | 13.351 | | 6.716 | | |
| 1376-80 | | | 18.700 | | 7.211 | | |
| 1381-85 | | | 23.384 | | 7.957 | | |
| 1386-90 | | | 26.341 | | 8.780 | | |
| 1391-95 | | | 32.379 | | 6.524 | | |
| 1396-00 | | | 34.430 | | 5.972 | | |
| 1401-05 | 3.226 | 3.226 | 51.786 | 8.631 | 8.631 | 7.750 | 267.280 |
| 1406-10 | 3.683 | 3.683 | 56.510 | 9.418 | 9.418 | 8.000 | 282.550 |
| 1411-15 | 4.208 | 3.787 | 63.099 | 10.657 | 9.694 | 8.000 | 319.710 |
| 1416-20 | 4.500 | 3.944 | 57.585 | 9.598 | 8.389 | 8.000 | 287.930 |
| 1421-25 | 5.631 | 4.520 | 57.021 | 9.504 | 7.618 | 8.000 | 285.110 |
| 1426-30 | 6.597 | 5.057 | 67.455 | 11.243 | 8.631 | 8.000 | 337.280 |
| 1431-35 | 8.386 | 6.086 | 69.416 | 11.569 | 8.528 | 9.700 | 286.250 |
| 1436-40 | | | 58.705 | 9.784 | 6.523 | 10.000 | 234.820 |
| 1441-45 | 6.100 | 4.067 | 60.355 | 10.059 | 6.706 | 11.400 | 211.770 |
| 1446-50 | 6.122 | 4.082 | 58.838 | 9.806 | 6.537 | 12.000 | 196.130 |
| 1451-55 | 5.683 | 3.788 | 60.329 | 10.055 | 6.703 | 12.000 | 201.100 |
| 1456-60 | 6.129 | 4.086 | 57.091 | 9.515 | 6.343 | 12.000 | 190.300 |
| 1461-65 | 8.117 | 5.412 | 53.853 | 8.975 | 5.984 | 12.000 | 179.510 |
| 1466-70 | 8.547 | 5.698 | 50.615 | 8.436 | 5.624 | 12.000 | 168.720 |
| 1471-75 | 8.275 | 5.517 | 60.024 | 10.004 | 6.669 | 12.000 | 200.080 |
| 1476-80 | 8.933 | 5.955 | 73.025 | 12.171 | 8.114 | 12.000 | 243.420 |
| 1481-85 | 9.796 | 6.531 | 79.520 | 13.253 | 8.835 | 12.000 | 265.070 |
| 1486-90 | 11.524 | 7.682 | 85.129 | 14.188 | 9.459 | 12.900 | 263.960 |
| 1491-95 | 11.860 | 7.907 | 77.069 | 12.845 | 8.563 | 12.000 | 256.900 |
| 1496-00 | | | 88.341 | 14.724 | 9.816 | 12.400 | 284.970 |

Table 11

**Prices of Fine Woollens from the Brabantine Draperies
Leuven and Mechelen: in Pounds Groot Brabant and Flemish
in Quinquennial Means: 1366-70 to 1516-20**

| Five Year Period | Leuven Mean Values in £ groot Brabant [new] | Leuven Mean Values in £ groot Flanders | Mechelen Mean Values in £ groot Brabant [old] | Mechelen Mean Values in £ groot Brabant [new] | Mechelen Mean Values in £ groot Flanders | Antwerp Daily Summer Wage of M. Mason in d groot Brabant | No. Days' Wages for Antwerp Mason to Buy One Mechelen Woollen |
|---------------------------------|--|---|--|--|---|---|--|
| 1501-05 | | | 90.690 | 15.115 | 10.077 | 12.500 | 290.210 |
| 1506-10 | | | 90.000 | 15.000 | 10.000 | 12.500 | 288.000 |
| 1511-15 | | | 97.590 | 16.265 | 10.843 | 14.000 | 278.830 |
| 1516-20 | | | 101.900 | 16.983 | 11.322 | 15.000 | 271.730 |

Sources:

Stadsarchief Mechelen, Stadsrekeningen, 1316-1550, Series I: nos. 3-225; Algemeen Rijksarchief, Rekenkamer, reg. nos. 41,219-85; Stedelijke Archief Leuven, Stadsrekeningen, 1345-1500, nos. 4986-5124; Herman Van der Wee, *Growth of the Antwerp Market and the European Economy (fourteenth-sixteenth centuries)*, 3 vols. (The Hague, 19653), Vol. I: *Statistics*, Appendix II: Wages, pp. 457-60.

Table 12

**Prices of Woollens from the New Draperies at Bruges, 1390 -1464
in pounds groot Flemish**

| Year | Index of Commodity Values 1451-75=100 127.326d gr. Flem. | first-quality woollens in £ groot Flemish Deelmans Clerken Justiciers (mean values)* | second-quality woollens Garsoenen Wachters (mean values)* | Wervik Woollens 30 ells Bruges | Wervik Woollens 30 ells BV** | Kortrijk Woollens 30 ells Bruges | Nieuwkerke Niepkerke 30 ells Bruges |
|-------------|---|---|--|---|---|---|--|
| 1391-95 | 88.540 | 3.189 | 1.825 | 3.591 | | 3.611 | |
| 1396-00 | 89.930 | 3.425 | 1.682 | 3.756 | | 3.222 | |
| 1401-05 | 87.570 | 3.098 | 1.660 | 3.512 | | 3.238 | |
| 1406-10 | 103.350 | 3.247 | 1.754 | 3.764 | | 3.462 | |
| 1411-15 | 95.390 | 2.800 | 1.610 | | | 3.373 | |
| 1416-20 | 107.210 | 2.679 | 1.528 | 3.000 | | 3.537 | |
| 1421-25 | 110.860 | 2.611 | 1.621 | 3.194 | 3.500 | 3.469 | |
| 1426-30 | 119.240 | 3.150 | 2.061 | 4.000 | 4.000 | 3.938 | 1.964 |
| 1431-35 | 124.570 | 3.713 | 2.261 | 4.250 | | 4.188 | 2.183 |
| 1436-40 | 141.730 | 3.725 | 2.281 | 4.176 | 4.222 | 3.500 | 2.083 |
| 1441-45 | 114.090 | 3.688 | 2.359 | 3.878 | 4.646 | 4.253 | 2.241 |
| 1446-50 | 109.550 | 3.510 | 2.531 | 3.875 | 4.183 | 3.889 | 2.217 |
| 1451-55 | 100.470 | 3.523 | | 3.648 | 4.444 | 4.000 | 2.353 |
| 1456-60 | 117.680 | 3.145 | 2.044 | 3.222 | | | 1.824 |
| 1461-65 | 89.480 | 3.250 | 2.489 | 3.889 | | | 2.319 |
| 1466-70 | 95.500 | 3.125 | 2.088 | | | | 2.016 |

*woollens from the nouvelles draperies of Comines, Menen, Eekloo, Tournai, Haluin, Roeselare, Linselles, Zichem, Nieuwkerke, Hesdin, Niekerke, Diest, Bailleul, Armentières (1467 only).
Wervik's and Kortrijk's cloth prices given separately

**woollens purchased for the magistrates of Het Brugse Vrij or the Franc de Bruges

Source:

Stadsarchief Brugge, Stadsrekeningen 1390-91 to 1519-20; Algemeen Rijksarchief België, Rekenkamer, nos. 32,461-564 (stadsrekeningen Brugge, from 1406); reg. nos. 34,862; registers no. 42,521-625 (Franc de Bruges/Bruges Vrij).

Table 13

**Prices of Dukens, Witkins, and other Coarse Fabrics
from Bailleul, Meunekereede, Zeeland, and Scotland**

| Year | Dukens and Witkins | | | Coarse Woollens of Nieuwkerke Nieuwkerke, Messines, Bruges | | |
|----------------|----------------------------------|-----------------------------|--------------------------------|---|-----------------------------|--------------------------------|
| | Price 30 ells in shillings | Price 30 ells in £ gr | Price per ell in d groot | Price 30 ells in shillings | Price 30 ells in £ gr | Price per ell in d groot |
| 1461-65 | 11.250 | 0.563 | 4.500 | | | |
| 1466-70 | 10.500 | 0.525 | 4.200 | 35.000 | 1.750 | 14.000 |
| 1471-75 | 10.250 | 0.513 | 4.100 | 34.692 | 1.735 | 13.877 |
| 1476-80 | 10.460 | 0.523 | 4.184 | 36.162 | 1.808 | 14.465 |
| 1481-85 | 17.688 | 0.884 | 7.075 | 42.218 | 2.111 | 16.887 |
| 1486-90 | 31.320 | 1.566 | 12.528 | 63.650 | 3.183 | 25.460 |
| 1491-95 | 21.834 | 1.092 | 8.734 | 55.336 | 2.767 | 22.134 |
| 1496-00 | 21.250 | 1.063 | 8.500 | 52.670 | 2.634 | 21.068 |

Source:

Stadsarchief Brugge, Stadsrekeningen 1390-91 to 1519-20; Algemeen Rijksarchief België, Rekenkamer, nos. 32,461-564 (stadsrekeningen Brugge, from 1406); reg. nos. 34,862; registers no. 42,521-625 (Franc de Bruges/Bruges Vrij).

Table 14

**Costs of Wool and of Cloth-Manufacturing in the Draperies of
Leuven 1434, 1442), Ypres (1501), Florence (1534, 1558), and Essex (1759)**

| Place | Leuven | Leuven | Ypres | Florence | Florence | Essex | Essex |
|--|-------------------------|-------------------------|-----------------------|-----------------------|-----------------------|-------------------------|-------------------------|
| Date | 1434 | 1442 | 1501 | 1534 | 1558 | 1759 | 1759 |
| Textile | Woollen Broadcloth | Woollen Broadcloth | Woollen Broadcloth | Woollen Broadcloth | Woollen Broadcloth | Worsted Say | Worsted Say or Bay |
| Dimensions in yds | 23 by 1.7 | 23 by 1.7 | 23 by 1.9 | | | 27 by ? | 42 by ? |
| Dimensions in m. | 21 by 1.4 | 21 by 1.4 | 21 by 1.5 | | | | |
| Wools Used | English: Fine Lincs. | English: Fine Lincs. | English: Cotswolds | Spanish: Merino | Spanish: Merino | English: Long Staple | English: Long Staple |
| Quantity of Wool: lb | 67 | 62.700 | 74.300 | 75.400 | 86.800 | 13.000 | 24.000 |
| Quantity of Wool: kg | 30.391 | 28.441 | 33.702 | 34.201 | 39.372 | 5.897 | 10.886 |
| Cost of Wool currency | 3.094 £ groot Flem | 2.288 £ groot Flem | 6.601 £ groot Flem | 10.630 florins | 12.980 florins | 0.813 £ sterling | 1.8 £ sterling |
| Pre-Finishing Manufacturing Costs | 0.967 | 1.039 | 3.677 | 13.690 | 20.690 | 1.004 | 2.804 |
| Sub-total costs | 4.061 | 3.327 | 10.278 | 24.320 | 33.670 | 1.817 | 4.604 |
| Dyeing & Finishing | 0.892 | 0.825 | 2.447 | 6.450 | 9.660 | 0.027 | 0.031 |
| Total Costs | 4.953 | 4.152 | 12.725 | 30.770 | 43.330 | 1.844 | 4.635 |
| £ Sterling equivalent: gold | 4.486 | 3.761 | 9.163 | 7.693 | 14.443 | 1.844 | 4.635 |
| Wool: percentage of pre-finishing costs | 76.19% | 68.77% | 64.22% | 43.71% | 38.55% | 44.74% | 39.10% |
| Wool: percentage of total | 62.47% | 55.11% | 51.87% | 34.55% | 29.96% | 44.09% | 38.83% |
| Valued-added as percent total | 19.52% | 25.02% | 28.90% | 44.49% | 47.75% | 54.45% | 60.50% |

| | | | | | | | |
|--|--------|--------|--------|--------|--------|-------|-------|
| dyeing & finishing: percent total | 18.01% | 19.87% | 19.23% | 20.96% | 22.29% | 1.46% | 0.67% |
|--|--------|--------|--------|--------|--------|-------|-------|

Sources:

Stedelijke Archief Leuven, Stadsrekeningen 1434-35 and 1442-43, nos. 5058 and 5072; Algemeen Rijksarchief België, Rekenkamer, reg. no. 38,723 (stadsrekeningen Ieper); Raymond De Roover, 'A Florentine Firm of Cloth Manufacturers: Management of a Sixteenth-Century Business,' *Speculum*, 16 (1941), 3-33; reprinted in his *Business Banking, and Economic Thought in Late Medieval and Early Modern Europe: Selected Studies of Raymond De Roover*, ed., Julius Kirshner (Chicago, 1974), pp. 85-118; Kevin H. Burley, 'An Essex Clothier of the Eighteenth Century', *Economic History Review*, 2nd ser. 11 (1958), 289 - 301.

**Industrial Change in the Fifteenth- and Sixteenth-Century Low Countries:
the Arrival of Spanish Merino Wools and the Expansion of the ‘*Nouvelles Draperies*’**

(John Munro, University of Toronto)

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