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Luxury and Ultra-Luxury Consumption in Later Medieval and Early Modern European Dress: Relative and 'Real' Values of Woollen Textiles in the Low Countries and England, 1330 - 1570

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Abstract: by John Munro (University of Toronto)

Over many millennia, mankind has laboured to consume and satisfy three very necessary material wants or needs: food (including drink), shelter, and clothing. Each of these, however, has also been a major object of luxury consumption in most European societies. Textiles were necessities in providing almost all people with protection from the elements: from winter and evening cold, from summer heat, and from precipitation (rain, sleet, snow, hale); and also protection, in terms of modesty, from public shame and humiliation. For many people, however, clothing has also served and still serves other or supplementary wants, in terms of luxury consumption: for decoration, the assertion of personal values, and also for assertions or symbols of social status. The subject of this particular study, woollen textiles, is arguably the one that best permits a statistical comparison of market values of both luxury and 'every-day' textiles, because of the abundance and continuity of price data that have survived in two economically linked regions, the southern Low Countries and England, over two centuries: from the mid-fourteenth to the mid-sixteenth centuries. Luxury- quality textiles from this region played a very major role in European international trade during this long period, for reasons also examined in this study.

The core of this study is a comparison of the prices and relative values of the purchases of two luxury woollen textiles and of two relatively cheap textiles in Ghent, Mechelen, and Antwerp in the years 1538 to 1544: the first category consists of the Ghent *dickedinnen* and the Mechelen *zwart rooslaken* broadcloths; the second (latter) consists of single and double says from Hondschoote, sold on the Antwerp market. The prices are given in the Flemish *pond groot (live gros)*. But such prices are meaningless unless proper relative comparisons be made, to indicate the 'real' values of these textiles. This study utilizes two such techniques: (1) an estimate of the number of days' wages that an Antwerp master mason would have required to buy one of these textiles (or 12 square metres of each); (2) the number of 'baskets of consumables', the measure used to construct the annual Consumer Price Index, whose aggregate value in pounds *groot* equalled the value of one of each of these textiles. The differences in relative values for these years are most vividly revealed by the first technique: For 1538-44, the average number of days' wages required to purchase 12 square metres of cloth (enough to make up a man's full suit of clothing) would have been: 13.725 days for a Hondschoote single say; 16.958 days for a Hondschoote double say; and 5.4 times as many days, 91.413 for a Ghent *dickedinnen* and 74.144 days for a Mechelen *rooslaken*. To make that comparison all the more clear – the differences between a heavy-weight luxury woollen broadcloth and a lighter-weight semi-worsted fabric (says) used for every-day wear, the next section analyses the physical composition of these various textiles, from the weavers' guild ordinances: in terms of the wools used, the dimensions on the loom, the final dimensions after finishing, the weight of the cloths, and their gram weights per square metre.

A snap-shot comparison of these textile values for just these few years, near the mid-sixteenth century, will not prove convincing, however, unless the 'real' values of these and other woollen textiles can be presented over much longer periods of time. The following tables presents the values of woollen broadcloths from Ghent, Mechelen, Bruges, Ypres (Ieper), Leuven, and England, for various periods from the 1330s to the 1570s – more than two and half centuries. Those values are again presented in four forms: (1) in Flemish pounds (£) *groot*; (2) In terms of nominal and 'real' price-indexes (base 1451-75=100); (3) the number of days' wages that a Flemish (Bruges-Ghent), or English (Oxford-Cambridge), or Brabantine (Antwerp) master mason would have had to spend to purchase just one of each of these woollen cloths; and (4) the number of annual 'baskets of consumables' (Flemish, Brabantine, English) whose aggregate money-of-account value equalled the value of just one of these textiles. Of all the woollen textiles produced in medieval Europe by far the most luxurious, rivalling silks in value, were the *scarlets*, whose nature, composition, dyestuffs, finishing costs, and market values are considered – in the same fashion – for Mechelen from 1361 to 1415 (the only period of continuous data available). Finally, tables (14 and 15) are presented on the prices of the finer English wools used in manufacturing all these fine woollens.

JEL Classifications: F10; L11; L15; L67; M30; N63; N93; O52.

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Luxury consumption in textiles: an overview

As most economic historians would agree, mankind over many millennia has laboured to consume and satisfy three very necessary material wants or needs: food (including drink), shelter, and clothing. Each of these, however, has also been major objects of luxury consumption, certainly in European societies, past and present. One might also properly add to our list the consumption of non-material 'goods' that have particularly if personally important spiritual and aesthetic qualities or values – such as religious observances, fine art (paintings, sculptures, etc.), and music; and for many they may be necessities that are difficult to distinguish from luxuries. But the value of studying tangible commodities is that we may utilize numerical values that better allow us to measure the very real market value differences between necessities and luxuries.

The subject of this particular study, woollen textiles, is arguably the tangible commodity that best permits such statistical comparison, because of the wealth and continuity of price data that have survived in two economically linked regions, the southern Low Countries and England, over two centuries: from the mid-fourteenth to the mid-sixteenth centuries. They were also two of the most prominent centres of textile-manufacturing in later medieval and early modern Europe, rivalled only by north-western France, northern Italy (Tuscany and Lombardy) and Catalonia, which regions, however, have not left anything approaching the quantity and range of statistical data on textile prices, and also – for comparative purposes – other commodity prices, and wages, as have both England and the Low Countries (for the period of this study, from 1330 to 1560).

But before engaging in any statistical analyses of relative textile values, we should first consider the historical nature of textiles, cloth, and clothing, in late-medieval and early-modern Europe, to obtain a better qualitative understanding of the difference between the consumption of necessities and luxury goods. Indeed, across the world, past and present, almost all people require clothing for protection from the elements: from the winter and evening cold, from the summer heat, and from precipitation (rain, sleet, snow, hale). Most people also require clothing for reasons of personal modesty (i.e., protection against shame and

humiliation), considerations reinforced in many parts of the world by religious and cultural values.

For many people, however, if only for a much smaller segment of the population, clothing has also served and still serves other or supplementary wants, in terms of luxury consumption: for decoration, the assertion of personal values, and also for assertions or symbols of social status. For later-medieval and early-modern Europe, one need cite only the wide variety of sumptuary legislation, by which royalty and the aristocracy sought to prevent the lower classes – the lower bourgeoisie and working classes – from seeking to emulate their 'betters' in the modes of dress that they were permitted to wear.[1]

For the economic historian of pre-modern, pre-industrial Europe, the consumption of luxury textiles has great importance for two reasons. First, it involves the question of fashion and changing tastes as important considerations in understanding the structure of demand, in both its micro- and macro-economic dimensions. Second, luxury textiles assumed an even greater or disproportionate importance in the international trade of later-medieval Europe for reasons that will now be explored.

Luxury textiles in international trade: structural changes in the textile trades from the later-medieval

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[1] See, for example, the following studies on luxury dress and sumptuary legislation: Alan Hunt, *Governance of the Consuming Passions : a History of Sumptuary Law* (London: St. Martin's Press, 1996); Catherine Kovesi, *Sumptuary Law in Italy, 1200-1500* (Oxford: Clarendon Press, 2002); Maria Giuseppina Muzzarelli, *La legislazione suntuaria : secoli XIII-XVI : Emilia Romagna* (Rome: Ministero per i beni e le attività culturali, Direzione generale per gli archivi, 2002); González Arce and José Damián, *Apariencia y poder: la legislación suntuaria castellana en los siglos XIII y XV* (Jaén: Universidad de Jaén, 1998). See also the related studies on dress and fashion: Lou Taylor, *Mourning dress : a costume and social history* (London: G. Allen and Unwin, 1983); Lou Taylor, *The Study of Dress History* (Manchester: Manchester University Press : 2002); Françoise Piponnier and Perrine Mane, *Dress in the Middle Ages*, translated by Caroline Beamish (New Haven and London, 1997); Joan Thirsk, 'The Fantastical Folly of Fashion: the English Stocking Knitting Industry, 1500 - 1700', in Negley B. Harte and Kenneth G. Ponting, eds., *Textile History and Economic History: Essays in Honour of Miss Julia de Lacy Mann* (Manchester: Manchester University Press, 1973), pp. 50-73; John Munro, ''The Medieval Scarlet and the Economics of Sartorial Splendour', 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: The Pasold Research Fund and Heinemann Educational Books, 1983), pp. 13-70; 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 (Aldershot, Hampshire; and Brookfield, Vermont: Ashgate Publishing Ltd., 1994); John 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*]; John Munro, 'The Anti-Red Shift – to the Dark Side: Colour Changes in Flemish Luxury Woollens, 1300 - 1550', *Medieval Clothing and Textiles*, 3 (2007): forthcoming.

to early modern periods.

Since not only the consumption but also the production of textiles was virtually universal in the ancient, medieval and early-modern worlds, obviously, therefore, only a relatively small share of the world's aggregate production of textiles has ever entered into international trade, even if, historically (up to the nineteenth century), textiles were the single-most important manufacturing commodity featured in that trade. Trade, whether regional or international, serves to meet needs that cannot be satisfied by local, domestic production, especially in terms of quality (style) and price. Thus, since very few areas of the world did not produce local, 'homespun' textiles, such textiles did not enter into international, long-distance trade. Furthermore, such commodities would be traded only if they had a value:weight ratio that would ensure commercial profits in relation to the combination of transportation and transaction costs in long-distance trade. While that does not mean that such trade was limited to just luxury textiles, it was almost always limited to textiles with considerably greater value than what we would term as 'homespun' domestic textiles. That also meant that only a few regions in medieval and early modern Europe – those mentioned above – enjoyed the necessary comparative advantages, in terms of the supply or acquisition of raw materials, production and especially marketing costs, to export textiles that could compete successfully in meeting such consumer demands for products of at least modest quality, let alone truly luxury quality..

In European international trade during the medieval Commercial Revolution era, from the eleventh to very early fourteenth centuries, the relatively cheaper textiles predominated over what would be considered as true luxury fabrics (in the context certainly of this study), both in terms of aggregate volumes and values. [2] From about the 1290s, however, the structure of international trade in textiles underwent very dramatic changes. For, as I have sought to demonstrate in several earlier publications, the chronic and ever more

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[2] See Patrick Chorley, 'The Cloth Exports of Flanders and Northern France During the Thirteenth Century: A Luxury Trade?', *Economic History Review*, 2nd ser. 40:3 (August 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; 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; and also my publications cited in the next note.

widespread warfare and growing insecurity, from that era, and continuing throughout the entire fourteenth and much of the fifteenth century, led to sharply rising transportation and transaction costs in international trade that generally eliminated profits in marketing the cheaper textiles. As a consequence, export-oriented textile manufacturers were either encouraged or forced to shift their textile production towards the much more luxurious and thus far higher priced woollen cloths – those that could better sustain these rising marketing costs, especially to and in the Mediterranean basin. This was especially true for those northern producers of cheaper textiles competing with very close substitutes, who thereby had to act as 'price-takers' especially in distant Mediterranean markets; and thus they could not raise their prices to compensate for those rising transport and transaction costs. Producers of luxury textiles were, however, much better able to operate as 'price-makers' in monopolistic competition if they could convince customers in distant markets of the distinctively superior quality of their cloths, thereby permitting them to set prices that would ensure profits, despite rising transaction costs in international trade. Even those producers enjoying geographic proximity to Europe's most numerous, densely populated, and wealthiest markets, i.e., in the Mediterranean basin (in Italy and Catalonia), underwent these industrial re-orientations towards luxury production. [3]

[3] See in particular John H. 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: Leuven University Press, 1990), pp. 41 - 52; 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: Manchester University Press, 1991), pp. 110 - 48; John Munro, 'Patterns of Trade, Money, and Credit', in James Tracy, Thomas Brady Jr., and Heiko Oberman, eds., *Handbook of European History in the Later Middle Ages, Renaissance and Reformation, 1400 - 1600*, Vol. I: *Structures and Assertions* (Leiden: E.J. Brill, 1994), pp. 147-95; John Munro, 'Industrial Entrepreneurship in the Late-Medieval Low Countries: Urban Draperies, Fullers, and the Art of Survival', in Paul Klep and Eddy Van Cauwenberghe, eds., *Entrepreneurship and the Transformation of the Economy (10th - 20th Centuries): Essays in Honour of Herman Van der Wee* (Leuven: Leuven University Press, 1994), pp. 377-88; John Munro, 'Anglo-Flemish Competition in the International Cloth Trade, 1340 - 1520', *Publication du centre européen d'études bourguigonnes*, 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]; 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: Oxford University Press, 1997), pp. 35-127; 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; John Munro, 'The "Industrial Crisis" of the

By the early sixteenth century, however, the following combination of factors combined to lower transportation and transaction costs in international trade and thereby acted to promote a recovery and renewed expansion in the international trade in relatively less expensive, chiefly lighter textiles, whose chief markets were again found mainly in the Mediterranean basin, and, this time, also in the Spanish New World: a relative diminution in warfare, and thus an increase in relative security; demographic growth, with a disproportionate urbanisation that permitted increased economies of scale in marketing; and several important innovations in both commercial modes of transportation and in marketing facilities, all of which I have analysed in earlier publications.[4]

The chief beneficiary of these structural changes in international trade in textiles during the early to mid-sixteenth century were the worsted-type *sayetteries* of the southern Low Countries, led by the Hondschoote *sayetterie* of Flanders whose light-weight, relatively inexpensive textiles were exported chiefly to this region, especially to Italy and Spain. Fortunately, we have a list of comparative textile prices in the southern Low Countries (from Antwerp, Ghent, and Mechelen) in the decade from the mid 1530s to the mid 1540s, which well illustrate the differences between 'every day' and luxury textile consumption.[5] **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; 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; 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; John Munro, 'Medieval Woollens: The Western European Woollen Industries and their Struggles for International Markets, c.1000 - 1500', in David Jenkins, ed., *The Cambridge History of Western Textiles*, 2 vols. (Cambridge and New York: Cambridge University Press, 2003), Vol. I, chapter 5, pp. 228-324, 378-86 (bibliography); John Munro, 'Spanish *Merino* Wools and the *Nouvelles Draperies*: an Industrial Transformation in the Late-Medieval Low Countries', *Economic History Review*, 2nd ser., 58:3 (August 2005), 431-84.

[4] See my publications cited in the previous note.

[5] See in particular Emile Coornaert, *La draperie-sayetterie d'Hondschoote, XIVe-XVIIIe siècles* (Paris, 1930); Emile Coornaert, *Une industrie urbaine du XIVe au XVIIe siècle: l'industrie de la laine à Bergues-Saint-Winoc* (Paris, 1930); 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; Jan Craeybeckx, , 'L'industrie de la laine dans les anciens Pays-Bas méridionaux de la fin du XVIe au début du XVIIIe siècle', in Marco Spallanzani, ed., *Produzione, commercio e consumo dei panni di lana* (Florence, 1976), pp. 21-43.

physical composition of woollens and worsteds and the technology of their production.

But before examining these differences in prices and relative values (in Table 2), we must first examine the physical differences between these wool-based textiles, with the data illustrated in Table 1. To be sure, the most luxurious and most costly of all textiles worn in later-medieval and early-modern Europe were those woven from silk. But we cannot include silk-based textiles in these comparisons for two reasons: first, they came in a such a wide variety of fabrics (damasks, satins, velours, etc.), which, in turn lacked any real consistency in dimensions; and second, we do not posses a consecutive series of market prices.[6] Since, however, we do have such a consistent series of annual prices for woollen textiles for the southern Low Countries and England, for over two centuries (1330-1560), and since we also know their composition and dimensions from industrial and commercial regulations, this study therefore focuses on wool-based textiles.

European manufacturing of and trade in such textiles had two major branches – worsteds and woollens – and a third that was a hybrid of these two.[7] Worsteds, a very ancient textile fabric, were generally the much lower-quality, lighter, and least expensive of the three types. They were woven from relatively cheap, coarse, strong, long-stapled 'dry' yarns (20.0 to 30.5 cm), worsted yarns in both warps and wefts; and they were generally woven on a narrow, one-man horizontal treadle-loom, often with a diamond or lozenge twilled weave.

Woollens, on the other hand, were generally much finer-quality, much heavier, and more expensive of these three types. The principal reason for their greater weight, better quality, and higher cost (when

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[6] See, however, n. 31 below.

[7] For the following, see John Munro, 'Textile Technology', in Joseph R. Strayer, et al., eds., *Dictionary of the Middle Ages*, 13 vols. (New York: Charles Scribner's Sons/MacMillan, 1982-88), Vol. 11: *Scandinavian Languages to Textiles, Islamic* (New York, 1988), pp. 693-711; 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 (Aldershot, Hampshire; and Brookfield, Vermont: Ashgate Publishing Ltd., 1994); John Munro, 'Medieval Woollens: Textiles, Textile Technology, and Industrial Organisation, c. 800 - 1500', in David Jenkins, ed., *The Cambridge History of Western Textiles*, 2 vols. (Cambridge and New York: Cambridge University Press, 2003), Vol. I, chapter 4, pp. 181-227; Patrick Chorley, 'The Evolution of the Woollen, 1300-1700', 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: Oxford University Press, 1997), pp. 7-34.

undyed) was their wool-composition: very fine, curly, short-stapled (5.0 - 6.0 cm) 'greased' or 'wet' yarns, in both warp and weft. In medieval Europe, by far the finest and thus the most costly wools of this type were English: specifically, in order of quality and value, those from the Welsh Marches or counties of Herefordshire and Shropshire; second, from the adjacent Cotswolds counties of Worcestershire, Gloucestershire, and Oxfordshire; and a more distant third, those from the Kesteven and Lindsey districts of Lincolnshire.[8]

By the sixteenth century, however, Spain was producing and exporting some better varieties of *merino* wools, which had now evolved, from their mid fourteenth-century origins, to rival the better English wools in quality; and by the seventeenth century the even better *merinos* had surpassed the best English wools in quality (and now also in price). Indeed, the finest wools in the world today are those produced by sheep that are the descendants of the Spanish *merinos*, especially in Australia and New Zealand.[9]

The necessary techniques to prepare these fine wools for weaving – in combing (for the warp yarns), carding (for the weft yarns), spinning (drop-spindle for warps and spinning wheels for the wefts), warp-winding on the loom, and weft-insertions in the weaving bobbins – and then fulling the woven cloth also explain the much heavier weights of these textiles. First, these short, curly, scale-fibred wools had to be greased – with butter, olive oil, or herring fat (though generally forbidden) – in order to protect them from entanglement and thus damages in these ensuing processes, all the more necessary since the natural oils or lanolin in the wool fibres had been removed in the cleansing and scouring processes of wool preparation. Worsted wools, on the other hand, did not require any such greasing: first, they were not scoured, and thus retained their own natural lanolin; and, second they were strong and sufficiently straight-stapled that they did

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[8] See 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; and '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 (Aldershot, Hampshire; and Brookfield, Vermont: Ashgate Publishing Ltd., 1994). See also Munro, 'Textile Technology', pp. 693-711; Munro, 'Medieval Woollens: Textiles, Textile Technology, and Industrial Organisation', pp. 181-227.

[9] See Munro, 'Spanish *Merino* Wools and the *Nouvelles Draperies*', pp. 431-84.

not need such protection in the combing, spinning, and weaving processes. For this basic reason, in the medieval and early-modern Low Countries and France, the woollen industries were known as the 'greased' (or wet) draperies: *draperies ointes*; or in Flemish (Nederlands), the *gesmoutte draperie* (*lakenindustrie*). Conversely, the worsted industries were known as the 'dry' draperies: *draperies sèches*; and, in Flemish, *droge draperie.*

Fulling and finishing woollens

The removal of that grease, and also the starchy warp-sizing, and dirt adhering to both, explains the first and very necessary reason for the fulling processes that ensued when the woven cloth was removed from the loom, which for woollens, was a two-man treadle-operated broadloom, producing cloths that were up to 4.0 metres in width, and up to 33 metres in length, while on the loom (Table 1).   These cloths were placed in a fuller's vat, or large earthenware tub, containing an emulsion of warm water, fuller's earth (hydrous aluminum silicates), and also urine, even though widely prohibited. The fullers, usually a pair of husky journeymen, supervised by a master, then vigorously trod upon the soaking cloth, for periods ranging from three to five days, according to the quality of the cloth and the season (since working day in summer was twelve to fourteen hours, but only eight hours in the winter months).[10] The ammonia in the urine not only enhanced the scouring and bleaching properties of fuller's earth but also combined with the grease to form a cleansing soap. These scouring agents also made the wools more receptive to the dye-fixing mordant, usually alum, when the cloth was subsequently dyed in the piece.

But the equally or even more important reason for fulling was two-fold, both achieved by the combination of foot-pounding (pressure), heat, water, and the action of the chemicals. The first was to force the curly, scaly and weak fibres to interlace and interlock and thus to felt, in order to give the cloth cohesion and strength; for otherwise, an unfulled cloth taken from the loom would suffer tearing, possibly to the extent of falling apart. The second and related objective was to shrink and compress the cloth, by as much as one

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[10] Fuller's earth, a clay-like substance, is more properly known as *floridin*, whose chief hydrous aluminum silicate was usually kaolinite ($Al_2O_3Si_2O_4.2H_2O$). See sources in n. 6, and also Munro, 'Industrial Entrepreneurship in the Late-Medieval Low Countries', pp. 377-88.

half (54 to 56 percent).[11]   That compression therefore also fundamentally explains why fulled woollen

broadcloths were so much heavier than were worsteds (and also hybrid fabrics). Once fulled in this fashion,

woollen broadcloths were virtually indestructible and could be worn by several generations, through

inheritance or second-hand sales. At the same time, the fulling process obliterated almost all traces or the

designs created by twilled weaving. That obliteration was completed by ensuing processes of cloth-tentering

(to remove all wrinkles and defects, restoring some of the lost area), teaselling or napping (using thistle-like

teasels to raise the naps, or loose ends of fibres), and shearing – by a repeated process of napping and

shearing – so that the final product was as soft and fine to the touch as silks.

Fulling, it must be noted, was the one and only major process of woollen cloth manufacturing that

underwent powered mechanization before the modern Industrial Revolution (and really only in the nineteenth

century). Water-powered fulling mills had been introduced into Italian cloth manufacturing by the tenth

century CE, and had become widely diffused in English cloth making during the thirteenth and fourteenth

centuries.[12] That process, using cams and trip-hammers to convert the rotary power of the water wheel into

reciprocal power, effected the fulling processes by pounding the cloth with a pair of heavy blocks of oak

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[11] In 1458, the Bruges fullers' ordinance for *bellaert* woollens stipulated that the overall shrinkage from this compression and felting, which gave the cloth its required strength and durability, had to be at least 56 percent (from 172 to 75 square ells): in length, from 43 to 30 ells (30m to 21m); and in width, from 4.0 to 2.5 ells (2.8m to 1.75m). See Octave Delepierre and M. F. Willems, eds., *Collection des keuren ou statuts de tous les métiers de Bruges* (Ghent, 1842). The better known Ghent *dickedinnen*-broadcloths of the fifteenth and sixteenth centuries (1456, 1462, 1546) underwent a very similar shrinkage, of 54 percent (from 75.49m² to 34.91m²).   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), 1 - 61; M.J. Lameere, and H. Simont, et al, eds. *Recueil des ordonnances des Pays Bas*, deuxième série: *1506 - 1700*, V (Brussels, 1910), pp. 272-83.   In both, and indeed in all such woollens, the width underwent greater shrinkage than the length (37.5 vs 30.2 percent), because the warps were more tightly spun than the wefts.

[12] 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. 693-711; Munro, 'Medieval Woollens: Textile Technology', pp. 181-227. Water-powered fulling mills were first introduced into England in 1173. In the fifteenth century, water-powered gig-mills, designed to displace teasels in raising the nap on woollen cloth, were added to some English fulling mills, but never became widespread before the nineteenth century (for reasons given in my two publications cited in this note).

(about 24 kg in weight), used in alternation, up to 40 times per minute. With just one attendant, these fulling-mills could scour, felt, and full a standard-sized good quality woollen cloth in about twenty hours, though requiring only about nine hours for lesser quality cloths.

The economic significance of this industrial innovation can be seen in comparative production costs: traditional foot-fulling accounted for about twenty percent of the value-added pre-finishing costs (in the medieval Low Countries); but mechanical fulling (as documented in Florence), combined with tentering, accounted for only about five percent of such costs. Thus, with a potential of a 75 percent savings in the fulling processes, we can readily understand why the English cloth industry had became almost completely converted to this form of mechanized fulling, by the later fourteenth or early fifteenth century.[13]

But, in the southern Low Countries, while indeed some draperies in the southern Low Countries had also used fulling-mills during the thirteenth and early fourteenth centuries, they were not used again in this region until the sixteenth-century. The reason can be found in the radical reorientation of textile manufacturing in the Low Countries (in Brabant and Holland as well) to luxury woollen cloth production, certainly from the 1330s. As noted earlier, and as I have contended at some length elsewhere, when the economics of this later-medieval industry dictated a form of price-making monopolistic competition, in which competition was essentially based on the Flemish draperies' success in convincing foreign consumers of the superior quality of their luxury woollens, these draperies feared that mechanical fulling would injure or degrade the finer woollen yarns, and thus ruin their reputation for superior quality.

At the same, time because the labour component of production costs was so small in the luxury woollen draperies – as will be more fully demonstrated below, a potential gain of 75 percent from mechanized fulling would have represented, in 1435, a savings of only 3.23 percent of the sales price of a pair of Leiden's *voirwollen halvelakenen,* at £4 9s 0d *groot* Flemish; and a savings of only 2.73 per cent of that year's price of a Ghent *dickedinnen,* at £7 0s 0d *groot.* Since the finer woollens of the Flemish *drie steden* and other drapery towns in the Low Countries were already three times more expensive than rival

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[13] That is: a cost of 5s provides a saving of 75 percent over a cost of 20s. See n. 6, and below, pp.

English broadcloths (see Table 12a), such a very minimal price reduction from mechanisation would have gained them fewer customers than those lost from concerns about the true luxury quality of their woollens.[14]

Finishing worsteds

In contrast, worsteds underwent no such fulling, napping, or shearing, but only bleaching and dyeing. The dyeing of both woollens and worsteds took place in the wools or yarns themselves, especially if woad (not requiring a mordant) had been used to produce a basic blue colour, and then in the piece, often using more woad and then madder (with a mordant, such as alum) to produce a wide variety of colours: deep blues, greens, browns, purples, blacks, etc. Those dyed red, or in red-related colours were normally dyed only in the piece. Needless, to say the finer and more expensive woollens were dyed with more costly dyes: especially the scarlets, dyed with kermes (with or without other dyes), to be discussed later in this study on luxury cloth consumption. Thus, worsteds or worsted-type fabrics were generally so much cheaper than the true, heavy-weight fulled woollens for two reasons: first and foremost, because they contained far cheaper raw materials; and secondly, because their production processes were so much simpler, requiring considerably fewer stages of manufacturing, with considerably less labour.

Comparative production costs of woollens and worsteds: wools and labour

If labour, on the other hand, nevertheless accounted for a relatively higher proportion of total manufacturing costs in the worsteds industries, it accounted for a correspondingly smaller share in the production of luxury woollens, especially those woven entirely from the very best English wools, whose high costs were further augmented by English export taxes (reaching a peak burden in the early fifteenth century). Thus for example, in producing a fine woollen black broadcloth at Leuven in 1434, the English wools accounted for 76.2 percent of the pre-finishing manufacturing costs and for 62.5 percent of the total cost, while dyeing and dressing the cloth accounted for 18.0 percent of total costs -- most of that in the woad and madder dyes themselves, so that the remaining share of manufacturing costs in labour amounted to only 19.5

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[14] In 1435, the cost of foot-fulling two *voirwollen halvelakenen* in the Leiden woollen cloth drapery was 46d. *groot* Flemish, which equals 4.31 percent of the retail price of £4.45 *groot*; and thus 75 percent of that cost comes to 3.23 percent. For the evidence, see Munro, 'Industrial Entrepreneurship in the Late-Medieval Low Countries', pp. 377-88; Munro, 'Symbiosis of Towns and Textiles', pp. 1-74.

percent of total costs.[15] Thus, labour's relatively higher share of total production costs in worsted manufacturing simply reflects the relatively lower costs in wools and other materials.

Hybrid woollen-worsted textiles: Flemish says and serges, and 'stuffs' of the English 'New Draperies'

The third type of wool-based textile manufacturing was simply a hybrid of the other two main branches: sometimes called says, serges or 'stuffs', these textiles were woven from a long-stapled 'dry' worsted warp and a short-stapled 'greased' woollen weft, though generally of much lower quality wools than those used in the true woollen broadcloth industry. In terms of relative weights and values, they corresponded more to worsted than to woollen manufacturing. For that reason, the hybrid or mixed-fabric *sayetteries* and similar serge-type cloth manufacturing industries were classed as part of the 'light draperies' or *draperies légères* (in Flemish: *lichte draperie*), in the medieval and early-modern Low Countries.

In thirteenth and very early fourteenth century Flanders, and then again from the later fifteenth and through the sixteenth centuries, the most prominent manufacturer of this type of cloth was the Hondschoote *sayetterie*.[16] As noted earlier, in both eras, the majority of its says were exported to the Mediterranean basin, where its many regions with warmer or hot climates offered better market for lighter (as well as cheaper) fabrics. When the Low Countries inaugurated their combined religious and nationalist revolt against Spanish rule in 1568 – commencing the Netherlands' Eighty Years War, which ended only with the Peace of Westphalia in 1648 – Spanish armies devastated and soon reconquered Flanders, thereby forcing thousands of Flemish textile artisans into exile.

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[15] For another example: In the Ypres drapery, the fine Cotswold wool used in producing a black woollen broadcloth in 1500 accounted for 64.2 percent of pre-finishing manufacturing costs and for 52.0 percent of total costs (and indeed the price for Cotswolds wool at Calais corresponds to the costs in the Ypres accounts for 1500, when one adds on transport and marketing costs). In the other manufacturing costs, the finishing process of dyeing and dressing again accounted for 19.2 percent of total costs (17.7 percent in dyes and 1.5 percent in shearing costs); but this time somewhat more extensive and skilful labour in spinning, weaving, fulling, and tentering accounted for 26.2 percent of total production costs. For the data sources, see 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: Yale University Press, 1977), Table 13.2, p. 256; and Munro, 'The Medieval Scarlet and the Economics of Sartorial Splendour', Table 3.12, p. 52.

[16] See Coornaert, *La draperie-sayetterie d'Hondschoote* (in n. 5, above); Coornaert, 'Draperies rurales, draperies urbaines', pp. 60-96; and see the next note.

Some of those from the Flemish *sayetteries* sought sanctuary in Holland's leading textile town, Leiden, where they established the same form of textile-manufacturing, under the rubric of the *nieuwe draperie*; just as many, and perhaps more, fled directly across the English Channel to East Anglia, especially to Norfolk, where worsted manufacturing had once flourished, during the twelfth, thirteenth, and early to mid-fourteenth centuries, before finally suffering the same fate of near extinction that had befallen the *draperies sèches* in the southern Low Countries. Though in one sense the Flemish refugee artisans (chiefly Protestant) resurrected an ancient industry in this region, somewhat misleadingly known as the New Draperies (in distinction to the Old Draperies, producing traditional high-quality woollen broadcloths), their products were chiefly the hybrid, serge-type fabrics, with a worsted warp and woollen weft, and thus very similar to the Hondschoote *says*. In the seventeenth century, the English New Draperies similarly found that their most important markets lay in the Mediterranean basin. [17]

Table 1: the data on the physical composition and weights of woollens, worsteds, and serges (says)

The nature of the physical differences, and thus differences in production costs and market prices, for the three types of wool-based textiles, in sixteenth-century England and the Low Countries, can now be better understood from the data given in Table 1. The sizes of the three luxury-quality woollens – from the draperies of Ghent (Flanders), Mechelen (Brabant), and Essex (England) – are roughly comparable in terms of the area, in square metres, of the finished cloths: 34.913 m^2, for the Ghent five-sealed *dickedinnen* broadcloths; 35.604 m^2, for the five-sealed *Gulden Aeren* (gold eagle) broadcloth woollens from Mechelen;

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[17] See Munro, 'The Origins of the English New Draperies', pp. 81-93; Herman Van der Wee (in collaboration with John Munro), 'The Western European Woollen Industries, 1500 - 1750', in David Jenkins, ed., *The Cambridge History of Western Textiles*, 2 vols. (Cambridge and New York: Cambridge University Press, 2003), Vol. I, chapter eight, pp. 397- 472; Coornaert, *La draperie-sayetterie d'Hondschoote, XIVe-XVIIIe siècles*; Coornaert, 'Draperies rurales, draperies urbaines', pp. 60-96; and also the following four essays: Leo Noordegraaf, 'The New Draperies in the Northern Netherlands'; B. A. Holderness, 'The Reception and Distribution of the New Draperies in England'; Luc Martin, 'The Rise of the New Draperies in Norwich, 1550-1662'; and Ursula Priestley, 'Norwich Stuffs, 1600,1700'; all 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: Oxford University Press, 1997), pp. 173-96, 217-44, 245-74, 275-88, respectively. For the seventeenth-markets, see Giglioa Pagano de Divitiis, *Mercanti inglesi nell'Italia del Seicento: Navi, traffici, egemonie* (Venice: Marsilio Editore), 1990; republished as *English Merchants in Seventeenth-Century Italy*, trans. by Stephen Parkin, Cambridge Studies in Italian History and Culture (Cambridge: University Press, 1997), pp. 152-85.

and 37.095 m^2, for English 'short' broadcloths from Essex. Note that all three of these woollen broadcloths were woven uniquely from fine English wools (i.e., short-stapled). Somewhat smaller in size, primarily because of its smaller width, was the *Oultreffin* woollen manufactured by the relatively young so-called Flemish 'nouvelle draperie' of Armentières, with an area of 29.400 square metres. Its distinguishing feature was its wool composition: two-thirds of which were Spanish *merino* wools and one-third English wools (Cotswolds, Lincolnshire Lindseys, and Berkshires). Its weight, however, indicates that clearly this was a genuine fulled broadcloth: indeed it was the heaviest of all recorded in this table, with a weight of 820.503 grams per square metre of finished cloth. The next heaviest are the Essex broadcloths, with 782.58 grams per square metre; the Mechelen broadcloths are fairly close, at 746.42 grams per square metre (i.e., 97.7 percent of the latter), while the Ghent *dickedinnen*, for centuries that drapery's most renowned woollen, was only 677.66 grams per square metre (Bruges pound weight), or 633.77 grams (if the Ghent pound is used).

The lightest textile from the Low Countries was the narrow say from Bergues-St. Winoc, a pure worsted, in both warp and weft, which weighed only 260.352 grams per square metre, just 33.27 percent of the weight of an Essex broadcloth, and 34.06 per cent of the weight of Mechelen's *Gulden Aeren* broadcloth. But note, however, that the Hondschoote small double-say had a very similar weight: 266.334 grams per square metre. But even lighter was the Essex 'New Draperies' say (according to 1579 regulations): its weight of 141.193 grams per square metre was only 18.04 percent of the comparable weight of an Essex broadcloth; just over half (54.23 percent) of the weight of the aforementioned Bergues-St. Winoc say, and less than half the weight (42.49 percent of 332.307 grams per square metre) of the weight of an Essex single bay, another recent product of the English 'New Draperies'. The weight of that Essex single bay, on the other hand, was very close to that of the Hondschoote single say, which was (somewhat surprisingly) 340.052 grams per square metre (with a weight of 5.103 kg for the full-sized cloth of 15.006 square metres). It was heavier, per square metre of its area, than the small double Hondschoote say evidently because more wool was compressed into its much narrower width (0.613 metre compared to 1.138 metre for the double say). All three of these fabrics were hybrids, with 'dry', long-stapled worsted warps and 'greased' short-stapled woollen wefts. Indeed the Hondschoote *sayetterie* was probably the chief progenitor of the English New

Draperies of later Tudor-Stuart England.

Table 2: comparative prices and values of woollens and says in Antwerp in the 1530s, with values in terms of a mason's daily wage

With this information on the physical compositions, sizes, and weights of these textiles, we may now better understand the data on textile prices presented in Table 2, for the decade 1535 - 1544. These years were chosen because they are the only ones for which I have found prices for Hondschoote says, as well as for the Ghent *dickedinnen* and Mechelen *rooslaken* woollen broadcloths (but none, unfortunately, for the Armentières *Oultreffin* broadcloths). Indeed, for the Hondschoote says, the prices run, for consecutive years, from only 1538 to 1544. For that reason, the mean values are given only for these latter seven years: in arithmetic means for the textile prices themselves, for the daily wages of an Antwerp master mason (annual mean of summer and winter wages), and for the annual value of a 'basket of consumables'. The prices, wages, and values of the consumer baskets are given in the Flemish *groot* money-of-account, in which one pound (livre, pond) = 20 shillings (sous, sols, shillings) = 240 pence (deniers, penningen). Although the wages and some of the prices were actually presented in the Brabant *groot* money-of-account, they were readily converted into Flemish money by dividing the Brabant wages and prices by 1.5 (the fixed ratio of the two currencies from 1435 to 1790).

Prices and wages by themselves are really useless to the economic historian unless they can be related either to each other or to the values of other commodities, relationships which are revealed in columns 7 to 18 (inclusive – i.e., the final twelve columns). Columns 7 - 10 indicate the number of days' wages that a master mason in Antwerp would have spent in purchasing one each of the following textiles: a Hondschoote single say, a Hondschoote double say, a Ghent *dickedinnen* broadcloth, and a Mechelen *rooslaken* broadcloth.

Thus, in summary, on average in the years 1538 to 1544, an Antwerp master mason would have had to spend 17.163 days' wages to purchase a Hondschoote single say (15.01 square metres); 39.382 days' wages (over twice as many) for a Hondschoote double say (27.869 square metres); but 265.954 days' wages to purchase a Ghent *dickedinnen* broadcloth (34.913 square metres); and somewhat less, 219.987 days' wages to purchase a Mechelen *rooslaken* broadcloth (35.604 square metres).

Since, however, the dimensions of these four textiles varied from each other, and thus varied in the amount of men's clothing that were produced from them, we instead ask how many days' wages that master mason would spent to acquire 12 square metres of each, about the amount requisite to produce one suit of men's clothing (about three per broadcloth).[18] Those estimates, for each of these three textiles, are produced in columns nos. 11 - 14. For this period, the average number of days' wages required to purchase that same quantity of cloth (12 square metres) would have been: 13.725 days for a Hondschoote single say; 16.958 days for a Hondschoote double say; and 5.4 times as many days, 91.413 for a Ghent *dickedinnen* and 74.144 days for a Mechelen *rooslaken*.

The reasons for choosing the wages of an Antwerp master mason are three-fold. First building craftsmen are members of about the only occupation for which we possess a continuous series of time-rate (daily) wages for both the Low Countries and England from the later medieval to modern eras, during which periods most wage-earners earned piece-work wages (i.e., payment for the quantity of work produced); and for such craftsmen, masons' wages are the most prevalent and continuous. Second, this was an occupation that was basically unchanged in its technology and productivity over this period, thus permitting reasonable comparisons of nominal and real wages over time. Third, the Antwerp market was one in which all these textiles were bought and sold in the sixteenth century.

Certainly this comparison provides a very vivid contrast between the consumption of 'every day' textiles and luxury woollens. Consider again, from Table 2, that the number of days' wages that a master mason had to spend in acquiring a single Ghent *dickedinnen* varied from a high of 348.31 to a low of 240.00, in the ten year period from 1535 to 1544; and the mean for the years 1538 to 1554 was (again) 265.954 days. Consider, furthermore, that the average number of days employment for master mason in the Antwerp region was about 210 days – so that this range went from 1.66 years to 1.14 years of employment.[19] In terms of

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[18] The Mechelen *stadsrekeningen* accounts for cloth purchases (see Table 10) indicate that three men's suits were made from each *rooslaken* broadcloth.

[19] For the estimate of 210 days annual employment, see 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; and Appendix 48, pp. 540-44; John Munro, 'Builders' Wages

perhaps the more useful comparative measure, the number of days' wages need to purchase 12 square metres of woollen cloth, that number varied from a high of 119.718 days to a low of 79.055 days, with the aforesaid mean of 91.413 days (for 1538-44).

It is difficult to believe that any comparable wage-earner in today's society would ever spend that much on luxury apparel; and we may reasonably expect that the principal market for these *dickedinnen* were the aristocracy and very wealthy bourgeoisie – not master building craftsman (let alone their journeymen). The number of days' wages to purchase the Hondschoote says, whether single or double – a mean of 17.163 days for the single and a mean of 39.382 days for the double – is certainly much more in line with contemporary expenditure patterns on clothing, for the lower middle classes. Thus this table certainly provides the best possible contrast between the purchases of necessities and of luxuries.

Table 3: Price Indexes and the 'Basket of Consumables' (England, Brabant, Flanders) in measuring cloth values

We now turn to a different measure of comparison of textile values, with perhaps limited use for this period, but of very great value in comparing the 'real' value of such textiles over several centuries: the value of a 'basket of consumables'. Column 15 provides the aggregate value of the various commodities, in Flemish pence *groot*, contained in the Brabant 'basket of consumables', which Prof. Herman Van der Wee constructed on the model of the famous Phelps Brown and Hopkins 'basket of consumables'. It has been so widely used by economic historians in presenting English price trends, in terms price-index numbers from the thirteenth to twentieth centuries, and is the only readily available and the only reasonably-weighted price index available that it would have been foolish to seek any other model. Both the Phelps Brown English 'basket of consumables' price index and the Van der Wee Brabant price index are presented in Table 3, which shows the component weights and thus basket shares and commodity values for the chosen base period of 1451-1475, in which the 25-year average of all the component price-index numbers equals 100.

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in Southern England and the Southern Low Countries, 1346 -1500: A Comparative Study of Trends in and Levels of Real Incomes', in Simonetta Caviacocchi, ed., *L'Edilizia prima della rivoluzione industriale, secc. XIII-XVIII*, Atti delle "Settimana di Studi" e altri convegni, no. 36, Istituto Internazionale di Storia Economica "Francesco Datini" (Florence: Le Monnier, 2005), pp. 1013-76, esp. pp. 1028-31.

That table also includes my construction of the Flemish 'basket of consumables' price index, from 1350 to 1500, which will be used in subsequent tables to demonstrate changing trends in the 'real values' of Flemish woollens during this particular era. Since it is not possible, with currently available data, to continue this Flemish price index after 1500, representations of such 'real values' in the sixteenth century (or up to 1550) must rely upon the Van der Wee Brabant price index. Since the monetary systems and economies of Flanders and Brabant were by then fully integrated, comprising a relatively small geographic era, the use of this latter index is reasonably valid.

The purpose of these commodity price-indexes must be fully understood in such a study comprising over two centuries. Money-of-account prices and wages – what are known as nominal prices and wages – are useless by themselves, because the value of coined money itself – the Flemish silver pence – changed so radically over this era. The chief reason for such changes in the late-medieval era was coinage debasements, often very radical in their reduction in the quantity of fine silver in the Flemish penny or *denier groot*. From about 1515 another, and now even more powerful force (with a relative diminution in coinage debasements) reduced the 'real' or exchange value of the silver coinage: the onset of the European Price Revolution, whose monetary roots lay, first, in the South-German silver-copper mining boom, from the 1460s to the 1540s, and then, from the 1550s, the growing influx of silver from the newly developed Spanish American mines (in Potosi and Zacatecas).[20] When economists discuss, for example, economic problems involving wages, they

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[20] See John H. Munro, *Wool, Cloth and Gold: The Struggle for Bullion in Anglo-Burgundian Trade, 1340-1478* (Brussels: Editions de l'Université de Bruxelles; and Toronto: University of Toronto Press, 1973); 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, North Carolina: Carolina Academic Press, 1983), pp. 97-158; reprinted in John Munro, *Bullion Flows and Monetary Policies in England and the Low Countries, 1350 - 1500*, Variorum Collected Studies series CS 355 (Aldershot, Hampshire; and Brookfield, Vermont: Ashgate Publishing Ltd., 1992); John Munro, 'Monnayage, monnaies de compte, et mutations monétaires au Brabant à la fin du moyen âge', in John Day, ed., *Études d'histoire monétaire, XIIe - XIXe siècles*, Études de l'Université de Paris VII et du Centre National des Lettres (Lille: Presses Universitaires de Lille, 1984), pp. 263-94; John Munro, 'Mint Outputs, Money, and Prices in Late-Medieval England and the Low Countries', in Eddy Van Cauwenberghe and Franz Irsigler, eds., *Münzprägung, Geldumlauf und Wechselkurse/ Minting, Monetary Circulation and Exchange Rates,* Trierer Historische Forschungen, 7: *Akten des 8th International Economic History Congress, Section C-7, Budapest 1982* (Trier: University Press, 1984), 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*, 25:4 (October 1988), 387-423; John Munro, 'The Central European

utilize the term 'real wages' in order to 'discount' or obviate the problems caused by such inflationary factors. The formula for calculating the 'real wage' in terms of index numbers is: RWI = NWI/CPI: i.e., the Real Wage Index equals the Nominal (Money) Wage Index divided by the Consumer Price Index, when all three have a common base period – the years 1451-1475, in this study. The real wage therefore represents the purchasing power of the nominal or money wage (in coin), in terms of some defined basket of commodities, or in our modern era, goods and services.

In several recent publications, I have calculated real wages for building craftsmen in late-medieval England and the Low Countries, by both the traditional method, using index numbers, according to the formula just given, and also by an entirely new method: the number of comparable baskets of consumables that masons (masters and journeymen) could have purchased with their annual money wage-income (in silver coin), for a standard work-year of 210 days: in southern England, Flanders, and Brabant (Antwerp and Mechelen).[21]   In this study, I have utilized the same technique to provide better estimates of the 'real' values of these Flemish, Brabantine, and English textiles over these three centuries, and thus to obviate the 'price

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 (Leuven: Leuven University Press, 1991), pp. 119 - 83; John Munro, 'A Maze of Medieval Monetary Metrology: Determining Mint Weights in Flanders, France and England from the Economics of Counterfeiting, 1388 - 1469', *The Journal of European Economic History*, 29:1 (Spring 2000), 173-99; John Munro, 'Gold, Guilds, and Government: The Impact of Monetary and Labour Policies on the Flemish Cloth Industry, 1390-1435', *Jaarboek voor middeleeuwse geschiedenis*, 5 (2002), 153 - 205; John Munro, 'Wage Stickiness, Monetary Changes, and Real Incomes in Late-Medieval England and the Low Countries, 1300 - 1500: Did Money Matter?' *Research in Economic History*, 21 (2003), 185 - 297; John Munro, 'Money, Wages, and Real Incomes in the Age of Erasmus: The Purchasing Power of Coins and of Building Craftsmen's Wages in England and the Southern Low Countries, 1500 - 1540', in Alexander Dalzell and Charles G. Nauert, Jr., eds., *The Correspondence of Erasmus*, Vol. 12: *Letters 1658 - 1801, January 1526- March 1527* (Toronto: University of Toronto Press, 2003), Appendix: pp. 551-699; John Munro, 'Money and Coinage: Western Europe', in Jonathan Dewald, et al, eds., *The Dictionary of Early Modern Europe, 1450 - 1789* (New York: Charles Scribner's Sons/The Gale Group, 2004), Vol. 4, pp. 174-184. See also, Peter Spufford, *Monetary Problems and Policies in the Burgundian Netherlands, 1433-1496* (Leiden, 1970); Peter Spufford, *Handbook of Medieval Exchange* (London, 1986), pp. xix - lxiv; Peter Spufford, *Money and Its Use in Medieval Europe* (Cambridge, 1988).

   [21] See Munro, 'Wage Stickiness, Monetary Changes, and Real Incomes in Late-Medieval England and the Low Countries', pp. 185 - 297; Munro, 'Money, Wages, and Real Incomes in the Age of Erasmus', pp. 551-699; Munro, 'Builders' Wages in Southern England and the Southern Low Countries, 1346 -1500, pp. 1013-76.

illusion' that is the product of inflation, especially those induced by radical coinage debasements, with two related measures: (1) the values of these textiles in terms of the money-of-account values English, Flemish, or Brabantine 'baskets of consumables' (with annual value in pence *groot* Flemish and English pence sterling); (2) the method just used in the previous analysis: the quantity of these textiles that a master mason could purchase with his money-wages, or rather the number of days' wages necessary to acquire a unit of those textiles.

The Van der Wee Brabant consumer price index, our current concern, contains ten commodities: wheat (126.0 litres), barley-malt (162.0 litres), beef (23.5 kg), herring (40 in number), butter (4.8 kg), cheese (4.7 kg), charcoal (162.0 litres), candles (1.333 kg), linen cloth (1.80 metres), and low-grade coarse woollens (1.125 metres). Farinaceous products (wheat) account for 18.24 percent of the basket by value; drink (barley malt), for 17.08 percent; meat (beef), for 23.52 percent; fish (herring), for 4.30 percent; butter and cheese together, for 11.05 percent; fuel and light (charcoal and candles), for 7.82 percent; and textiles (linen and coarse woollens), for 18.00 percent.[22]

These two 'baskets' do not, however, represent any fixed requirement for annual consumption in either southern England or southern Brabant; instead, according to Phelps Brown and Hopkins, their model basket represents 'what a hundred pence [sterling] would buy in 1451-75'. [23] In other publications I have analysed in much greater depth the validity of these two 'consumer baskets' in terms of known household

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[22] Herman Van der Wee, 'Prijzen en lonen als ontwikkelingsvariabelen: Een vergelijkend onderzoek tussen Engeland en de Zuidelijke Nederlanden, 1400-1700,' in *Album aangeboden aan Charles Verlinden ter gelegenheid van zijn dertig jaar professoraat* (Gent, 1975), 413-47; reissued in English translation (but without the tables) as 'Prices and Wages as Development Variables: A Comparison Between England and the Southern Netherlands, 1400-1700,' *Acta Historiae Neerlandicae*, 10 (1978), 58-78; and reprinted in Herman Van der Wee, *The Low Countries in the Early Modern World* (1992), 223-41; Herman Van der Wee, *Growth of the Antwerp Market and the European Economy, 14th to 16th Centuries*, 3 Vols. (The Hague, 1963).

[23] E. Henry Phelps Brown and Sheila V. Hopkins, 'Seven Centuries of the Prices of Consumables Compared with Builders' Wage-Rates,' *Economica*, 23:92 (November 1956), 296-314; reprinted in E.M. Carus-Wilson, ed., *Essays in Economic History*, 3 vols. (London, 1954-62), vol. II, pp. 179-96, and also in E.H. Phelps Brown and Sheila V. Hopkins, *A Perspective of Wages and Prices* (London, 1981), pp. 13-59, containing statistical tables not in the original publication. This observation was a careless after-thought on their part; I have calculated that the actual mean value of their basket for the base period 1451-75 was, instead, 112.08 d sterling.

expenditures in the fifteenth and sixteenth centuries, the statistical methods employed in their construction, both of which led me to believe that the Van der Wee basket (even with fewer commodities) provides a better reflection of changing consumer expenditure patterns in these two centuries, particularly in registering changes in those consumer patterns in response to changes in the relative prices of these commodities, though neither of the baskets can take true account of consumer substitutions with such changes in relative prices.[24] Whatever the historical defects of these statistical 'consumer baskets' clearly they provide a far preferable measure of comparative consumption values than would, say, the use of just wheat prices, 'for man lives not by bread alone'.

Thus the final four columns of Table 2, nos. 16 to 19, calculate the equivalent value of each of these four textiles in terms of the number of these Brabantine 'baskets of consumables', i.e., the number of such consumer basket whose aggregate value, in Flemish pounds *groot*, equals the value of just one of each of these textiles. Thus, for the period 1538 to 1544, the mean values of these four textiles, expressed as their value or worth in numbers of the Brabant 'baskets of consumables' are, as follows: for Hondschoote single says, 0.689 basket; for Hondschoote double says, 1.580 baskets; for Ghent *dickedinnen* broadcloths, 10.685 baskets; and for Mechelen *rooslaken* broadcloths 8.804 baskets. Obviously this measure of comparison does not differ in any real terms from the alternative measure, i.e., the purchasing power of wages in terms of the quantity of these textiles, in demonstrating the very great gulf between the values of says and luxury woollen broadcloths.

Finally, those using these statistical tables may be puzzled by the use of the harmonic mean, instead of the standard arithmetic mean (average), for columns 7 - 14, and 16 - 19: i.e., in measuring the quantity of the four textiles in terms of the purchasing power of a mason's daily wage, and of the value of a Brabant 'basket of consumables'. To quote one statistical authority on this issue: the harmonic mean is 'a calculated average computed by finding the reciprocal of the arithmetic mean of the reciprocals of the numbers to be averaged'; and 'in economic computation the harmonic mean is used in averaging such data as time rates and

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[24] See Munro, 'Builders' Wages in Southern England and the Southern Low Countries, 1346 -1500', pp. 1013-76.

rate-per-dollar prices' – or here, rate per daily wage or value of the consumer basket. The harmonic mean is always slightly less (by varying amounts) than the arithmetic means; but it is the only method that provides consistently valid results.[25]

A note on textile prices: their archival sources and validity in this survey

Since, however, Table 2 covers such a short period of time – just one decade in the sixteenth century – we need a far broader perspective, over a far longer period of time, to be reassured that these woollens continuously ranked as luxury or ultra-luxury objects of consumption in later-medieval and early modern Europe. Such evidence (overwhelmingly abundant evidence) to demonstrate the real values of luxury woollens in both the southern Low Countries and England, from the mid fourteenth to mid sixteenth centuries, and also the values of the English wools that were used in their manufacture, can be found in the next set of statistical tables, nos. 4 to 16. The cloth prices for Flanders and Brabant are those recorded in the annual civic treasurers' account (*stadsrekeningen*) – for Bruges, Ghent, Ypres, and Mechelen. The prices recorded, often containing as well the actual costs of dyeing, shearing, and finishing these woollens, cover a very wide range: for the purchase of the finest woollens for the mayor and aldermen (*schepenen*), and also for aristocratic visitors to the town, down to fairly cheap and coarse woollens for policemen, the town musicians, and servants of various town officials. An inter-urban comparison of these textile prices – when many of the same type of textile was purchased by several towns – with prices of textiles sold on other markets provides convincing evidence that these are genuine market prices, and not notional prices.

The most consecutive list of English cloth prices are those taken from similar cloth purchases at Oxford and Cambridge, as published both by James E. Thorold Rogers and Lord William Beveridge; and I have extracted other English cloth prices (when exported) from the Customs Accounts in the National

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[25] See Harold Sloan and Arnold Zurcher, *A Dictionary of Economics*, 3rd edn (New York, 1953), pp. 149-50; and also F.C. Mills, *Introduction to Statistics* (New York, 1956), pp. 108-12, 401. The mathematical equation is: $HM = 1/ [\sum (1/r_1 + 1/r_2 + 1/r_3 + ... 1/r_n)] / N$, where *r* is the value and N is the number of years in the series averaged. It can also be used in index numbers for, say, real wages: the purchasing power of the nominal, money wage = Nominal Money Wage Index divided by the Consumer Price Index. If five-year means of real wages were calculated for the base period of this index – i.e., 1451-75 = 100, then the mean value as the average of the five 5-year periods in this base period would equal exactly 100.00 only if the harmonic mean is used.

Archives (formerly the Public Record Office).

The ensuing Tables, 4 to 9: a descriptive summary of their contents and meanings

Table 4, covering the period from 1331-5 to 1556-70 (in quinquennial means), provides the prices

and index-number values (base 1451-75 = 100) for Ghent woollens – both the aforementioned *dickedinnen*

broad cloths and *strijpte laken* (striped or ray cloths, with different colours for warps and wefts) – that were

purchased for the civic aldermen, evidently for ceremonial purposes, and also those purchased for their

participation in the annual Tournai festival. Table 5 provides these same Ghent woollen prices, comparing

the price index for *dickedinnen* with the Flemish and Brabantine composite price index (i.e., the 'baskets of

consumables'); and it also compares these cloth values with the money-of-account value of the annual 'basket

of consumables' (in Flemish pence *groot*).   Table 6 continues this same Ghent cloth price series in

demonstrating the number of days' wages that a master mason in Bruges and Ghent would have spent in

acquiring one of each of these textiles (1331-1500); and Table 7 does the same in calculating the number of

days' wages that an Antwerp master mason would have spent in acquiring each of these textiles, from 1401

to 1570.

Tables 6 and 7 together thus present the prices, in pounds groot Flemish, and values of the Ghent

dickedinnen broadcloths for a remarkable span of more than two centuries: 235 years, from 1335 to 1570. One

is thus inspired to ask whether or not the 'real' value of these textiles experienced any sustained increase over

this long period: or rather, did their relative value rise, in terms of both the number of days' wages that a

master mason would have had to spend to acquire one of these, and in terms of the number of commodity

baskets that equalled their value, as expressed in the pound groot money-of-account. Unfortunately, the data

on Flemish wages (master masons in Bruges) end in 1486, and the Flemish commodity price index itself

cannot be computed past 1500. For Antwerp, we do have both the wages for master masons and the value

of the Brabant commodity basket from 1400 (but unfortunately not earlier) to the end of the Ghent cloth price

series, in 1570. In the fifteenth century, monetary unification was not achieved until the mid-1430s and

economic integration, not until really the early sixteenth century, so that comparisons between Flanders and

Brabant are difficult to make. In general, as the tables indicate, the purchasing power of mason's wages in

Antwerp were generally lower than in Bruges for most of the fifteenth century.[26] For both principalities, one may readily observe that textile prices, other commodity prices (i.e., those in the 'basket'), and money wages did not change in tandem with each other.

For Flanders, we may observe that the value of a Ghent *dickedinnen* varied from a low of 8.088 commodity baskets in 1366-70 to an abnormal high of 27.801 baskets in the final quinquennium of 1496-1500, when, with the end of the civil-war (and of coinage debasements), commodity prices suddenly fell, while textile prices, having risen sharply, remained stable. When the value of these Ghent woollens are measured in terms of the purchasing power of a master mason's daily wage, we find that it ranged from a low of 131.885 days' wages in 1346-50 to a fourteenth-century high of 204.545 days' wages in 1381-85, then falling to a low of 139.902 days' wages in 1406-10, and then reaching a new high of 237.068 days' wages in 1481-85 (after which the wage data cease). In general, the relative value of the Ghent woollens was considerably higher in the second half of the fifteenth century than before, principally because English fiscal and commercial policies – which I have analysed elsewhere – had led to a severe increase in wool-export prices and thus in the cost of producing Flemish luxury woollens (still produced uniquely from the finest English wools).[27]

For the relative values of the Ghent *dickedinnen* in terms of the value of the Brabant commodity baskets and of the purchasing power of an Antwerp master mason's daily wage, the data are roughly comparable for the second half of the fifteenth century, if we take into account the lower real wages that still persisted in Antwerp. In the sixteenth century, the value of the Ghent *dickedinnen* in terms of the value of commodity baskets and also in terms of the purchasing power of a mason's wage, remained high, until the

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[26] For the evidence, see Munro, 'Builders' Wages', pp. 1041-76 (including tables and graphs).

[27] See John Munro, *Wool, Cloth, and Gold*, pp. 66-179; John Munro, 'An Economic Aspect of the Collapse of the Anglo-Burgundian Alliance, 1428-1442', *English Historical Review*, 85 (1970), 225-44; reprinted in John Munro, *Bullion Flows and Monetary Policies in England and the Low Countries, 1350 - 1500*, Variorum Collected Studies series CS 355 (Aldershot, Hampshire; and Brookfield, Vermont: Ashgate Publishing Ltd., 1992); Munro, 'Wool Price Schedules', pp. 118-69; Munro, 'Anglo-Flemish Competition in the International Cloth Trade, 1340 - 1520', pp. 37-60; Munro, 'Symbosis of Towns and Textiles', pp. 1-74; Munro, 'Spanish *Merino* Wools and the *Nouvelles Draperies*', pp. 431-84.

onset of the inflationary Price Revolution, from about 1515, when commodity prices (in that basket) rose more than did textile prices and even more than did wages.[28] Thus, in the quinquennium 1506-10, a single Ghent *dickedinnen* was worth 19.060 Brabant commodity baskets (compared to, say, 11.706 baskets in 1441-45), and 436.505 wages (more than two year's income) of an Antwerp master mason. But by the quinquennium 1541-45, that relative value had fallen to just 10.267 Brabant commodity baskets, and 255.453 days' wages. By the end of this price series, in 1566-70, those relative values had risen once more: to 13.620 commodity baskets and 208.966 days' wages of an Antwerp master mason. Over the entire 235 year period, the trend of Ghent cloth values was rising, especially from the mid-fifteenth century, though not in any distinct and persistent fashion.

Table 8, covering the period from 1301 to 1496 (in quinquennial means), presents Bruges' cloth prices: again in pounds *groot* Flemish, for those broadcloths purchased for the mayors and aldermen of Bruges. It also distinguishes those called 'scarlets' (*scaerlaken*), whose colours were derived from the scarlet-red insect dye *kermes* (to be discussed below), from all the other broadcloths whose various colours were based on other dyestuffs, excluding kermes. Part B of this table provides again the number of days' wages that a Bruges master mason would have spent in acquiring both a scarlet and a differently dyed woollen broadcloth; and similarly it provides the value of both scarlets and other broadcloths in terms of the money-of-account value of the Flemish 'basket of consumables'. This table ends in 1496 when individual cloth prices ceased to be given in the Bruges *stadsrekeningen*. In comparing tables 7 and 8 (and the summary table 12e), one will observe that in general, with occasional exceptions, the prices for non-scarlet Bruges woollens were lower than those for the Ghent *dickedinne*n; but the trends for cloth prices and relative values are roughly similar, as would be expected.

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[28] See Munro, 'Money, Wages, and Real Incomes in the Age of Erasmus', pp. 551-699; John Munro, 'The Monetary Origins of the "Price Revolution:" South German Silver Mining, Merchant-Banking, and Venetian Commerce, 1470-1540', in Dennis Flynn, Arturo Giráldez, and Richard von Glahn, eds., *Global Connections and Monetary History, 1470 - 1800* (Aldershot and Brookfield, Vt: Ashgate Publishing, 2003), pp. 1-34; John Munro, 'The Price Revolution', in Steven N. Durlauf and Lawrence E. Blume, eds., *The New Palgrave Dictionary of Economics*, 2nd edition, 6 vols. (London and New York: Palgrave Macmillan, forthcoming).

Tables 9 - 11 concern the prices and values of woollen broadcloths produced in Mechelen. Table 9 itself presents, in quinquennial means, the prices, in both pounds *groot* Brabant and Flemish, of black (*zwart*) *rooslaken* broadcloths, from 1471-75 to 1546-50. These Mechelen *rooslaken* broadcloths are the same as those that were featured in Table 2, above. This table similarly presents the real values of these textiles in terms of the number of days' wages that an Antwerp mason would have spent in acquiring one of these cloths, and also the number of days' wages required to purchase a Brabant 'commodity basket'. In a forthcoming journal article, I have sought to demonstrate a remarkable shift in patterns of textile consumption: from scarlets and other red-coloured (including mixed colours) broadcloths to those dyed with very dark colours, which became predominantly black. Thus, of all such woollens purchased for the burgermasters and aldermen of Mechelen's town government, black accounts for the colour of 75.04 percent (and 81.67 per cent, by value), in the eighty-year period from 1471 to 1550 (186.25 out of 190.833 so purchased), but almost 100 percent in the period 1500 to 1550.[29]

Ultra-Luxury textile consumption: the Medieval 'Scarlet': Prices in Tables 10, 11, and 16

Table 10 presents the prices and values of Mechelen scarlets in their heyday, from 1361-65 to 1411-15, in quinquennial means: in pounds *oude groot* of Mechelen, converted into pounds *groot Flemish* from 1370, when reliable exchange rates become available (from the town accounts). Once more the 'real' values of these scarlet broadcloths are presented in terms of the number of days that a master mason (in Bruges) would have had to spend to acquire one of these scarlet woollen broadcloths (40 ells = 28.0 metres); and the values of these scarlets in terms of the money-of-account value of the Flemish commodity basket (i.e., the number of such baskets equal in value to the price of one scarlet). The companion Table 11 present the costs of dyeing and finishing these Mechelen scarlets, in quinquennial means, again for the same time period: 1361-65 to 1411-15. The table does not go past 1415, because the last recorded purchase of a scarlet in Mechelen was in 1416. The number of such scarlets similarly diminished sharply in the Flemish towns from the early fifteenth century; and they virtually disappeared from the town accounts of cloth purchases in Bruges,

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[29] Munro, 'The Anti-Red Shift – to the Dark Side', forthcoming.

Mechelen, Ghent, and other cities by the later fifteenth century. Why scarlets then fell out of favour, at least

in northern Europe, however, is question not easily answered.[30]

The scarlet, so highly favoured throughout Europe in the fourteenth century, especially in the era

following the Black Death, was the most luxurious and the most expensive of all European woollens, and

approached the value of the finest silk fabrics sold in England and the Low Countries.[31] As can be seen from

all the tables on comparative values of woollen textile, their value, whether expressed in terms of the number

of days' wages that a master mason would have had to spend to acquire one of these (or 12 metres) and the

number of Flemish commodity baskets whose aggregate money-of-account value equalled the price of one

such scarlet were virtually always higher than that for any other broadcloth.

Yet, the values of Ghent *dickedinnen* broadcloths in the late 1530s, as recorded in Table 2, and

expressed by either of these measures of real values, sometimes came close to the real value of especially

Bruges and Mechelen scarlets; but not those in the late fourteenth century. Thus in Antwerp, in 1535, a

master mason would have had to spend 348.31 days' wages to acquire one Ghent *dickedinnen* broadcloth.

But, much earlier, in Bruges, for example, a master mason would have had to spend the following number

of day's wages just in order to buy one Bruges-made scarlet (*scaerlaken)*: in 1353, 468.00 days; in 1371,

483.16 days; in 1385, 601.88 days; in 1391, 530.67 days' wages; but, in 1442 (when real wages had reached

their medieval peak), he would have spent only 219.274 days' wages.[32] In Mechelen, in 1415, that mason

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[30] The last purchase of a scarlet recorded in the Bruges town accounts was in 1482; in Ypres, in 1486 [see note 16 below]. In fifteenth-century Italy, however, scarlets certainly continued to be popular. In the years 1451-76, the Florentine woollen cloth industry accounted for 13,528 of the total of 27,210 woollens sold in Rome (virtually half: 49.72 percent); and of these Florentine woollens, 5,354 (39.58 percent) were extremely costly kermes-dyed scarlets (*panni di grana*). See Hidetoshi Hoshino, *L'arte della lana in Firenze nel basso medioevo:il commercio della lana e il mercato dei panni fiorentini nei secoli XIII-XV* (Florence: Leo S. Olschki Editore, 1980), Tables XLII-XLIII, pp. 286-87. See also Munro,'The Anti-Red Shift', forthcoming.

[31] For a comparison of the prices of fifteenth-century silk fabrics, scarlets, and other dyed woollen broadcloths, see Munro, 'Industrial Protectionism in Flanders', Table 13.3, Part I, pp. 257-60.

[32] For the quinquennial harmonic mean values (i.e., for five-year periods) of the Bruges scarlets, in terms of the number of days' wages that a master mason would have had to spend to acquire just one such scarlet, see Table 8 (part B).

would have had to spend 410.77 days' wages to buy one Mechelen scarlet, though only 209.76 days' wages at Christmas 1398.[33] Obviously, the real values of scarlets varied considerably – chiefly because of differences in both the costs of the dyestuffs and the quantities used (as indicated in Table 11).

The debate about the etymology and nature of the medieval scarlet: the role of dyestuffs (kermes)

The nature of this cloth, and the reasons for its very high cost of production and market values, now require a further examination. Contrary to popular views still prevalent in the textile-history and economic-history literature, the true nature and the high value of scarlets had nothing to do with shearing and the finishing processes, which, as Table 11 demonstrates (as do all other records) were always far too low to justify any such interpretation – despite the fact that the Flemish name *scaerlaken* seems to be derived from the verb *scheren* (to shear) and the noun *laken* (cloth). The name is similar in other Germanic languages, obviously derived or influenced by the original Flemish form: in modern Dutch, it is *scharlaken;* in modern German, *Scharlach*; and in modern Swedish, *scharlakan.* In all Romance languages, the terms are more closely related to the English word, and are derived from the medieval Latin word *scarlatum* (probably derived from the Arabic textile-term *siklatūn*). In Italian, it is rendered as *scarlatto*; in French*, as écarlate*; in both Spanish and Portuguese, as *escarlat*.

Having discussed the etymology of the word 'scarlet' elsewhere, and at length, I need only summarize my conclusions about the technology and economics of this form of cloth manufacture.[34] In short, a medieval scarlet was a very fine woollen broadcloth, and thus made from the very finest of all English wools (see Table 15) – whether in the Low Countries, France, or Italy; but its most particular and defining feature was the use of the dyestuff *kermes*, a word derived from the Arabic *qirmiz*, meaning a little worm, as does the Latin *vermiculus*, from which is derived the colour term 'vermilion'. One may note here that the

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[33] For the quinquennial harmonic mean values (i.e., for five-year periods) of the Mechelen scarlets, in terms of the number of days' wages that a master mason would have had to spend to acquire just one such scarlet, see Table 10.

[34] On this issue, see especially Jean-Baptiste Weckerlin, *Le drap 'escarlate' au moyen âge: essai sur l'étymologie et la signification du mot écarlate et notes techniques sur la fabrication de ce drap de laine au moyen âge* (Lyon, A. Rey, 1905); Munro, 'The Medieval Scarlet and the Economics of Sartorial Splendour', pp. 13-70; Munro, 'The Anti-Red Shift', forthcoming.

Arabic textile term *siklatūn* means a very fine silk dyed in kermes. It was extracted at enormous cost from the eggs of Mediterranean and Caucasian (Georgian) scale-insects of the genus *Kermococcus vermilio* (sometimes referred to incorrectly as *Coccus ilicis*). Because these desiccated eggs resembled grains – of wheat, salt, sand – the common term for this medieval dyestuff was indeed 'grain': *granum* in Latin, *grano* in Italian, *graine* in French, *grein* in Flemish and German.[35]

For some medieval 'scarlets' this kermes dyestuff cost more than the fine English wools used in weaving them. The town accounts of Mechelen provide very precise and detailed data on such costs continuously almost every year from 1361 to 1416; and the summary evidence, in quinquennial means is presented (as just noted) in Table 11 . During this period, the cost of the kermes (grain) used in producing a single *scaerlaken* ranged from a low, and singularly unusual low, of 8.287 kg in Easter 1403, when the cost of the kermes (grain) was 55.47 percent of the value of the undyed woollen broadcloth and 23.36 percent of the value of the fully finished scarlet. The highest quantity of kermes recorded in producing a single *scaerlaken* was three times as much, 25.809 kg, in Easter 1380, when the cost of the kermes was 154.91 percent of the value of the undyed cloth and 58.73 percent of the fully finished scarlet. But since the cost of the grain was also determined by its unit market value, sometimes kermes accounted for an even greater share of the total value of the scarlet: e.g., in Easter 1379, for 181.32 percent of the value of the undyed woollen and 62.29 percent of the final value. But the mean cost of the labour involved in both dyeing and shearing was only, on average for the entire period, 2.75 percent, ranging from a low of 1.03 percent in 1363 to an abnormal high of 4.56 percent at Christmas 1380. In the fifteenth-century Ypres accounts (for 1406 - 86), the mean cost of the kermes dyestuffs (averaging 29.85 lb. or 13 .85 kg per cloth), as a proportion of the total cloth price, was 36.1 percent ; the labour cost of dyeing, 3.4 percent ; and the cost of shearing and finishing,

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[35] See Munro, 'The Medieval Scarlet', pp. 13-70, in particular tables 3.4-3.5, pp. 40-01; and also Dominique Cardon, *Les 'vers' du rouge: insectes tinctoriaux (Homoptera: Coccoidea) utilisés dans l'ancien monde au moyen-âge: essai d'entomologie historique*, Cahiers d'histoire et de la philosophie des sciences no. 28, Société française d'histoire des sciences et des techniques (Paris, 1990).

just 1.5 percent of the cloth price.[36]

Although the dyestuff itself is famous for its vivid orangish-red and thus scarlet colour, as is its early modern Mexican successor *cochineal*, a 'scarlet', and in particular a Flemish *scaerlaken*, did not necessarily appear to be scarlet in colour, despite containing ample quantities of this dyestuff. For very frequently such textiles were woven from wools that had been dyed blue in woad-indigo, and then re-dyed in the piece, with kermes-scarlet, to provide very rich colours with hues of black, perse-blue, brown, sanguine (blood-red), and even green. The textile itself, so transformed into a scarlet-*scaerlaken*, could have been a *strijpte laken* – and there are many examples of *strijpte scaerlakenen* in the Ghent accounts -- or a *ghemijnghede (gemengd) laken* - a 'medley' cloth with mixed or multi-coloured yarns; but most were standard broadcloths, and in Ghent specifically the aforementioned *dickedinnen*; and the later-medieval *scaerlaken* seem to have been almost uniquely *dickedinnen* in Ghent or similar broadcloths in the other major draperies. The same was also true in medieval England (and evidently also in Florence) where the term 'scarlet' came to be reserved for only those woollens dyed both uniquely and wholly 'in grano', in kermes.[37]

The next set of textile tables: 12 - 13: for England and the southern Low Countries

Scarlets will also re-appear in the final table of this series (no. 16); but next we must consider the ensuing tables, nos. 12 to 15. Table 12a provides the prices, in pounds sterling, of English woollen broadcloths, in quinquennial means, from 1361-65 to 1516-20, in pounds sterling: first and second quality broadcloths purchased for the colleges of Cambridge (for clerics and servants) and for Winchester (first quality only), whose prices may be compared to the quinquennial means of cloth export values: those from the two major ports of London and Southampton, and for all English ports. Cloth export prices are given not only in pounds sterling, but also in the equivalent values in pounds *groot* Flemish and in Florentine gold florins. The supplementary Table 12b provides (again) the quinquennial mean prices, in pounds sterling, of

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[36] See Munro, 'The Medieval Scarlet', pp. 13-70, in particular tables 3.4-3.5, pp. 40-01; Algemeen Rijksarchief België, Rekenkamer, nos. 38,636 - 38,710 (Stadsrekeningen Ieper, 1406-1486).

[37] For evidence on this, see Munro, 'The Medieval Scarlet', pp. 13-70, in particular tables 3.4-3.5, pp. 40-01.

both first and second quality woollens purchased for the Cambridge colleges and Winchester college (scholars and servants); and it also presents the quinquennial means of a master mason's daily wage (in SE England), the value in pence sterling of the Phelps Brown and Hopkins 'basket of consumables), and the Consumer Price Index (base 1451-75 = 100), as calculated from the values of these baskets.[38] This table also differs from the previous one in extending the price and value series from 1521 to 1560. The remaining four columns, as in the previous tables, provide the values of the first quality woollens, for both Cambridge and Winchester colleges, in terms of the number of days' wages that a master mason would have spent in acquiring one of each, and the equivalent values of these textiles expressed as the number of the Phelps Brown and Hopkins commodity baskets. Again, the means for these four value series are harmonic, rather than arithmetic.

As will be readily apparent from both of these tables, these English woollen broadcloths, though considerably less expensive than the finer or finest Flemish and Brabantine woollens, were still not 'cheap'; and demonstrably they were luxury cloths, by any measure. In the later fourteenth century and for much of the fifteenth century, the Cambridge first quality woollens were generally more expensive than those purchased at Winchester; but from the early sixteenth century the Winchester first-quality woollens were generally the more expensive – and obviously far too expensive for master masons..

The export-price statistics, taken from the English Customs Accounts, expressed here in both pounds sterling and pounds *groot* Flemish, in Table 12a, do offer an interesting perspective in validating the prices of woollens purchased for these colleges, while the mean values are necessarily, by that arithmetic computation, lower than the prices for the first-quality woollens at those colleges. While nominal prices are an imperfect measure, for the reasons mentioned earlier (especially after Edward IV's 20.0 percent debasement of the silver coinage in 1464), that rise in value can also be seen in the export statistics, which

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[38] Phelps Brown and Hopkins never published these values, in pence sterling, which I calculated from their worksheets, in the Archives of the British Library of Political and Economic Science, while also correcting hundreds of errors in their own calculations. My methodology in computing the annual values of these baskets has been explained in Munro, 'Builders' Wages in Southern England and the Southern Low Countries', pp. 1014-28.

show a rise in the mean value of a single broadcloth from £1.403 sterling (£1.471 *groot* Flemish) in 1391-95 to one of £3.606 sterling (£5.308 *groot* Flemish) in 1511-15, just before this series ends in 1520.

A similar picture emerges from Table 12b, in presenting the values of the first quality English woollens, as measured in the number of days' wages for their purchase by a master mason, ranged from an unusual low of 83.150 days' wages in 1436-40 (Cambridge) to a high of 133.49 days' wages in 1381-85 (also Cambridge); but then, in the later fifteenth and early sixteenth centuries, their relative value rose, reaching 162.63 days' wages in 1516-20 (Cambridge), and thereafter even more, with a maximum of 258.85 days' wages – i.e., 1.23 year's money-wage income – in 1546-50 (at Winchester). In part this 'rise' in the relative values of these woollens reflects the fall in the real wages of building craftsmen, when their wages failed to keep pace with the general rise in commodity prices, from the onset of the inflationary Price Revolution, from about 1515.

Thus a better measure may be the value of these cloths expressed in terms of the number of commodity basket having an equivalent value, in pounds sterling.   We may observe a general rise in their 'real values', from a harmonic mean of 3.011 baskets in 1361-65 to 5.424 baskets in 1441-45 (both Winchester woollens); while experiencing a brief decline in the mid fifteenth century, the 'real' values of these woollen then continued to climb, reaching 7.135 baskets (Cambridge) and 6.067 baskets (Winchester) in 1476-80. Experiencing subsequent declines and recoveries, these 'real values' for the Cambridge and Winchester woollen reached a sixteenth-century peak of 7.490 baskets (Winchester) and 6.854 baskets (Cambridge) in 1541-45, indicating that textile prices had risen more than had the Consumer Price Index. When the series ends in 1556-60 (when inflation now outpaced the rise in textile prices) the Winchester woollens were now worth 5.492 commodity baskets; and the Cambridge woollens, only 4.580 baskets

The corresponding Table 12c (Part II) presents the prices and values of Flemish woollens, in quinquennial means, from 1351-55 to (variously) 1496-1500, or for (again) Ghent *dickedinnen* broadcloths (but up to 1546-50), and broadcloths manufactured in Ypres, Bruges, and three of the so-called 'nouvelles draperies'. The latter were new and rival upstarts from the smaller Flemish towns of Wervik, Kortrijk, and Nieuwkerk (Neuve-Eglise) that were challenging the supremacy of the older traditional *drie steden* (Ghent,

Ypres, Bruges) by producing counterfeit imitation of their woollens, but still genuine, heavy-weight fine broadcloths.[39] Table 12d (Part III) presents the prices and relative values of fine woollens manufactured in the two chief textile towns of Brabant, again in quinquennial means, from 1351-55 to 1546-50: those of Leuven and Mechelen (again, but now commencing in 1366-70, and with a wider variety of broadcloths in the quinquennial mean price). Finally, Table 12e (Part IV) provides a direct comparison of the prices and relative values of first quality woollen broadcloths in both Ghent (*dickedinnen*) and Bruges: i.e., in terms of number of days wage for a master mason to acquire one of these cloths and the value of the cloths expressed in the number of commodity baskets each was worth

Table 13 provides a snapshot of European woollen cloth prices, for broadcloths of Italy, Flanders, Brabant, Holland, and England, as sold in Polish markets in the very early fifteenth century. The prices are presented in Polish *groszes* per ell, and in Flemish pounds *groot*, English pound sterling, and Florentine gold florins.

The statistical tables on English wools: nos. 14 and 15

Table 14 brings us back again to England: with the quinquennial mean wool prices, from 1211-15 to 1496-1500, in English pounds sterling, but price indexes (base again 1451-75) for the wools themselves and for the English commodity basket. It should be noted here that from one woolsack, weighing 364 lb or about 165.08 kg, an English draper could produce 4.333 broadcloths (24 yards by 1.75 yards, fully finished, each containing 64 lb or 29.02 kg of wool). Finally this table presents the 'denizen' (native) and alien export duties on sacks of wool, expressed both in shillings sterling and as a percentage of the mean wool-export prices; and the extent of their 'incidence' or tax burden placed on the foreign buyers in the Low Countries and Italy need not be emphasized further.

Closely linked to this table is no. 15, which presents, in descending order of value, the official prices for 48 varieties of English wools, chiefly designated by county of origin, as exported to the English wool

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[39] See in particular Munro, 'Medieval Woollens: The Western European Woollen Industries and their Struggles for International Markets, c.1000 - 1500', pp. 228-324, and especially Munro, 'Spanish *Merino* Wools and the *Nouvelles Draperies*, pp. 431-84. These three 'nouvelles draperies' in this table were amongst those that came to substitute Spanish *merino* wools for at least some English wools, from the later 1420s.

staple at Calais in 1475 and 1499. It clearly demonstrates what was earlier stated: the superiority and indeed supremacy of wools from the Welsh Marches of Herefordshire and Shropshire, and then those from the adjacent Cotswolds district: in Warwickshire, Gloucestershire, and Oxfordshire. The most reliable of the two is the 1499 price-schedule, which demonstrates a truly enormous range of prices: from the high of £25.807 for Leominster (Herefordshire) wools, of English sack-weight to a low of just £6.547 per English sack-weight of Middle Holland Middle Rutland wools. Excluded from this list were a considerable number of other wools, especially those from the very northern (Northumberland, Durham, Westmorland) and south-western counties (Devon, Cornwall), which were far too inferior to be sold at Calais (and too low-priced to bear the burden of transportation, transaction, and tax costs).

The final table, no. 16: the range of textile values in Ghent market, in the 1360s (a snapshot)

The final table 16 brings us back to Ghent, in presenting another 'snapshot'. Part I of Table 16a provides a wide variety of cloth prices, expressed in both pounds *groot* Flemish and in Florentine florins, for the decade of the 1360s, listed in rank order of value: from a low of £1.400 *groot* (15.273 florins) for *strijpte laken* (striped or rayed cloth) to a high of £14.000 *groot* (124.444) for both a normal 'red' scarlet (*roeden scaerlaken*) and a so-called 'brown' scarlet (*brune scaerlaken*), nicely demonstrating, as does much other evidence, that redying a blue- or woad-based broadcloth (dyed in the wool) with kermes and other dyestuffs 'in the piece', after shearing, had no significant impact on the final price.[40]

The second part of the table, 16b, presents the same order of textiles, ranked by price, but now with values expressed in terms of wages: i.e., the number of days' wages that a master mason would have spent in buying one of these cloths. Since changes in nominal money wages did not necessarily correspond to changes in cloth prices, the rank order now seems different, but understandably so. By this measure, the value of the cloths (in Table 16b) ranged from a low of the equivalent of 49.78 days' wages (in 1362) to a high of 420.00 days' wages, again for the two 'scarlets' (red and brown) in 1368: the latter – the highest value – was worth, in these terms, 8.44 times as much as the lowest. Note that this value, for these two scarlets,

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[40] See also Munro, 'The Anti-Red Shift', forthcoming.

represented the entire money wage income for a master mason for a full two years (210 days' employment). But even the lowest valued woolen cloth was still fairly expensive, in terms of wage incomes, by our modern standards.

If the statistical evidence presented in these 16 tables may seem somewhat overwhelming, they do provide a convincing demonstration of the range of woollen textile values, and the true meaning of luxury, indeed ultra-luxury consumption, in late-medieval and early-modern Europe.

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Table 1 **The Dimensions and Compositions of Selected Woollens and Says
in the 16th Century: England and the southern Low Countries**

Drapery: City/Region	GHENT	MECHELEN	ESSEX	ARMENTIERES	BERGUES-ST.WINOC
Date of Ordinance	1456 and 1546	1544	1552	1510, 1546	1537
Name of Textile	Dickedinnen	Gulden Aeren	Short Broadcloth	Oultreffin	Narrow Say
Additional Names	Five Seals	Five Seals	Suffolk, Essex		Fine
Origin of Wools	England	England: Herefords.	England	Spanish Merino (2/3)	Flanders, Artois
Wool Types	March, Cotswolds	Lemster Ore	short-stapled	English Cotswolds (1/3)	long-stapled
Length on Loom: ells/yds	42.5	48.000	n.s.	42.000	n.s.
Length on Loom: metres	29.75	33.072	n.s.	29.400	n.s.
Width on Loom: ells	3.625	4.000	n.s.	3.000	n.s.
Width on Loom: metres	2.538	2.756	n.s.	2.100	n.s.
Weight on Loom: lb.	88	n.s.	n.s.	88.000	n.s.
Weight on Loom: kg.	38.179	n.s.	n.s.	40.823	n.s.
Final Length: ells/yds	30	30.000	24.000	30.000	40.000
Final Length : metres	21	20.670	22.555	21.000	28.000
Final Width: ells/yds	2.375	2.500	1.750	2.000	1.000
Final Width: metres	1.663	1.723	1.645	1.400	0.700
No. of Warps	2066	3120.000	n.s.	1800.000	1400.000
Warps per cm (fulled)	12.427	18.113	n.s.	12.857	20.000
Area in square metres	34.913	35.604	37.095	29.400	19.600
Final Weight in lb.	51	58.000	64.000	52.000	11.000
Final Weight in kg	22.126	27.217	29.030	24.123	5.103
Weight per m2 in grams	633.766	764.421	782.575	820.503	260.352

Table 1

Drapery: City/Region	HONDSCHOOTE	HONDSCHOOTE	ESSEX (Colchester)	ESSEX (Colchester)
Date of Ordinance	1571	1571	1579	1579

Name of Textile	Single Say	Double Say	Says:	Bays:
Additional Names	Small	Small	broad	Single
Origin of Wools	Flanders, Friesland	Flanders, Friesland	English:	English:
Wool Types	Scotland, Pomerania	Scotland, Pomerania	long-stapled	worsted warp; woolen weft
Length on Loom: ells/yds	40.000	40.000	n.s.	n.s.
Length on Loom: metres	28.000	28.000	n.s.	n.s.
Width on Loom: ells	n.s.	1.438	n.s.	n.s.
Width on Loom: metres	n.s.	1.006	n.s.	n.s.
Weight on Loom: lb.	n.s.	n.s.	n.s.	n.s.
Weight on Loom: kg.	n.s.	n.s.	n.s.	n.s.
Final Length: ells/yds	35.000	35.000	10.000	35.000
Final Length : metres	24.500	24.500	9.398	31.953
Final Width: ells/yds	0.875	1.625	1.000	1.000
Final Width: metres	0.613	1.138	0.940	0.940
No. of Warps	n.s.	1800.000	n.s.	n.s.
Warps per cm (fulled)	n.s.	15.824	n.s.	n.s.
Area in square metres	15.006	27.869	8.833	30.029
Final Weight in lb.	11.000	16.000	2.750	22.000
Final Weight in kg	5.103	7.422	1.247	9.979
Weight per m2 in grams	340.052	266.334	141.193	332.307

a. Flemish ell in metres	0.700
b. Ghent pound in grams	433.850
c. Bruges pound in grams	463.900
d. Mechelen ell in metres	0.689
e. Mechelen pound in grams	469.250
f. English pound avoirdupois	453.593
g. English cloth yard (37 in):	0.940

Note: the areas, in square metres, and the weights per square metre are calculated on a computer up to seven decimal places; because of rounding areas, calculations using just the three decimal places in this table may give different, and faulty, results.

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Table 2   **Prices of Hondschoote Says, Ghent Dickedinnen and Mechelen Rooslaken Woollens, compared**
with the Purchasing Power an Antwerp Master Mason's Daily Wages, and with the value of a basket

of consumables: in pounds and pence groot Flemish, 1535 - 1544

1	2	3	4	5	6	7	8
Year	Hondschoote Single Says: Prices in £ groot Flemish (240d = £1)	Hondschoote Double Says: Prices in £ groot Flemish (240d = £1)	Ghent Dickedinnen Woollens: Prices in £ groot Flemish (240d = £1)	Mechelen Mean Values of Rooslaken (various colours) in £ groot Flemish (240d = £1)	Daily Wage of an Antwerp Master Mason in d. groot Flemish*	No. Days' Wages of a Master Mason to Buy a Single Say	No. Days' Wages of a Master Mason to Buy one Double Say
1535			14.150	11.025	9.750		
1536			14.250	11.025	10.250		
1537			14.500	10.942	10.250		
1538	0.967	2.278	14.500	11.400	11.000	21.098	49.702
1539	0.945	2.184	15.000	11.400	12.000	18.900	43.680
1540	0.835	1.961	11.500	11.705	12.000	16.700	39.220
1541	0.879	2.015	12.000	11.705	12.000	17.580	40.300
1542	0.838	2.005	14.600	11.200	12.000	16.760	40.100
1543	0.783	1.775	14.000	11.316	13.000	14.455	32.769
1544	0.908	1.942	14.000	10.009	13.500	16.142	34.524

| **Mean of** | 0.879 | 2.023 | 13.657 | 11.248 | 12.214 | 17.163 | 39.382 |
| **1538-44** | arithmetic | arithmetic | arithmetic | arithmetic | arithmetic | harmonic | harmonic |

1	9	10	11	12	13	14
Year	No. Days' Wages of a Master Mason to Buy one Ghent Dicke-dinnen	No. Days' Wages of a Master Mason to Buy one Mechelen Rooslaken	No. Days' Wages of a Master Mason to buy 12 sq metres: Hondschoote Single Say	No. Days' Wages of a Master Mason to buy 12 sq metres: Hondschoote Double Say	No. Days' Wages of a Master Mason to buy 12 sq metres: Ghent Dicke-dinnen	No. Days' Wages of a Master Mason to buy 12 sq metres: Mechelen Rooslaken
1535	348.308	271.396			119.719	91.471
1536	333.659	258.157			114.684	87.009
1537	339.512	256.199			116.696	86.349
1538	316.364	248.727	16.872	21.401	108.739	83.831
1539	300.000	228.000	15.114	18.808	103.115	76.845
1540	230.000	234.109	13.355	16.888	79.055	78.904
1541	240.000	234.109	14.058	17.353	82.492	78.904
1542	292.000	224.000	13.403	17.266	100.365	75.497
1543	258.462	208.917	11.560	14.110	88.837	70.414
1544	248.889	177.943	12.909	14.866	85.547	59.974
Mean of 1538-44	265.954 harmonic	219.987 harmonic	13.725 harmonic	16.958 harmonic	91.413 harmonic	74.144 harmonic
1	15	16	17	18	19	

Year	Value of the Brabant Basket of Consumables in d. groot Flemish	Value of Single Say in Baskets of Consum- ables	Value of Single Say in Baskets of Consum- ables	Value of Ghent Dickedinnen in Baskets of Consum- ables	Value of Mechelen Rooslaken in Baskets of Consum- ables
1535	268.733			12.637	9.847
1536	297.467			11.497	8.895
1537	254.333			13.683	10.325
1538	295.533	0.785	1.850	11.775	9.258
1539	300.400	0.755	1.745	11.984	9.108
1540	291.133	0.688	1.617	9.480	9.650
1541	278.000	0.759	1.740	10.360	10.105
1542	293.600	0.685	1.639	11.935	9.155
1543	324.200	0.580	1.314	10.364	8.377
1544	351.067	0.621	1.328	9.571	6.843
Mean of 1538-44	304.848 arithmetic	0.689 harmonic	1.580 harmonic	10.685 harmonic	8.804 harmonic

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Table 3   **Basket of Consumables Commodity Price Indexes for England, Brabant, and Flanders**

mean of 1451-75 = 100

Commodity	ENGLAND						BRABANT				
					Munro	**PBH**					
	Amount	**Unit**	**Metric Measure**	**Value in d sterling England**	**Percent**	**Percent**	**Amount**	**Unit**	**Value in d gr. Brabant**	**Value in d gr. Flemish**	**Percent**
Farinaceous											
Wheat	1.250	bu	45.461	9.967	8.84%						
Rye	1.000	bu	36.369	6.279	5.57%		126.000	l.	42.404	28.269	18.24%
Barley	0.500	bu	18.184	2.606	2.31%						
Peas	0.667	bu	24.243	2.947	2.61%						
Sub-total	3.417	bu	124.257	21.799	19.33%	20.00%	126.000	l.	42.404	28.269	18.24%
Drink											
barley (or malt)	4.500	bu	163.659	24.227	21.48%	22.50%	162.000	l.	39.712	26.475	17.08%
Total Farinaceous	7.917	bu	287.917	46.026	40.80%	42.50%	288.000	l.	82.116	54.744	35.32%
Meat											
Pigs	0.500	no.	0.500	15.418	13.67%						
Sheep	0.500	no.	0.500	8.532	7.56%						
Beef	33.000	lb.	14.969	0.000	0.00%		23.500	kg	54.704	36.469	23.53%
Sub-total				23.950	21.23%	21.00%			54.704	36.469	23.53%
Fish: Herrings	40.000	no.	40.000	6.595	5.85%	4.00%	40.000	no.	9.988	6.659	4.30%
Sub-total				30.545	27.08%	25.00%			119.396	79.597	51.35%

Commodity	ENGLAND				Munro Percent	PBH Percent	BRABANT				
	Amount	Unit	Metric Measure	Value in d sterling England			Amount	Unit	Value in d gr. Brabant	Value in d gr. Flemish	Percent
Dairy											
Butter	10.000	lb.	4.536	10.238	9.08%		4.800	kg	19.728	13.152	8.48%
Cheese	10.000	lb.	4.536	5.341	4.73%		4.700	kg	5.968	3.979	2.57%
Sub-total				15.579	13.81%	12.50%			25.696	17.131	11.05%
Food and Drink				92.149	81.69%	80.00%			172.504	115.003	74.19%
Industrial: Fuel											
Charcoal	4.250	bu	154.567	3.813	3.38%		162.000	l.	10.568	7.045	4.54%
Candles	2.750	lb.	1.247	3.475	3.08%		1.333	kg	7.608	5.072	3.27%
Lamp Oil	0.500	pt	0.284	0.865	0.77%						
Sub-total				8.153	7.23%	7.50%			18.176	12.117	7.82%
Industrial: Textiles											
Canvas/Linen	0.667	yd	0.610	2.757	2.44%		1.800	m.	17.000	11.333	7.31%
Shirting	0.500	yd	0.457	2.718	2.41%						
Coarse Woollens	0.333	yd	0.304	7.023	6.23%		1.125	m.	24.844	16.563	10.68%
Sub-total				12.499	11.08%	12.50%			41.844	27.896	18.00%
TOTAL				**112.801**	100.00%	100.00%			**232.524**	**155.016**	**100.00%**

Table 3   **Basket of Consumables Commodity Price Indexes for England, Brabant, and Flanders**
mean of 1451-75 = 100

Commodity	FLANDERS			
	Amount	Unit	Value in in d gr. Flemish	Percent
Farinaceous				
Wheat	45.461	l.	13.279	10.51%
Rye	36.369	l.	7.062	5.59%
Barley	18.184	l.	2.867	2.27%
Peas	24.243	l.	7.341	5.81%
Sub-total	124.257	l.	30.549	24.19%
Drink				
barley (or malt)	163.659	l.	25.805	20.43%
Total Farinaceous	287.917	l.	56.354	44.62%
Meat				
Pigs				
Sheep				
Beef		kg		
Sub-total				
Fish: Herrings		no.		
Sub-total				

Table 3   **Basket of Consumables Commodity Price Indexes for England, Brabant, and Flanders**
mean of 1451-75 = 100

Commodity	FLANDERS			
	Amount	**Unit**	**Value in in d gr. Flemish**	**Percent**
Dairy				
Butter	13.610	kg	36.087	28.57%
Cheese	13.610	kg	8.578	6.79%
Sub-total	27.220		44.665	35.37%
Food and Drink			101.019	
Industrial: Fuel				
Charcoal		l.		
Candles		kg		
Lamp Oil				
Sub-total				
Industrial: Textiles				
Canvas/Linen		m.		
Shirting				
Coarse Woollens	1.225	m.	25.276	20.01%
Sub-total			25.276	20.01%
TOTAL			**126.295**	100.00%

bu = bushels; lb. = pound avoirdupois (453.592 g); pt = pint; yd = yard; l. = litre; m. = metre

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Table 4. **Prices and Values of Ghent Woollen Cloths Purchased for**
the Civic Aldermen and for the Tournai Festival:
In pounds groot of Flanders, with Cloth Price Indexes and the Flemish Commodity Basket Price Indexes

in quinquennial means, 1331-5 to 1566-70

Years	Schepenen	Dickedinnen	Flemish Price	Dickedinnen	Tournai Festival:	Tournai Festival
Ending (5 years)	Dickedinnen Large: in £ groot Flem	Price Index: 1451-75=100 £7.912	Index 1451-75=100 126.295d	Real Price Index 1451-75=100 Harmonic Means	Schepenen Dickedinnen Large: Tournai in £ groot Flem	Dickedinnen Price Index: 1451-75=100 £7.632
1331-35	2.747	34.712				
1336-40	2.788	35.235				
1341-45	3.512	44.387				
1346-50	2.874	36.326	50.571	68.676		
1351-55	3.749	47.378	60.646	77.362		
1356-60	4.330	54.723	87.540	62.287		
1361-65	4.857	61.389	94.425	64.858		
1366-70	5.377	67.956	107.401	63.066		
1371-75	5.333	67.395	115.222	58.578		
1376-80	6.890	87.078	111.662	76.628		
1381-85	7.500	94.787	119.193	83.846		
1386-90	7.192	90.890	124.719	72.096		
1391-95	5.538	69.991	88.510	79.077		
1396-00	5.759	72.783	89.796	81.054		
1401-05	5.856	74.009	88.531	83.105		
1406-10	5.843	73.851	105.261	69.632	5.800	76.000
1411-15	5.853	73.972	95.309	77.612	5.681	74.443
1416-20	6.077	76.798	107.381	71.409	5.590	73.248

Years Ending (5 years)	Schepenen Dickedinnen Large: in £ groot Flem	Dickedinnen Price Index: 1451-75=100 £7.912	Flemish Price Index 1451-75=100 126.295d	Dickedinnen Real Price Index 1451-75=100 Harmonic Means	Tournai Festival: Schepenen Dickedinnen Large: Tournai in £ groot Flem	Tournai Festival Dickedinnen Price Index: 1451-75=100 £7.632
1421-25	5.997	75.790	112.182	67.583	5.530	72.462
1426-30	6.047	76.419	117.773	64.910	5.490	71.935
1431-35	7.061	89.242	123.512	72.288	6.189	81.092
1436-40	7.182	90.763	140.166	65.055	6.764	88.631
1441-45	8.008	101.213	113.504	88.653	6.992	91.624
1446-50	7.719	97.558	109.984	88.543	6.762	88.611
1451-55	6.828	86.296	100.902	84.594	6.350	83.207
1456-60	7.857	99.294	117.855	84.126	7.185	94.151
1461-65	8.000	101.107	88.705	113.980	7.885	103.324
1466-70	8.188	103.476	96.520	107.107	8.553	112.067
1471-75	8.690	109.827	96.017	114.312	8.185	107.251
1476-80	9.063	114.535	117.213	97.812	8.860	116.096
1481-85	10.998	138.991	156.853	86.244	10.275	134.638
1486-90	16.914	213.767	184.511	114.407	15.575	204.086
1491-95	14.367	181.571	144.981	124.509	12.025	157.569
1496-00	14.667	185.366	100.255	184.894	11.593	151.903
1501-05	14.667	185.366			11.770	154.227
1506-10	14.130	178.582			12.485	163.596
1511-15	13.000	164.298			13.000	170.344
1516-20	13.130	165.941			13.135	172.113
1521-25	13.225	167.142				
1526-30	13.595	171.818				
1531-35	13.775	174.093				
1536-40	13.950	176.305				
1541-45	13.820	174.662				
1546-50	16.900	213.588				
1551-55	20.300	256.558				

Years Ending (5 years)	Schepenen Dickedinnen Large: in £ groot Flem	Dickedinnen Price Index: 1451-75=100 £7.912	Flemish Price Index 1451-75=100 126.295d	Dickedinnen Real Price Index 1451-75=100 Harmonic Means	Tournai Festival: Schepenen Dickedinnen Large: Tournai in £ groot Flem	Tournai Festival Dickedinnen Price Index: 1451-75=100 £7.632
1556-60	20.933	264.562				
1561-65	26.050	329.228				
1566-70	28.000	353.873				

Sources

Ghent Cloth: Stadsarchief Gent, Stadsrekeningen, Reeks 400: vols. 1-58; Algemeen Rijksarchief België, Rekenkamer, reg. no. 34,862.

Flemish Commodity Basket Price Index:

John Munro, 'Wage Stickiness, Monetary Changes, and Real Incomes in Late-Medieval England and the Low Countries, 1300 - 1500: Did Money Matter?' *Research in Economic History*, 21 (2003), 185 - 297; and John Munro, 'Builders' Wages in Southern England and the Southern Low Countries, 1346 -1500: A Comparative Study of Trends in and Levels of Real Incomes', in Simonetta Caviococchi, ed., *L'Edilizia prima della rivoluzione industriale, secc. XIII-XVIII*, Atti delle "Settimana di Studi" e altri convegni, no. 36, Istituto Internazionale di Storia Economica "Francesco Datini" (Florence, 2005), pp.1013-76.

Years (5 years)	Tournai Dickedinnen Real Price Index 1451-75=100 Harmonic Means	Strijpte Laken Schepenen £ groot Flemish	Strijpte Laken Schepenen Price Index 1451-75=100 £4.296	Real Price Index Strijpte Laken Schepenen 1451-75=100 Harmonic Means	Tournai Festival: Strijpte Laken Schepenen in £ groot Flem	Tournai Strijpte Lakenen Price Index: 1451-75=100 £5.381	Tournai Strijpte Lakenen Real Price Index : 1451-75=100 Harmonic Means
1331-35		1.550	36.079				
1336-40							
1341-45							
1346-50		1.742	40.540				
1351-55		3.375	78.558	129.535			
1356-60		2.944	68.530	78.285			
1361-65		3.449	80.285	85.024			
1366-70		4.469	104.027	96.859			
1371-75		5.705	132.793	115.250			
1376-80		6.977	162.398	145.437			
1381-85		6.998	162.879	136.652			
1386-90							
1391-95		7.758	180.587	204.030			
1396-00							
1401-05							
1406-10	71.728	4.000	93.106	88.453	5.145	95.601	85.620
1411-15	78.198	4.065	94.610	99.266	4.805	89.287	93.640
1416-20	68.340	4.088	95.143	88.603	4.935	91.703	85.633
1421-25	64.489				4.871	90.511	80.587
1426-30	61.000	4.173	97.141	82.481	5.226	97.107	82.304
1431-35	65.565	4.398	102.359	82.874	5.433	100.948	81.728
1436-40	63.556	4.557	106.064	75.670	5.533	102.821	73.432
1441-45	80.675	4.621	107.557	94.760	5.661	105.191	92.570
1446-50	80.689	4.621	107.557	97.793	5.700	105.918	96.303
1451-55	81.718	4.621	107.557	106.595	5.635	104.711	103.632

Years (5 years)	Dickedinnen Real Price Index 1451-75=100 Harmonic Means	Schepenen £ groot Flemish	Schepenen Price Index 1451-75=100 £4.296	Strijpte Laken Schepenen 1451-75=100 Harmonic Means	Strijpte Laken Schepenen in £ groot Flem	Strijpte Lakenen Price Index: 1451-75=100 £5.381	Strijpte Lakenen Real Price Index : 1451-75=100 Harmonic Means
1456-60	78.602	4.535	105.559	89.567	5.656	105.098	89.066
1461-65	115.787	4.100	95.434	107.585	5.207	96.751	109.134
1466-70	116.083	3.945	91.826	95.137	4.890	90.867	94.072
1471-75	111.101	4.280	99.624	103.756	5.520	102.574	106.044
1476-80	99.438	4.560	106.141	90.554	6.715	124.779	106.309
1481-85	83.328	4.555	106.025	67.595	8.460	157.205	98.706
1486-90	110.593	6.640	154.556	83.765	12.260	227.818	123.239
1491-95	109.201	7.050	164.100	113.187	12.850	238.781	166.410
1496-00	151.568	6.160	143.384	143.019	11.500	213.695	212.618
1501-05		6.110	142.220		11.100	206.262	
1506-10		6.180	143.849		11.740	218.155	
1511-15		6.420	149.436		12.750	236.923	
1516-20		6.600	153.625		13.500	250.859	
1521-25							
1526-30							
1531-35							
1536-40							
1541-45							
1546-50							
1551-55							
1556-60							
1561-65							
1566-70							

Sources:

Ghent Cloth: Stadsarchief Gent, Stadsrekeningen, Reeks 400: vols. 1-58; Algemeen Rijksarchief België, Rekenkamer, reg. no. 34,862.

Flemish Commodity Basket Price Index: John Munro, 'Wage Stickiness, Monetary Changes, and Real Incomes in Late-Medieval England and the Low Countries, 1300 - 1500: Did Money Matter?' *Research in Economic History*, 21 (2003), 185 - 297; and John Munro, 'Builders' Wages in Southern England and the Southern Low Countries, 1346 -1500: A Comparative Study of Trends in and Levels of Real Incomes', in Simonetta Caviococchi, ed., *L'Edilizia prima della rivoluzione industriale, secc. XIII-XVIII*, Atti delle "Settimana di Studi" e altri convegni, no. 36, Istituto Internazionale di Storia Economica "Francesco Datini" (Florence, 2005), pp.1013-76.

Harmonic Mean: In computing quinquennial, decennial, or other such mean values, the harmonic mean must be used, not the arithmetic mean. See Harold Sloan and Arnold Zurcher, *A Dictionary of Economics*, 3rd edn (New York, 1953), pp. 149-50: the harmonic mean is 'a calculated average computed by finding the reciprocal of the arithmetic mean of the reciprocals of the numbers to be averaged... In economic computation the harmonic mean is used in averaging such data as time rates and rate-per-dollar prices'.

Table 5.   **Prices and Values of Ghent Woollen Cloths in Relation to the Values of**
a Flemish Commodity Basket and a Brabant Commodity Basket
and their Composite Price Indexes
Prices in Pounds and Pence Groot of Flanders and Brabant

in quinquennial means, 1331-35 to 1566-70

Years Ending (5 years)	Schepenen Dickedinnen Large: in £ groot Flemish	Dickedinnen Price Index: 1451-75= 100 £7.91244 groot Flemish	Flemish Price Index 1451-75= 100 126.2948d 1451-75= 100	Value of Flemish Commodity Basket in d. groot Flemish	Value of Ghent 1st Quality Dickedinnen in Flemish Commodity Baskets: Harmonic M	Value of Brabant Commodity Basket in d. groot Flemish	Brabant Price Index 1451-75= 100 155.016d 1451-75= 100	Value of Ghent 1st Quality Dickedinnen in Brabant Commodity Baskets: Harmonic M
1331-35	2.747	34.712						
1336-40	2.788	35.235						
1341-45	3.512	44.387						
1346-50	2.874	36.326	50.571	63.868	10.856			
1351-55	3.749	47.378	60.646	76.593	11.632			
1356-60	4.330	54.723	87.540	110.558	9.366			
1361-65	4.857	61.389	94.425	119.255	9.752			
1366-70	5.377	67.956	107.401	135.641	9.483			
1371-75	5.333	67.395	115.222	145.519	8.808			
1376-80	6.890	87.078	111.662	141.024	11.522			
1381-85	7.500	94.787	119.193	150.534	11.957			
1386-90	7.192	90.890	124.719	157.514	10.840			
1391-95	5.538	69.991	88.510	111.784	11.890			
1396-00	5.759	72.783	89.796	113.407	12.187			
1401-05	5.856	74.009	88.531	111.810	12.496	149.440	96.403	9.642
1406-10	5.843	73.851	105.261	132.939	10.470	159.400	102.828	8.785
1411-15	5.853	73.972	95.309	120.370	11.670	155.882	100.559	9.008
1416-20	6.077	76.798	107.381	135.616	10.737	164.113	105.868	8.867
1421-25	5.997	75.790	112.182	141.680	10.162	168.089	108.433	8.562

Years Ending (5 years)	Schepenen Dickedinnen Large: in £ groot Flemish	Dickedinnen Price Index: 1451-75= 100 £7.91244 groot Flemish	Flemish Price Index 1451-75= 100 126.2948d 1451-75= 100	Value of Flemish Commodity Basket in d. groot Flemish	Value of Ghent 1st Quality Dickedinnen in Flemish Commodity Baskets: Harmonic M	Value of Brabant Commodity Basket in d. groot Flemish	Brabant Price Index 1451-75= 100 155.016d 1451-75= 100	Value of Ghent 1st Quality Dickedinnen in Brabant Commodity Baskets: Harmonic M
1426-30	6.047	76.419	117.773	148.741	9.760	179.277	115.651	8.091
1431-35	7.061	89.242	123.512	155.989	10.869	175.173	113.003	9.673
1436-40	7.182	90.763	140.166	177.022	9.782	194.440	125.432	8.853
1441-45	8.008	101.213	113.504	143.350	13.330	163.507	105.477	11.706
1446-50	7.719	97.558	109.984	138.904	13.313	154.360	99.577	12.011
1451-55	6.828	86.296	100.902	127.434	12.720	152.760	98.545	10.647
1456-60	7.857	99.294	117.855	148.845	12.649	177.613	114.577	10.585
1461-65	8.000	101.107	88.705	112.030	17.138	141.173	91.070	13.600
1466-70	8.188	103.476	96.520	121.900	16.105	150.293	96.953	13.076
1471-75	8.690	109.827	96.017	121.264	17.188	153.240	98.854	13.605
1476-80	9.063	114.535	117.213	148.034	14.707	187.093	120.693	11.642
1481-85	10.998	138.991	156.853	198.097	12.968	241.440	155.752	10.628
1486-90	16.914	213.767	184.511	233.028	17.202	269.880	174.098	14.366
1491-95	14.367	181.571	144.981	183.104	18.721	206.507	133.216	16.626
1496-00	14.667	185.366	100.255	126.617	27.801	178.813	115.352	19.686
1501-05	14.667	185.366				194.467	125.449	18.101
1506-10	14.130	178.582				177.960	114.801	19.060
1511-15	13.000	164.298				213.773	137.904	14.595
1516-20	13.130	165.941				232.933	150.264	13.527
1521-25	13.225	167.142				278.933	179.938	11.377
1526-30	13.595	171.818				276.733	178.519	11.791
1531-35	13.775	174.093				269.720	173.995	12.252
1536-40	13.950	176.305				287.773	185.641	11.523
1541-45	13.820	174.662				322.960	208.340	10.267
1546-50	16.900	213.588				309.133	199.420	13.140

Years Ending (5 years)	Schepenen Dickedinnen Large: in £ groot Flemish	Dickedinnen Price Index: 1451-75= 100 £7.91244 groot Flemish	Flemish Price Index 1451-75= 100 126.2948d 1451-75= 100	Value of Flemish Commodity Basket in d. groot Flemish	Value of Ghent 1st Quality Dickedinnen in Flemish Commodity Baskets: Harmonic M	Value of Brabant Commodity Basket in d. groot Flemish	Brabant Price Index 1451-75= 100 155.016d 1451-75= 100	Value of Ghent 1st Quality Dickedinnen in Brabant Commodity Baskets: Harmonic M
1551-55	20.300	256.558				403.840	260.515	12.014
1556-60	20.933	264.562				466.160	300.717	10.770
1561-65	26.050	329.228				486.653	313.937	12.846
1566-70	28.000	353.873				493.400	318.290	13.620

Sources:

Ghent Cloth: Stadsarchief Gent, Stadsrekeningen, Reeks 400: vols. 1-58; Algemeen Rijksarchief België, Rekenkamer, reg. no. 34,862.

Flemish Commodity Basket Price Index: John Munro, 'Wage Stickiness, Monetary Changes, and Real Incomes in Late-Medieval England and the Low Countries, 1300 - 1500: Did Money Matter?' *Research in Economic History*, 21 (2003), 185 - 297; and John Munro, 'Builders' Wages in Southern England and the Southern Low Countries, 1346 -1500: A Comparative Study of Trends in and Levels of Real Incomes', in Simonetta Caviocochi, ed., *L'Edilizia prima della rivoluzione industriale, secc. XIII-XVIII*, Atti delle "Settimana di Studi" e altri convegni, no. 36, Istituto Internazionale di Storia Economica "Francesco Datini" (Florence, 2005), pp.1013-76.

Brabant Commodity Basket Price Index: 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, with index numbers based on the publications of John Munro, as listed above..

See the note on the harmonic mean in the sources for the previous table.

Table 6.   **Prices and Values of Ghent Woollen Cloths in Relation to the**
Purchasing Power of a Master Masons's Wages in Bruges
Prices and Wages in pounds and pence groot of Flanders
in quinquennial means, 1331-5 to 1496-1500

Years Ending (5 years)	Schepenen Dickedinnen Large: Civic in £ groot Flemish	Dickedinnen Price Index: 1451-75=100 7.91244d groot Flemish	Tournai Festival: Strijpte Laken for the Schepenen in £ groot Flemish	Tournai Festival: Strijpte Laken Price Index: 1451-75=100 5.3815d gr.	Flemish Price Index 1451-75= 100 126.2949d	Bruges: Master Mason's Daily in d. groot Flemish	No. of Days' Wages for Bruges Master Mason to buy one Dickedinnen Harmonic Means	No. of Days' Wages for Bruges Master Mason to buy one Strijpte Laken Harmonic Means
1331-35	2.747	34.712						
1336-40	2.788	35.235						
1341-45	3.512	44.387						
1346-50	2.874	36.326			50.571	5.000	131.885	
1351-55	3.749	47.378			60.646	5.200	171.457	
1356-60	4.330	54.723			87.540	6.000	171.811	
1361-65	4.857	61.389			94.425	6.850	169.459	
1366-70	5.377	67.956			107.401	8.000	160.559	
1371-75	5.333	67.395			115.222	8.000	159.725	
1376-80	6.890	87.078			111.662	8.800	186.733	
1381-85	7.500	94.787			119.193	8.800	204.545	
1386-90	7.192	90.890			124.719	10.867	158.835	
1391-95	5.538	69.991			88.510	9.000	147.680	
1396-00	5.759	72.783			89.796	9.850	140.319	
1401-05	5.856	74.009			88.531	10.000	139.732	
1406-10	5.843	73.851	5.145	95.601	105.261	10.000	139.902	123.475
1411-15	5.853	73.972	4.805	89.287	95.309	10.000	140.431	115.320
1416-20	6.077	76.798	4.935	91.703	107.381	10.000	145.620	118.440
1421-25	5.997	75.790	4.871	90.511	112.182	10.000	143.910	116.900
1426-30	6.047	76.419	5.226	97.107	117.773	10.000	145.085	125.420

Years Ending (5 years)	Schepenen Dickedinnen Large: Civic in £ groot Flemish	Dickedinnen Price Index: 1451-75=100 7.91244d groot Flemish	Tournai Festival: Strijpte Laken for the Schepenen in £ groot Flemish	Tournai Festival: Strijpte Laken Price Index: 1451-75=100 5.3815d gr.	Flemish Price Index 1451-75= 100 126.2949d	Bruges: Master Mason's Daily in d. groot Flemish	No. of Days' Wages for Bruges Master Mason to buy one Dickedinnen Harmonic Means	No. of Days' Wages for Bruges Master Mason to buy one Strijpte Laken Harmonic Means
1431-35	7.061	89.242	5.433	100.948	123.512	10.800	156.874	120.873
1436-40	7.182	90.763	5.533	102.821	140.166	11.000	156.377	120.727
1441-45	8.008	101.213	5.661	105.191	113.504	11.000	174.258	123.509
1446-50	7.719	97.558	5.700	105.918	109.984	11.000	168.268	124.364
1451-55	6.828	86.296	5.635	104.711	100.902	11.000	147.761	122.945
1456-60	7.857	99.294	5.656	105.098	117.855	11.000	171.175	123.400
1461-65	8.000	101.107	5.207	96.751	88.705	11.000	174.545	113.600
1466-70	8.188	103.476	4.890	90.867	96.520	11.000	178.562	106.691
1471-75	8.690	109.827	5.520	102.574	96.017	11.000	189.568	120.436
1476-80	9.063	114.535	6.715	124.779	117.213	11.000	197.580	146.509
1481-85	10.998	138.991	8.460	157.205	156.853	11.000	237.068	184.582
1486-90	16.914	213.767	12.260	227.818	184.511			
1491-95	14.367	181.571	12.850	238.781	144.981			
1496-00	14.667	185.366	11.500	213.695	100.255			

Sources:

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

Bruges Masons Wages: Stadsarchief Brugge, Stadsrekeningen 1350-51 to 1485-85; Algemeen Rijksarchief, Rekenkamer, reg. nos. 32,461-32532.
John Munro, 'Wage Stickiness, Monetary Changes, and Real Incomes in Late-Medieval England and the Low Countries, 1300 - 1500: Did Money Matter?' *Research in Economic History*, 21 (2003), 185 - 297; and John Munro, 'Builders' Wages in Southern England and the Southern Low Countries, 1346 -1500: A Comparative Study of Trends in and Levels of Real Incomes', in Simonetta Caviococchi, ed., *L'Edilizia prima della rivoluzione industriale, secc. XIII-XVIII*, Atti delle "Settimana di Studi" e altri convegni, no. 36, Istituto Internazionale di Storia Economica "Francesco Datini" (Florence, 2005), pp.1013-76.

Table 7 **Prices and Values of Ghent Woollen Cloths in Relation to the Purchasing Power of a Master Mason's Wages in Antwerp and the Brabant Commodity Basket Price Index Prices and Wages in pounds and pence groot of Flanders and of Brabant quinquennial means, 1401-05 to 1566-70**

Years Ending (5 years)	Schepenen Dickedinnen Large: in £ groot Flemish	Dickedinnen Price Index 1451-75= 100 £7.912 groot	Tournai Festival: Strijpte Laken for Schepenen in £ groot Flemish	Tournai Festival: Strijpte Laken Price Index: 1451-75=100 5.3815d	Brabant Price Index 1451-75= 100 155.016d groot Flem	Antwerp: Mean Craftsman's Daily Wage in d. groot Flemish	No. Days' Wages for a Master Mason in Antwerp to buy one Ghent Dickedinnen: Harmonic Means	No. Days' Wages for a Master Mason in Antwerp to buy one Ghent Strijpte Laken: Harmonic Means
1401-05	5.856				96.403	7.313	192.063	
1406-10	5.843	73.851	5.145	95.601	102.828	7.500	186.989	164.633
1411-15	5.853	73.972	4.805	89.287	100.559	6.817	206.020	169.161
1416-20	6.077	76.798	4.935	91.703	105.868	6.573	221.421	180.106
1421-25	5.997	75.790	4.871	90.511	108.433	6.012	239.385	194.021
1426-30	6.047	76.419	5.226	97.107	115.651	5.775	251.180	216.688
1431-35	7.061	89.242	5.433	100.948	113.003	6.403	264.981	203.518
1436-40	7.182	90.763	5.533	102.821	125.432	6.333	271.603	209.628
1441-45	8.008	101.213	5.661	105.191	105.477	7.200	266.947	188.646
1446-50	7.719	97.558	5.700	105.918	99.577	7.500	246.793	182.400
1451-55	6.828	86.296	5.635	104.711	98.545	7.500	216.716	180.221
1456-60	7.857	99.294	5.656	105.098	114.577	7.500	251.057	180.862
1461-65	8.000	101.107	5.207	96.751	91.070	7.500	256.000	166.493
1466-70	8.188	103.476	4.890	90.867	96.953	7.500	261.890	156.425
1471-75	8.690	109.827	5.520	102.574	98.854	7.500	278.034	175.480
1476-80	9.063	114.535	6.715	124.779	120.693	7.500	289.784	213.296
1481-85	10.998	138.991	8.460	157.205	155.752	7.500	347.700	268.930
1486-90	16.914	213.767	12.260	227.818	174.098	8.100	479.198	353.271

Years Ending (5 years)	Schepenen Dickedinnen Large: in £ groot Flemish	Dickedinnen Price Index 1451-75= 100 £7.912 groot	Tournai Festival: Strijpte Laken for Schepenen in £ groot Flemish	Tournai Festival: Strijpte Laken Price Index: 1451-75=100 5.3815d	Brabant Price Index 1451-75= 100 155.016d groot Flem	Antwerp: Mean Craftsman's Daily Wage in d. groot Flemish	No. Days' Wages for a Master Mason in Antwerp to buy one Ghent Dickedinnen: Harmonic Means	No. Days' Wages for a Master Mason in Antwerp to buy one Ghent Strijpte Laken: Harmonic Means
1491-95	14.367	181.571	12.850	238.781	133.216	7.500	459.576	410.465
1496-00	14.667	185.366	11.500	213.695	115.352	7.700	457.153	357.799
1501-05	14.667	185.366	11.100	206.262	125.449	7.750	454.204	343.622
1506-10	14.130	178.582	11.740	218.155	114.801	7.750	436.505	363.340
1511-15	13.000	164.298	12.750	236.923	137.904	8.600	362.791	356.316
1516-20	13.130	165.941	13.500	250.859	150.264	9.250	340.660	350.270
1521-25	13.225	167.142			179.938	9.500	334.173	
1526-30	13.595	171.818			178.519	9.750	334.571	
1531-35	13.775	174.093			173.995	9.350	353.629	
1536-40	13.950	176.305			185.641	11.100	297.893	
1541-45	13.820	174.662			208.340	12.950	255.453	
1546-50	16.900	213.588			199.420	14.850	272.778	
1551-55	20.300	256.558			260.515	15.000	323.077	
1556-60	20.933	264.562			300.717	16.200	310.073	
1561-65	26.050	329.228			313.937	27.000	231.869	
1566-70	28.000	353.873			318.290	21.750	308.966	

Sources:

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

Brabant Commodity Prices: 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.

Antwerp Wages: Herman Van der Wee, *Growth of the Antwerp Market and the European Economy (fourteenth-sicteenth centuries*), 3 vols. (The Hague, 19653), Vol. I: *Statistics*, Appendix II: Wages, pp. 457-60.

Table 8

**Prices of Dyed Bruges Woollen Broadcloths Purchased for the Upper Echelons of the Bruges Civic Government
and their values in relation to the price of a basket of Flemish consumables and to the purchasing power
of the annual money-wage income of a Bruges master building craftsman
in pence (d) and pounds (£) groot Flemish, in quinquennial means, 1331-35 to 1496-1500**

Years 5 yrs	Woollens £ groot Mean Value	£ groot mean value of non-Scarlets	Scarlets Mean Price in £ groot	Value of Basket of Consumables in d groot Flem.	Consumer Price Index (in baskets) Mean 1451-75 =100 = 126.295d	Daily Wage of a Master Mason in Bruges in d groot Flemish	Annual Money Wage Income in £ groot Flem (210 days)
1331-35	1.616	1.417	1.888				
1336-40	1.886	1.690	2.175				
1341-45	2.093	1.733	3.447				
1346-50	3.318	2.274	4.086	63.868	50.571	5.000	4.375
1351-55	5.187	3.496	7.393	76.593	60.646	5.200	4.550
1356-60	6.892	3.757	8.171	118.935	94.172	6.000	5.250
1361-65	5.881	4.194	8.574	119.255	94.425	6.850	5.994
1366-70	6.626	4.678	12.092	135.641	107.401	8.000	7.000
1371-75	8.345	6.804	15.450	145.519	115.222	8.000	7.000
1376-80	8.438	7.226	14.048	141.024	111.662	8.800	7.700
1381-85	7.838	7.004	13.781	150.534	119.193	8.800	7.700
1386-90	9.592	7.662	17.151	157.514	124.719	10.867	9.508
1391-95	8.180	6.280	18.004	111.784	88.510	9.000	7.875
1396-1400	7.663	6.353	17.025	113.407	89.796	9.850	8.619
1401-05	7.780	6.245	15.430	111.810	88.531	10.000	8.750
1406-10	6.879	5.755	11.635	132.939	105.261	10.000	8.750
1411-15	6.264	5.474	11.263	120.370	95.309	10.000	8.750
1416-20	5.815	5.417	10.863	135.616	107.381	10.000	8.750
1421-25	5.459	5.459		141.680	112.182	10.000	8.750
1426-30	6.674	5.653	11.150	148.741	117.773	10.000	8.750
1431-35	7.352	6.474	13.114	155.989	123.512	10.800	9.450

Years 5 yrs	Woollens £ groot Mean Value	£ groot mean value of non-Scarlets	Scarlets Mean Price in £ groot	Value of Basket of Consumables in d groot Flem.	Consumer Price Index (in baskets) Mean 1451-75 =100 = 126.295d	Daily Wage of a Master Mason in Bruges in d groot Flemish	Annual Money Wage Income in £ groot Flem (210 days)
1436-40	7.135	7.135		177.022	140.166	11.000	9.625
1441-45	7.920	7.301	10.596	143.350	113.504	11.000	9.625
1446-50	8.632	6.859	11.966	138.904	109.984	11.000	9.625
1451-55	6.818	6.818		127.434	100.902	11.000	9.625
1456-60	6.480	6.480		148.845	117.855	11.000	9.625
1461-65	6.833	6.833		112.030	88.705	11.000	9.625
1466-70	6.958	6.958		121.900	96.520	11.000	9.625
1471-75	7.495	7.495		121.264	96.017	11.000	9.625
1476-80	7.142	7.142		148.034	117.213	11.000	9.625
1481-85	9.158	8.479	18.554	198.097	156.853	11.000	9.625
1486-90	14.363	14.363		233.028	184.511		
1491-95	8.528	8.528		183.104	144.981		
1496-1500	8.769	8.769		126.617	100.255		

Prices of Dyed Bruges Woollen Broadcloths Purchased for the the Bruges Government
and their values in relation to the price of a basket of Flemish consumables and the purchasing power
of the annual money-wage income of a Bruges master building craftsman
in pence (d) and pounds (£) groot Flemish, in quinquennial means, 1331-35 to 1496-1500

Years 5 yrs	No of Baskets of Consumables with value of a scarlet	No of Baskets of Consumables with value of a non-scarlet dyed broadcloth	No. of Days' Wages of a Master Mason Required to buy one Scarlet Woollen Broadcloth	No. of Days' Wages of a Master Mason Required to buy one non-Scarlet Woollen Broadcloth	No. of baskets of consumables to be purchased with annual money wages of a master mason
1331-35					
1336-40					
1341-45					
1346-50	15.352	8.544	196.105	109.133	16.440
1351-55	18.614	10.525	287.679	154.970	14.188
1356-60	15.701	7.321	314.248	144.418	11.397
1361-65	18.791	9.184	310.076	152.610	11.956
1366-70	21.008	8.137	352.687	136.456	12.386
1371-75	22.772	10.527	462.661	201.022	11.545
1376-80	24.558	12.869	330.649	173.321	12.898
1381-85	17.063	10.638	277.122	188.442	12.053
1386-90	24.931	11.358	363.710	168.039	14.152
1391-95	37.231	13.313	476.300	165.136	16.908
1396-1400	36.206	13.260	419.161	152.614	18.241
1401-05	32.875	13.383	368.758	149.766	18.782
1406-10	19.655	10.173	267.693	136.895	15.797
1411-15	21.537	10.900		130.932	17.446
1416-20	18.226	9.352	260.368	128.612	15.485
1421-25		9.058		127.591	14.822
1426-30	16.967	9.025	262.470	134.726	14.118
1431-35	21.061	9.965	285.972	143.786	14.519

Years 5 yrs	No of Baskets of Consumables with value of a scarlet	No of Baskets of Consumables with value of a non-scarlet dyed broadcloth	No. of Days' Wages of a Master Mason Required to buy one Scarlet Woollen Broadcloth	No. of Days' Wages of a Master Mason Required to buy one non-Scarlet Woollen Broadcloth	No. of baskets of consumables to be purchased with annual money wages of a master mason
1436-40		9.762		154.920	13.049
1441-45	17.416	12.179	230.575	159.035	16.114
1446-50	19.969	11.827	253.696	149.149	16.630
1451-55		12.760		147.930	18.127
1456-60		10.455		141.024	15.519
1461-65		14.651		148.825	20.619
1466-70		13.656		151.310	18.950
1471-75		14.766		162.567	19.049
1476-80		11.629		155.141	15.605
1481-85	18.181	10.016	404.818	182.580	11.661
1486-90		14.793			
1491-95		11.067			
1496-1500					

a. The physical composition of the Flemish basket of consumables, with their values in Flemish pence (d) *groot* for the base period, 1451-75:
45.461 litres of wheat (13.279d), 36.369 litres of rye (7.062d), 18.184 litres of barley (2.867d), 24.243 litres of peas (7.341d); 163.659 litres of barley for brewing malt (25.805d), 13.610 kg of butter (36.087d), 13.610 kg of cheese (8.578d), 1.225 metres of coarse woollen cloth (25.276).

b. Total value of the basket in 1451-75 = 126.295d *groot* Flemish.

Sources:

Cloth Prices: Stadsarchief Brugge, Stadsrekeningen, 1330/31 to 1495/96; Algemeen Rijksarchief België, Rekenkamer, nos. 32,461-32,550.

Wages and the Flemish Commodity Basket values:

John Munro, 'Wage Stickiness, Monetary Changes, and Real Incomes in Late-Medieval England and the Low Countries, 1300 - 1500: Did Money Matter?' *Research in Economic History*, 21 (2003), 185 - 297; John Munro, 'Builders' Wages in Southern England and the Southern Low Countries, 1346 -1500: A Comparative Study of Trends in and Levels of Real Incomes', in Simonetta Caviococchi, ed., *L'Edilizia prima della rivoluzione industriale, secc. XIII-XVIII*, Atti delle "Settimana di Studi" e altri convegni, no. 36, Istituto Internazionale di Storia Economica "Francesco Datini" (Florence, 2005), pp. 1013-76.

Table 9:   Mechelen Rooslaken Woollen Cloths:

Values in Pounds Groot Flemish and Brabant

and Values in terms of the purchasing power of
an Antwerp Mason's Daily Wage and the Value of
a Brabant Commodity Basket (Index Numbers: 1451-75 = 100)

in five year means: 1471-75 to 1546-50

Year	Mechelen Rooslaken Blacks Price £ Brabant	Mechelen Rooslaken Blacks Price £ Flemish	Antwerp: Master Mason's Mean Daily Wage in d groot Flemish (summer-winter)	Antwerp: Value of Commodity Basket in d groot Flem	Antwerp: Commodity Price Index 1451-75=100	No. of Days Wages for Master Mason to buy one commodity basket	No. of Days Wages to for Master Mason to buy one Zwart-Laken
1471-75	10.395	6.930	11.250	153.24	98.854	13.601	140.522
1476-80	11.630	8.053	11.250	187.09	120.693	16.354	171.450
1481-85	10.339	6.893	11.250	241.44	155.752	20.414	136.157
1486-90	10.314	6.876	12.150	269.88	174.098	22.059	127.495
1491-95	12.785	8.524	11.250	206.51	133.216	17.403	178.007
1496-00	14.407	9.604	11.550	178.81	115.352	15.376	199.557
1501-05	14.879	9.919	11.625	194.47	125.449	16.692	204.716
1506-10	15.178	10.119	11.625	177.96	114.801	15.262	208.788
1511-15	16.431	10.954	12.900	213.77	137.904	16.577	204.030

Year	Mechelen Rooslaken Blacks Price £ Brabant	Mechelen Rooslaken Blacks Price £ Flemish	Antwerp: Master Mason's Mean Daily Wage in d groot Flemish (summer-winter)	Antwerp: Value of Commodity Basket in d groot Flem	Antwerp: Commodity Price Index 1451-75=100	No. of Days Wages for Master Mason to buy one commodity basket	No. of Days Wages to for Master Mason to buy one Zwart-Laken
1516-20	17.022	11.348	13.875	232.93	150.264	16.752	196.131
1521-25	16.739	11.159	14.250	278.93	179.938	19.246	187.998
1526-30	16.600	11.067	14.625	276.73	178.519	18.875	181.607
1531-35	16.747	11.165	14.025	269.72	173.995	18.959	191.028
1536-40	17.059	11.373	16.650	287.77	185.641	17.258	164.074
1541-45	16.661	11.107	19.425	322.96	208.340	16.557	136.384
1546-50	17.994	11.996	22.275	309.13	199.420	13.726	128.952

Source:

Stadsarchief Mechelen, Stadsrekeningen 1470/71 - 1549/50: Series I.

Table 10   **Prices and Values of Scarlets Manufactured in Mechelen:**

in Pounds Oude Groot and Pounds Groot Flemish
compared to the Wages of a Bruges Master Mason and the Values of a Flemish Commodity Basket:
in pence and pounds (£) groot Flemish
Index: 1451-75 = 100

one scarlet was 40 ells long = 27.56 metres

Years	Price in £ Oude groot	Price in £ groot Flemish	Wages of a Master Mason in Bruges: in d groot Flemish	Value of a Flemish Commodity Basket in in d groot Flemish	Value of a Flemish Commodity Basket in In £ groot Flemish	Flemish Commodity Price Index 1451-75=100	No. of Days' Wages for a Master Mason to Purchase a Mechelen Scarlet	Value of the Mechelen Scarlet in Flemish Commodity Baskets
1361-65	2.6936							
1366-70	4.1072		8.000	135.641	0.565	107.401		
1371-75	4.2471	10.553	8.000	145.519	0.606	115.222	315.160	17.376
1376-80	5.5614	14.371	8.800	141.024	0.588	111.662	373.371	22.973
1381-85	4.5887	12.279	8.800	150.534	0.627	119.193	327.037	19.412
1386-90	4.4529	12.947	10.867	157.514	0.656	124.719	273.942	18.514
1391-95	4.4478	9.929	9.000	111.784	0.466	88.510	262.899	21.061
1396-1400	4.5858	10.318	9.850	113.407	0.473	89.796	245.142	22.069
1401-05	5.7825	13.011	10.000	111.810	0.466	88.531	309.947	27.676

Years	Price in £ Oude groot	Price in £ groot Flemish	Wages of a Master Mason in Bruges: in d groot Flemish	Value of a Flemish Commodity Basket in in d groot Flemish	Value of a Flemish Commodity Basket in In £ groot Flemish	Flemish Commodity Price Index 1451-75=100	No. of Days' Wages for a Master Mason to Purchase a Mechelen Scarlet	Value of the Mechelen Scarlet in Flemish Commodity Baskets
1406-10	6.2204	13.996	10.000	132.939	0.554	105.261	333.387	26.089
1411-15	7.3744	17.470	10.000	120.370	0.502	95.309	410.768	32.868

Sources:

Stadsarchief Mechelen, Stadsrekeningen Series I: 1360 - 1415.

For wages of the Bruges masons and for the Flemish Price Index, see sources in Table 3, above, and also:

John Munro, 'Wage Stickiness, Monetary Changes, and Real Incomes in Late-Medieval England and the Low Countries, 1300 - 1500: Did Money Matter?' *Research in Economic History*, 21 (2003), 185 - 297.

John Munro, 'Builders' Wages in Southern England and the Southern Low Countries, 1346 -1500: A Comparative Study of Trends in and Levels of Real Incomes', in Simonetta Caviacocchi, ed., *L'Edilizia prima della rivoluzione industriale, secc. XIII-XVIII*, Atti delle "Settimana di Studi" e altri convegni, no. 36, Istituto Internazionale di Storia Economica "Francesco Datini" (Florence: Le Monnier, 2005), pp. 1013-76.

Table 11   Costs of Dyeing Scarlets at Mechelen, 1361 - 1415, in
pounds groot oude of Brabant and pounds groot Flemish, in quinqennial means,
1361-54 to 1411-15
40 ells long = 27.56 metres (1 ell = 0.689 m)

Years (5 Yrs) Mechelen	Whites or Blues: Costs	Percent of Final	lb of Grain*	kg of Grain	Price in d per lb	Price in d per kg	Cost of Grain in £ oude groot	Grain as Percent of total	Grain as Percent of cost of white cloth
1361-65	1.741	64.65%	22.548	10.580	9.41	20.05	0.884	32.81%	50.76%
1366-70	2.137	52.03%	24.906	11.687	18.12	38.62	1.881	45.79%	88.00%
1371-75	2.446	57.59%	30.275	14.207	13.38	28.52	1.688	39.76%	69.04%
1376-80	2.534	45.56%	38.688	18.154	17.73	37.78	2.858	51.39%	112.80%
1381-85	2.473	53.88%	32.663	15.327	14.46	30.81	1.968	42.88%	79.57%
1386-90	2.523	56.66%	25.063	11.761	17.00	36.23	1.776	39.87%	70.37%
1391-95	2.796	62.85%	23.389	10.975	15.69	33.44	1.529	34.38%	54.70%
1396-1400	2.945	64.22%	23.625	11.086	15.56	33.16	1.532	33.40%	52.01%
1401-05	3.705	64.07%	30.616	14.367	15.23	32.46	1.943	33.60%	52.44%
1406-10	3.993		30.482	14.304	16.24	34.60	2.062	33.16%	51.65%
1411-15	4.107	55.70%	35.289	16.559	20.69	44.09	3.042	41.25%	74.07%

Years (5 Yrs) Mechelen	Dyeing and Shearing £ oude gr	Finishing Costs of Percent of Total	Total Costs and Price	Price in £ groot Flemish
1361-65	0.068	2.54%	2.694	
1366-70	0.089	2.18%	4.107	
1371-75	0.113	2.66%	4.247	10.553
1376-80	0.170	3.05%	5.561	14.371
1381-85	0.149	3.24%	4.589	12.279
1386-90	0.154	3.46%	4.453	12.947
1391-95	0.123	2.77%	4.448	9.929
1396-1400	0.109	2.37%	4.586	10.318
1401-05	0.135	2.33%	5.783	13.011
1406-10	0.165	2.66%	6.220	13.996
1411-15	0.225	3.05%	7.374	17.470

Sources:

Stadsarchief Mechelen, Stadsrekeningen, Series I: nos. 3 - 92; Algemeen Rijksarchief België (Brussels), Rekenkamer, registers nos. 41,218 - 222.

Table 12   **Prices of English and Flemish Woollen Broadcloths, in pounds sterling English and groot Flemish in quinquennial means, 1351-55 to 1516-20: with the number of days wages for a master mason to buy one woollen broadcloth, and the Flemish Composite Price Index (1451-75 = 100)**

          Part I: England

Table 12a   **Values of English Woollen Cloths (24 yds by 1.75 yds): Those Purchased for Scholars and Servants: at Cambridge & Winchester 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	Exported London and Southampton in £ sterling	Mean Value in £ groot Flemish	Cloth Exports from all ports in £ sterling	Mean Value in £ groot Flemish	Mean in Florins (Florence)
1361-65	2.232	1.771	2.030					
1366-70	2.437	1.933	2.216					
1371-75	2.200	1.745	2.001	1.751	1.611	1.751	1.611	11.673
1376-80	2.430	1.928	2.210			2.314	2.240	15.427
1381-85	2.808	2.227	2.553	2.265	2.522	2.161	2.406	14.405
1386-90	2.140	1.698	1.946	1.887	1.979	1.857	1.974	11.966
1391-95	1.952	1.548	1.867			1.694	1.741	11.001
1396-1400	2.033	1.613	2.050			1.403	1.471	9.350
1401-05	2.128	1.812	2.080	2.618	2.745	1.769	1.855	11.791
1406-10	2.160	1.989	2.443			1.536	1.542	10.237
1411-15	2.136	2.178	2.464			1.501	1.193	9.003
1416-20	2.100	1.855	2.349			1.200	1.178	7.200
1421-25	2.113	1.875	2.314	2.402	2.505	2.402	2.505	14.412
1426-30	2.423	1.970	2.185	1.669	1.860	1.669	1.860	10.011
1431-35	2.468	1.985	2.240	2.299	2.638	2.299	2.638	13.456
1436-40	2.080	1.885	2.218	2.735	3.019	2.091	2.308	11.947
1441-45	2.273	1.905	2.360	2.194	2.422	2.180	2.406	11.625

Year Ending	Cambridge 1st quality in £ sterling	Cambridge 2nd quality in £ sterling	Winchester 1st quality in £ sterling	Exported London and Southampton in £ sterling	Mean Value in £ groot Flemish	Cloth Exports from all ports in £ sterling	Mean Value in £ groot Flemish	Mean in Florins (Florence)
1446-50	2.502	1.815	2.398	2.532	2.795	2.243	2.476	11.962
1451-55	2.380	1.893	2.400	2.228	2.460	1.614	1.782	8.608
1456-60	2.758	1.985	2.400	2.227	2.459	2.111	2.313	11.175
1461-65	2.933	1.875	2.400	2.113	2.333	1.856	2.041	9.860
1466-70	3.375	1.830	2.520	2.140	2.158	1.866	1.881	8.956
1471-75	2.520	2.230	2.520	2.048	2.177	1.877	2.002	9.011
1476-80	3.400	3.000	2.642	2.598	3.306	2.385	3.044	11.262
1481-85	3.400	2.560	2.663	2.799	4.295	2.274	3.435	10.498
1486-90	3.380	2.660	2.667	2.427	4.605	2.427	4.605	11.200
1491-95	3.630	2.586	2.667	2.822	3.684	2.822	3.684	12.898
1496-1500	3.493	2.514	2.765	2.271	3.332	2.271	3.332	10.002
1501-05	3.448	2.561	2.883	2.975	4.379	2.975	4.379	12.982
1506-10	3.408	2.570	3.060	3.502	5.155	3.502	5.155	15.283
1511-15	3.710	2.920	2.883	3.606	5.308	3.606	5.308	15.735
1516-20	4.120	3.060	3.024					

Table 12b **Prices and Relative Values of English Woollen Broadcloths at Cambridge and Winchester**
in pounds sterling, and values expressed in equivalent number of 'baskets of consumables'
and the number of days wages for master masons required to purchase one cloth
in quinquennial means (arithmetic and harmonic), 1361-65 to 1556-60

5 yr periods	Cambridge 1st quality in £ sterling	Cambridge 2nd quality in £ sterling	Winchester 1st quality in £ sterling	Winchester 2nd quality in £ sterling	SE England Master Mason's Wage in d	Value of PBH Basket in d st	Price Index 1451-75 =100
1361-65	2.232	1.771	2.030	1.565	5.000	155.637	137.976
1366-70	2.437	1.933	2.216	1.708	5.000	153.928	136.460
1371-75	2.200	1.745	2.001	1.542	5.000	143.646	127.345
1376-80	2.430	1.928	2.210	1.704	5.000	123.958	109.891
1381-85	2.808	2.227	2.553	1.968	5.000	127.679	113.190
1386-90	2.140	1.698	1.946	1.500	5.000	114.191	101.233
1391-95	1.952	1.548	1.867	1.540	5.000	117.259	103.953
1396-1400	2.033	1.613	2.050	1.701	5.000	124.812	110.648
1401-05	2.128	1.812	2.080	1.728	5.100	127.073	112.653
1406-10	2.160	1.989	2.443	1.962	5.800	123.998	109.927
1411-15	2.136	2.178	2.464	1.900	6.000	122.119	108.261
1416-20	2.100	1.855	2.349	1.849	6.000	128.139	113.598
1421-25	2.113	1.875	2.314	1.714	6.000	117.020	103.740
1426-30	2.423	1.970	2.185	1.825	6.000	127.025	112.610
1431-35	2.468	1.985	2.240	1.789	6.000	123.090	109.122
1436-40	2.080	1.885	2.218	1.872	6.000	140.118	124.218
1441-45	2.273	1.905	2.360	1.912	6.000	104.424	92.574
1446-50	2.502	1.815	2.398	1.891	6.000	114.200	101.241
1451-55	2.380	1.893	2.400	1.830	6.000	114.774	101.750
1456-60	2.758	1.985	2.400	1.805	6.000	110.500	97.961
1461-65	2.933	1.875	2.400	1.800	6.000	114.489	101.497
1466-70	3.375	1.830	2.520	1.920	6.000	115.869	102.720

5 yr periods	Cambridge 1st quality in £ sterling	Cambridge 2nd quality in £ sterling	Winchester 1st quality in £ sterling	Winchester 2nd quality in £ sterling	SE England Master Mason's Wage in d	Value of PBH Basket in d st	Price Index 1451-75 =100
1471-75	2.520	2.230	2.520	1.900	6.000	108.370	96.072
1476-80	3.400	3.000	2.642	1.970	6.000	104.529	92.667
1481-85	3.400	2.560	2.663	2.000	6.000	136.921	121.383
1486-90	3.380	2.660	2.667	2.000	6.000	114.232	101.269
1491-95	3.630	2.586	2.667	2.000	6.000	115.671	102.545
1496-1500	3.493	2.514	2.765	2.000	6.000	111.152	98.538
1501-05	3.448	2.561	2.883	2.000	6.000	120.005	106.386
1506-10	3.408	2.570	3.060	2.000	6.000	118.499	105.052
1511-15	3.710	2.920	2.883	2.000	6.000	119.584	106.014
1516-20	4.120	3.060	3.024	2.000	6.000	139.678	123.827
1521-25	3.213	3.350	3.998	1.960	6.000	165.804	146.989
1526-30	4.448	4.120	4.461	1.854	6.000	180.336	159.872
1531-35	3.245	2.584	5.100	1.993	6.000	183.709	162.862
1536-40	4.296	3.173	5.680	2.000	6.500	173.368	153.694
1541-45	5.799	3.250	6.320	2.000	6.900	202.607	179.615
1546-50	6.400	3.390	7.778	2.425	7.200	259.509	230.060
1551-55	7.210	3.240	8.211	2.542	8.400	306.956	272.123
1556-60	6.897	3.643	8.272	2.732	9.600	361.264	320.268

Table 12b   **Prices and Relative Values of English Woollen Broadcloths at Cambridge and Winchester**
in pounds sterling, and values expressed in equivalent number of 'baskets of consumables'
and the number of days wages for master masons required to purchase one cloth
in quinquennial means (arithmetic and harmonic), 1361-65 to 1556-60

5 yr periods	Cambridge 1st quality in £ sterling	Winchester 1st quality in £ sterling	Cambridge 1st Quality: No. Days Wages	Winchester 1st Quality: No. Days Wages	Value of Cambridge 1st Quality: in PBH Baskets	Value of Winchester 1st Quality: in PBH Baskets
1361-65	2.232	2.030	101.600	92.396	3.311	3.011
1366-70	2.437	2.216	113.554	103.266	3.660	3.328
1371-75	2.200	2.001	101.566	92.364	3.475	3.161
1376-80	2.430	2.210	115.769	105.281	4.701	4.275
1381-85	2.808	2.553	133.491	121.398	5.232	4.758
1386-90	2.140	1.946	101.565	92.364	4.458	4.054
1391-95	1.952	1.867	93.658	89.161	3.986	3.781
1396-1400	2.033	2.050	97.403	98.353	3.899	3.940
1401-05	2.128	2.080	100.149	97.892	4.018	3.924
1406-10	2.160	2.443	89.050	100.114	4.174	4.721
1411-15	2.136	2.464	85.384	97.783	4.193	4.802
1416-20	2.100	2.349	84.000	93.941	3.933	4.405
1421-25	2.113	2.314	84.499	92.553	4.333	4.746
1426-30	2.423	2.185	92.705	87.373	4.330	4.132
1431-35	2.468	2.240	97.878	89.579	4.770	4.365
1436-40	2.080	2.218	83.150	88.696	3.566	3.799
1441-45	2.273	2.360	89.012	94.389	5.092	5.424
1446-50	2.502	2.398	98.059	95.900	5.166	5.039
1451-55	2.380	2.400	93.873	96.000	4.905	5.019
1456-60	2.758	2.400	109.254	96.000	5.921	5.213
1461-65	2.933	2.400	112.166	96.000	5.872	5.031
1466-70	3.375	2.520	129.444	100.478	6.685	5.202
1471-75	2.520	2.520	100.414	100.645	5.536	5.556

5 yr periods	Cambridge 1st quality in £ sterling	Winchester 1st quality in £ sterling	Cambridge 1st Quality: No. Days Wages	Winchester 1st Quality: No. Days Wages	Value of Cambridge 1st Quality: in PBH Baskets	Value of Winchester 1st Quality: in PBH Baskets
1476-80	3.400	2.642	135.054	105.682	7.795	6.067
1481-85	3.400	2.663	127.273	106.519	5.688	4.668
1486-90	3.380	2.667	126.502	106.666	6.605	5.603
1491-95	3.630	2.667	136.537	106.667	7.102	5.533
1496-1500	3.493	2.765	132.033	110.095	7.135	5.944
1501-05	3.448	2.883	132.730	114.756	6.626	5.753
1506-10	3.408	3.060	127.466	122.172	6.444	6.183
1511-15	3.710	2.883	147.253	114.812	7.433	5.771
1516-20	4.120	3.024	162.628	119.465	6.948	5.148
1521-25	3.213	3.998	124.224	157.297	4.483	5.671
1526-30	4.448	4.461	174.786	177.095	5.832	5.897
1531-35	3.245	5.100	120.992	202.794	3.913	6.609
1536-40	4.296	5.680	157.426	209.563	5.896	7.862
1541-45	5.799	6.320	200.508	219.408	6.854	7.490
1546-50	6.400	7.778	209.890	258.852	5.861	7.174
1551-55	7.210	8.211	204.683	234.565	5.609	6.425
1556-60	6.897	8.272	172.453	206.815	4.580	5.492

Sources:

London Cloth Export Prices: National Archives (Public Record Office of London), 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 Cloth Export Prices: National Archives (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 cloth prices: Archives of the British Library of Political and Economic Science (London), Phelps Brown Papers Collection, Box Ia.324; 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);

Wages for master masons in south-eastern England: Phelps Brown, Henry, and Hopkins, Sheila, 'Seven Centuries of Building Wages', *Economica*, 22:87 (August 1955), 195-206; reprinted in Henry Phelps Brown and Sheila Hopkins, *A Perspective of Wages and Prices* (London: Methuen, 1981), pp. 1- 12.

Table 12c   **Prices of English and Flemish Woollen Broadcloths, in pounds sterling English and groot Flemish in quinquennial means, 1351-55 to 1516-20: with the number of days wages for a master mason to buy one woollen broadcloth, and with the Flemish and Brabant Composite Price Indexes (1451-75 = 100)**

Part II: Flanders

Years 5-years	FLANDERS: Composite Price Index Basket of Consumables 1451-75=100 126.295 d. groot Flemish	GHENT Price of First Quality Ghent Dickedinnen Broadcloths in £ groot Flemish	YPRES Fine Dyed Woollens for Magistrates Broadcloths in £ groot Flemish	BRUGES Fine Dyed Woollens May prices in £ groot Flemish	BRUGES Fine Dyed Woollens October prices in £ groot Flemish	WERKIK Prices of First Quality woollens prices in £ groot Flemish	KORTRIJK Prices of First Quality woollens in £ groot Flemish	NIEUW-KERK NIEPKERK Prices of First Quality woollens in £ groot Flemish
1351-55	60.646	3.749						
1356-60	87.540	4.330						
1361-65	94.425	4.857						
1366-70	107.401	5.377						
1371-75	115.222	5.333						
1376-80	111.662	6.89						
1381-85	119.193	7.5						
1386-90	124.719	5.958						
1391-95	88.510	5.538		8.143	5.538	3.591	3.600	
1396-00	89.796	5.759		8.143	5.466	3.756	3.343	
1401-05	88.531	5.980		8.341	6.239	3.512	3.251	
1406-10	105.261	5.843	5.435	7.264	6.088	3.742	3.462	
1411-15	95.309	5.853	5.28	6.585	5.585	3.460	3.403	
1416-20	107.381	6.077	5.303	6.800	4.969	3.131	3.523	
1421-25	112.182	5.997	5.200	7.100	4.940	3.194	3.500	
1426-30	117.773	6.047	5.110	6.915	5.416	3.800	3.900	1.974

Years 5-years	FLANDERS: Composite Price Index Basket of Consumables 1451-75=100 126.295 d. groot Flemish	GHENT Price of First Quality Ghent Dickedinnen Broadcloths in £ groot Flemish	YPRES Fine Dyed Woollens for Magistrates Broadcloths in £ groot Flemish	BRUGES Fine Dyed Woollens May prices in £ groot Flemish	BRUGES Fine Dyed Woollens October prices in £ groot Flemish	WERKIK Prices of First Quality woollens prices in £ groot Flemish	KORTRIJK Prices of First Quality woollens in £ groot Flemish	NIEUW-KERK NIEPKERK Prices of First Quality woollens in £ groot Flemish
1431-35	123.512	7.061	6.000	6.775	6.478	4.197	4.200	2.201
1436-40	140.166	7.182	6.528	7.319	7.149	4.198	3.725	2.079
1441-45	113.504	8.008	6.658	7.775	7.057	3.878	4.215	2.243
1446-50	109.984	7.719	7.408	7.881	6.860	3.875	3.942	2.227
1451-55	100.902	6.828	7.197	7.655	7.390	3.672	3.977	2.310
1456-60	117.855	7.857	7.768	7.951	7.418	3.444		1.878
1461-65	88.705	8.000	7.886	8.032	6.994	3.889		2.291
1466-70	96.520	8.188	7.608	8.811	6.567			2.009
1471-75	96.017	8.690	7.553	9.937	6.574			
1476-80	117.213	9.063	7.742	8.604	7.664			
1481-85	156.853	10.998	10.715	11.552	8.986			
1486-90	184.511	16.914	11.287	17.023	14.268			
1491-95	144.981	14.367	13.71	9.558	9.937			
1496-00	100.255	14.667	12.252	10.560	9.900			
1501-05		14.667						
1506-10		14.130						
1511-15		13.000						
1516-20		13.130						
1521-25		13.225						
1526-30		13.595						
1531-35		13.775						
1536-40		13.95						
1541-45		13.820						

Years 5-years	FLANDERS: Composite Price Index Basket of Consumables 1451-75=100 126.295 d. groot Flemish	GHENT Price of First Quality Ghent Dickedinnen Broadcloths in £ groot Flemish	YPRES Fine Dyed Woollens for Magistrates Broadcloths in £ groot Flemish	BRUGES Fine Dyed Woollens May prices in £ groot Flemish	BRUGES Fine Dyed Woollens October prices in £ groot Flemish	WERKIK Prices of First Quality woollens prices in £ groot Flemish	KORTRIJK Prices of First Quality woollens in £ groot Flemish	NIEUW-KERK NIEPKERK Prices of First Quality woollens in £ groot Flemish
1546-50		16.9						

Sources:

Flemish Commodity Price Index: see sources for Tables 4 -5

Ghent Cloth Prices: Stadsarchief Gent, Stadsrekeningen, Reeks 400: vols. 11-44; Algemeen Rijksarchief België, Rekenkamer, reg. nos. reg. nos. 38,635-72.

Bruges Cloth Prices: Stadsarchief Brugge, Stadsrekeningen 1390-91 to 1499-1500; Algemeen Rijksarchief België, Rekenkamer,nos. 32,461-564 (stadsrekeningen Brugge, from 1406);

Ypres Cloth Prices: Algemeen Rijksarchief België, Rekenkamer, registers nos. 38,635 - 722 (stadsrekeningen Ieper)

Cloth Prices for Wervik, Kortrij, Nieuwkerk, Niepkerke: see the sources for the Bruges cloth prices: prices recorded on the Bruges market.

Table 12d Prices of English. Flemish and Brabantine Woollen Broadcloths,
in pounds sterling English and groot Flemish
in quinquennial means, 1351-55 to 1546-50
with the number of days wages for a master mason to buy
one woollen broadcloth, and with the Brabant Composite Price Index
(mean of 1451-75=100)

Part III: Brabant

Years 5-years	LEUVEN Dyed Price in £ groot Flemish	MECHELEN Mean Price of Dyed Woollens in £ groot Flemish	MECHELEN Mean Price of Dyed Zwart roos- lakens in £ groot Flemish	MECHELEN No. of days Wages for Antwerp Master Mason to buy one Zwartlaken: harmonic mean	BRABANT Commodity Price Index 1451-75= 100 155.016d groot Flemish
1351-55					
1356-60					
1361-65					
1366-70		5.375			
1371-75		6.716			
1376-80		7.211			
1381-85		7.957			
1386-90		8.780			
1391-95		6.524			
1396-00		5.972			
1401-05	3.226	8.631			96.403
1406-10	3.683	9.418			102.828
1411-15	3.787	9.694			100.559
1416-20	3.944	8.411			105.868
1421-25	4.520	7.618			108.433
1426-30	5.057	8.631			115.651

Years 5-years	LEUVEN Dyed Price in £ groot Flemish	MECHELEN Mean Price of Dyed Woollens in £ groot Flemish	MECHELEN Mean Price of Dyed Zwart roos-lakens in £ groot Flemish	MECHELEN No. of days Wages for Antwerp Master Mason to buy one Zwartlaken: harmonic mean	BRABANT Commodity Price Index 1451-75= 100 155.016d groot Flemish
1431-35	6.086	8.528			113.003
1436-40		6.523			125.432
1441-45	4.067	6.706			105.477
1446-50	4.082	6.538			99.577
1451-55	3.788	6.703			98.545
1456-60	4.086				114.577
1461-65	5.412				91.070
1466-70	5.698	5.624			96.953
1471-75	5.517	6.129	6.930	140.522	98.854
1476-80	5.955	7.826	8.053	171.450	120.693
1481-85	6.531	7.475	6.893	136.157	155.752
1486-90	7.682	6.205	6.876	127.495	174.098
1491-95	7.907	8.478	8.524	178.007	133.216
1496-00		9.821	9.604	199.557	115.352
1501-05		10.012	9.919	204.716	125.449
1506-10		10.116	10.119	208.788	114.801
1511-15		10.941	10.954	204.030	137.904
1516-20		11.310	11.348	196.131	150.264
1521-25		10.976	11.159	187.998	179.938
1526-30		10.807	11.067	181.607	178.519
1531-35		11.025	11.165	191.028	173.995
1536-40		11.295	11.373	164.074	185.641
1541-45		11.109	11.107	136.384	208.340
1546-50		12.202	11.996	128.952	199.420

Sources:

Mechelen Cloth Prices: Stadsarchief Mechelen, Stadsrekeningen, 1316-1550, Series I: nos. 3-225; Algemeen Rijksarchief, Rekenkamer, reg. nos. 41,219-85;

Leuven Cloth Prices: Stadsarchief Leuven, Stadsrekeningen, 1345-1500, nos. 4986-5124.

Brabant Commodity Prices: 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.

Antwerp Wages: Herman Van der Wee, *Growth of the Antwerp Market and the European Economy (fourteenth-sicteenth centuries)*, 3 vols. (The Hague, 19653), Vol. I: *Statistics*, Appendix II: Wages, pp. 457-60.

Table 12e

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Part IV

Prices and Relative Values of Luxury-Quality Woollen Broadcloths in Bruges and Ghent
in pounds groot Flemish, and in relation to the values of the Flemish Commodity Baskets
and the purchasing power of a master mason's daily wage
in quinquennial means, 1331-35 to 1566-70

Years 5 yrs	BRUGES £ groot mean value of dyed broadcloths	BRUGES Value of Dyed Woollens in Flemish Commodity Baskets	BRUGES No. of Days' Wages for Master Mason to buy one cloth	GHENT £ groot mean value of dyed broad-cloths	GHENT Value of Dyed Woollens in Flemish Commodity Baskets	GHENT Value of Dyed Woollens in Brabant Commodity Baskets	GHENT No. of Days' Wages for a Bruges Master Mason to buy one cloth	GHENT No. of Days' Wages for an Antwerp Master Mason to buy one cloth
1331-35	1.417			2.747				
1336-40	1.690			2.788				
1341-45	1.733			3.512				
1346-50	2.274	8.544	109.133	2.874	10.856		131.885	
1351-55	3.496	10.525	154.970	3.749	11.632		171.457	
1356-60	3.757	7.321	144.418	4.330	9.366		171.811	
1361-65	4.194	9.184	152.610	4.857	9.752		169.459	
1366-70	4.678	8.137	136.456	5.377	9.483		160.559	
1371-75	6.804	10.527	201.022	5.333	8.808		159.725	
1376-80	7.226	12.869	173.321	6.890	11.522		186.733	
1381-85	7.004	10.638	188.442	7.500	11.957		204.545	
1386-90	7.662	11.358	168.039	7.192	10.840		158.835	
1391-95	6.280	13.313	165.136	5.538	11.890		147.680	
1396-1400	6.353	13.260	152.614	5.759	12.187		140.319	
1401-05	6.245	13.383	149.766	5.856	12.496	9.642	139.732	192.063
1406-10	5.755	10.173	136.895	5.843	10.470	8.785	139.902	186.989

Years 5 yrs	BRUGES £ groot mean value of dyed broadcloths	BRUGES Value of Dyed Woollens in Flemish Commodity Baskets	BRUGES No. of Days' Wages for Master Mason to buy one cloth	GHENT £ groot mean value of dyed broad-cloths	GHENT Value of Dyed Woollens in Flemish Commodity Baskets	GHENT Value of Dyed Woollens in Brabant Commodity Baskets	GHENT No. of Days' Wages for a Bruges Master Mason to buy one cloth	GHENT No. of Days' Wages for an Antwerp Master Mason to buy one cloth
1411-15	5.474	10.900	130.932	5.853	11.670	9.008	140.431	206.02
1416-20	5.417	9.352	128.612	6.077	10.737	8.867	145.620	221.421
1421-25	5.459	9.058	127.591	5.997	10.162	8.562	143.910	239.385
1426-30	5.653	9.025	134.726	6.047	9.760	8.091	145.085	251.18
1431-35	6.474	9.965	143.786	7.061	10.869	9.673	156.874	264.981
1436-40	7.135	9.762	154.920	7.182	9.782	8.853	156.377	271.603
1441-45	7.301	12.179	159.035	8.008	13.330	11.706	174.258	266.947
1446-50	6.859	11.827	149.149	7.719	13.313	12.011	168.268	246.793
1451-55	6.818	12.760	147.930	6.828	12.720	10.647	147.761	216.716
1456-60	6.480	10.455	141.024	7.857	12.649	10.585	171.175	251.057
1461-65	6.833	14.651	148.825	8.000	17.138	13.600	174.545	256
1466-70	6.958	13.656	151.310	8.188	16.105	13.076	178.562	261.89
1471-75	7.495	14.766	162.567	8.690	17.188	13.605	189.568	278.034
1476-80	7.142	11.629	155.141	9.063	14.707	11.642	197.580	289.784
1481-85	8.479	10.016	182.580	10.998	12.968	10.628	237.068	347.700
1486-90	14.363	14.793		16.914	17.202	14.366		479.198
1491-95	8.528	11.067		14.367	18.721	16.626		459.576
1496-1500				14.667	27.801	19.686		457.153
1501-05				14.667		18.101		454.204
1506-10				14.130		19.060		436.505
1511-15				13.000		14.595		362.791
1516-20				13.130		13.527		340.660
1521-25				13.225		11.377		334.173
1526-30				13.595		11.791		334.571
1531-35				13.775		12.252		353.629
1536-40				13.950		11.523		297.893

Years 5 yrs	BRUGES £ groot mean value of dyed broadcloths	BRUGES Value of Dyed Woollens in Flemish Commodity Baskets	BRUGES No. of Days' Wages for Master Mason to buy one cloth	GHENT £ groot mean value of dyed broad-cloths	GHENT Value of Dyed Woollens in Flemish Commodity Baskets	GHENT Value of Dyed Woollens in Brabant Commodity Baskets	GHENT No. of Days' Wages for a Bruges Master Mason to buy one cloth	GHENT No. of Days' Wages for an Antwerp Master Mason to buy one cloth
1541-45				13.820		10.267		255.453
1546-50				16.900		13.140		272.778
1551-55				20.300		12.014		323.077
1556-60				20.933		10.770		310.073
1561-65				26.050		12.846		231.869
1566-70				28.000		13.620		308.966

Sources: See sources for Tables 3 - 8 above

Table 13.   **Prices for Italian, English, Flemish, Brabantine, Dutch,**
and French Textiles in Poland (Cracow), c. 1400-10
Prices for Woollens of 35 Flemish Ells (24.5 metres in length)

Place/Town of Textile Producer	Textile Type or Name	Polish Groszes per ell (0.70 metre)	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

Place/Town of Textile Producer	Textile Type or Name	Polish Groszes per ell (0.70 metre)	Value in £ groot Flemish 34d/florin	Value in Florentine Florins	Value in £ sterling 36d/florin
HOLLAND					
Leiden ?	Ostrodommensis	15	3.098	21.870	3.281
ARTOIS					
Arras	sayes	3	0.619	4.370	0.656
Enghien	unspecified	8	1.653	11.670	1.751
ENGLAND					
London	dyed woollen broadcloths	12	2.479	17.500	2.625
London	dyed woollen broadcloths	24	4.958	35.000	5.25
unspecified	dyed woollen broadcloths	14	2.893	20.420	3.063

Source:

Wyrozumski, Jerzy, 'The Textile Trade of Poland in the Middle Ages,' 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), pp. 248 - 57.

Table 14.   **Prices of English Wools per Sack, in Pounds Sterling English, Wool Export Duties in shillings,
Price Indexes for Wools, Livestock Products and the Phelps Brown and Hopkins Composite
Price Index, in quinquennial means: from 1211-15 to 1496-1400**

Woolsack = 364 lb. = 165.45 kg   **Mean of Prices 1451-75 = 100**

Year	Mean Prices per Sack All Wools	Index 1451-75 =100 £3.4917	Mean Price Sack Better Wools	Index 1451-75 = 100.00 £4.8544	Phelps Brown & Hopkins Composite 1451-75 = 100	PB&H Livestock Index 1451-75 =100	Denizen Export Duties on Wool Sacks in shillings	Denizen Export Duties as Per Cent of Wool Prices	Alien Export Duties on Wool Sacks in shillings	Alien Export Duties as Per Cent of Wool Prices
1211-15	2.399	68.70	2.616	53.89						
1216-20	2.586	74.06	2.645	54.48						
1221-25	2.766	79.21	2.970	61.17						
1226-30	2.570	73.61	2.713	55.89						
1231-35	3.903	111.77	3.988	82.16						
1236-40	3.679	105.36	3.832	78.95						
1241-45	3.839	109.96	3.809	78.46						
1246-50	3.784	108.38	4.052	83.46						
1251-55	3.251	93.12	3.610	74.37						
1256-60	3.930	112.55	3.948	81.32						
1261-65	4.950	141.77	4.184	86.19	82.44	88				
1266-70	4.634	132.72	4.689	96.59	81.25	76.6				
1271-75	4.887	139.97	5.061	104.25	103.84	96.6	5.334	5.27%	5.334	5.27%
1276-80	6.692	191.64	6.791	139.90	96.61	100.8	6.667	4.91%	6.667	4.91%
1281-85	5.616	160.83	5.700	117.41	104.80	93.2	6.667	5.85%	6.667	5.85%
1286-90	6.059	173.53	6.281	129.39	80.52	84.53	6.667	5.31%	6.667	5.31%
1291-95	5.107	146.26	5.402	111.28	107.45	82.27	14.667	13.58%	14.667	13.58%
1296-1300	5.520	158.10	5.508	113.47	102.34	91.60	22.667	20.58%	22.667	20.58%

Year	Mean Prices per Sack All Wools	Index 1451-75 =100 £3.4917	Mean Price Sack Better Wools	Index 1451-75 = 100.00 £4.8544	Phelps Brown & Hopkins Composite 1451-75 = 100	PB&H Livestock Index 1451-75 =100	Denizen Export Duties on Wool Sacks in shillings	Denizen Export Duties as Per Cent of Wool Prices	Alien Export Duties on Wool Sacks in shillings	Alien Export Duties as Per Cent of Wool Prices
1301-05	5.498	157.47	5.441	112.08	92.35	90	6.667	6.13%	8.667	7.96%
1306-10	7.063	202.27	7.006	144.32	109.81	104.17	6.667	4.76%	10.000	7.14%
1311-15	5.775	165.39	6.087	125.39	115.33	122.53	6.667	5.48%	6.667	5.48%
1316-20	6.734	192.84	7.012	144.44	161.91	132	8.332	5.94%	9.166	6.54%
1321-25	7.446	213.25	7.834	161.37	137.97	122.07	8.000	5.11%	12.000	7.66%
1326-30	6.211	177.88	6.649	136.96	111.07	108.07	12.227	9.19%	15.560	11.70%
1331-35	5.031	144.08	5.370	110.61	114.12	104.47	10.373	9.66%	14.559	13.56%
1336-40	4.264	122.11	4.646	95.70	94.32	96.27	29.556	31.81%	41.501	44.67%
1341-45	4.498	128.83	4.947	101.91	90.06	93.47	40.247	40.68%	43.333	43.80%
1346-50	4.222	120.91	4.713	97.09	102.70	98.6	40.000	42.43%	43.333	45.97%
1351-55	3.923	112.36	4.446	91.58	132.18	115	40.000	44.99%	43.333	48.74%
1356-60	4.050	116.00	5.243	108.01	129.46	111.6	40.000	38.14%	43.333	41.32%
1361-65	4.306	123.31	5.606	115.47	146.64	123.8	42.776	38.16%	46.110	41.13%
1366-70	5.624	161.08	6.689	137.80	146.10	128.13	46.667	34.88%	50.000	37.37%
1371-75	6.422	183.92	7.895	162.64	135.26	134.13	50.000	31.67%	53.333	33.78%
1376-80	6.582	188.49	7.536	155.24	110.62	110	50.000	33.17%	53.333	35.38%
1381-85	5.097	145.96	5.995	123.49	112.90	109.13	50.000	41.70%	53.333	44.48%
1386-90	4.111	117.74	5.071	104.46	102.53	106.20	48.516	47.84%	52.166	51.43%
1391-95	4.266	122.17	4.953	102.04	106.33	102.80	49.830	50.30%	53.163	53.66%
1396-1400	4.814	137.86	5.241	107.97	110.84	109.00	50.000	47.70%	56.555	53.95%
1401-05	5.065	145.05	5.702	117.46	114.84	107.20	51.187	44.89%	61.187	53.66%
1406-10	4.974	142.44	5.759	118.64	111.23	108.47	50.000	43.41%	60.000	52.09%
1411-15	5.426	155.38	5.954	122.65	108.11	107.53	50.000	41.99%	60.000	50.39%
1416-20	4.155	119.00	4.592	94.59	113.40	107.50	50.000	54.45%	68.000	74.05%
1421-25	4.205	120.42	5.269	108.54	101.48	94.26	43.841	41.60%	62.658	59.46%
1426-30	4.613	132.11	5.015	103.30	112.27	102.38	40.000	39.88%	53.333	53.18%
1431-35	4.928	141.13	5.613	115.63	108.48	101.4	40.000	35.63%	57.103	50.86%

Year	Mean Prices per Sack All Wools	Index 1451-75 =100 £3.4917	Mean Price Sack Better Wools	Index 1451-75 = 100.00 £4.8544	Phelps Brown & Hopkins Composite 1451-75 = 100	PB&H Livestock Index 1451-75 =100	Denizen Export Duties on Wool Sacks in shillings	Denizen Export Duties as Per Cent of Wool Prices	Alien Export Duties on Wool Sacks in shillings	Alien Export Duties as Per Cent of Wool Prices
1436-40	4.440	127.16	5.322	109.63	122.01	106.80	40.000	37.58%	62.267	58.50%
1441-45	4.188	119.93	5.201	107.15	92.53	98.80	40.000	38.45%	63.333	60.88%
1446-50	4.119	117.96	5.379	110.80	100.90	106.20	40.000	37.19%	63.333	58.88%
1451-55	3.184	91.19	4.699	96.79	100.25	97.40	42.981	45.74%	77.244	82.19%
1456-60	2.923	83.71	3.775	77.77	97.06	100.80	50.000	66.22%	110.000	145.69%
1461-65	4.056	116.17	5.186	106.82	102.73	100.00	48.833	47.08%	106.110	102.31%
1466-70	4.387	125.65	5.645	116.28	106.75	111.80	40.000	35.43%	76.667	67.91%
1471-75	2.908	83.29	4.968	102.34	97.76	96.00	41.200	41.47%	80.667	81.19%
1476-80	2.974	85.18	5.847	120.46	90.06	79.2	40.000	34.20%	76.667	65.56%
1481-85	5.473	156.74	8.621	177.59	127.38	120.00	40.000	23.20%	76.667	44.46%
1486-90	3.357	96.16	7.462	153.71	102.77	105.80	40.000	26.80%	76.667	51.37%
1491-95	3.230	92.51	5.768	118.82	106.80	111.80	40.000	34.67%	76.667	66.46%
1496-1500	3.376	96.69	5.265	108.46	96.70	95.80	40.000	37.99%	76.667	72.81%

Sources:

English Wool Prices and Export Duties: 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 Parliamento*, 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.

English Price Indices: 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;
John Munro, 'Builders' Wages in Southern England and the Southern Low Countries, 1346 -1500: A Comparative Study of Trends in and Levels of Real

Incomes', in Simonetta Caviococchi, ed., *L'Edilizia prima della rivoluzione industriale, secc. XIII-XVIII,* Atti delle "Settimana di Studi" e altri convegni, no. 36, Istituto Internazionale di Storia Economica "Francesco Datini" (Florence, 2005), pp.1013-76.

Table 15. **Prices of English Wools at the Calais Staple, in English Sack-Weights**
For 1475 and 1499, in Pounds Sterling and Pounds Groot Flemish

County of Origin of the Wools	Calais Weight in £ ster	English Sack Weight in £ ster	English Sack Weight in £ groot	Calais Weight in £ ster-ling	English Sack Weight in £ ster	English Sack Weight in £ groot	Index % of Leominster Wool
	1475	**1475**	**1475**	**1499**	**1499**	**1499**	**1499**
Leominster, Hereford				22.333	25.807	37.498	100
March Wools, Shropshire/Hereford	13.333	15.407	18.134	17.000	19.644	28.543	76.1
Middle Leominster				15.667	18.104	26.305	70.2
Fine Cotswolds (Glouc., Worc. Oxf.)	12.000	13.867	16.321	13.000	15.022	21.827	58.2
High Lindsey, Lincolnshire	11.000	12.711	14.961	9.333	10.785	15.670	41.8
Fine Berkshire	11.000	12.711	14.961	11.667	13.482	19.589	52.2
Leominster Refuse				11.000	12.711	18.469	49.3
Middle March: Shropshire/Hereford				11.000	12.711	18.469	49.3
Fine Young Cotswolds				10.333	11.940	17.349	46.3
Middle Cotswolds				9.000	10.400	15.111	40.3
Low Lindsey, Lincolnshire				9.000	10.400	15.111	40.3
Kesteven, Lincolnshire	10.333	11.940	14.054	8.667	10.015	14.552	38.8
Wiltshire	10.333	11.940	14.054				
Oxfordshire: Henley	10.333	11.940	14.054				
Nottinghamshire	10.000	11.556	13.601				
Clay Wolds	10.000	11.556	13.601				
Nottinghamshire: Hatfield	9.833	11.363	13.374				
Warwickshire	9.833	11.363	13.374				
Lindsey Marsh, Lincolnshire	9.833	11.363	13.374				

County of Origin of the Wools	Calais Weight in £ ster	English Sack Weight in £ ster	English Sack Weight in £ groot	Calais Weight in £ ster-ling	English Sack Weight in £ ster	English Sack Weight in £ groot	Index % of Leominster Wool
	1475	**1475**	**1475**	**1499**	**1499**	**1499**	**1499**
North Holland, Lincolnshire	9.833	11.363	13.374	8.333	9.629	13.991	37.3
South Holland, Lincolnshire	9.833	11.363	13.374	8.333	9.629	13.991	37.3
Leicestershire	9.667	11.170	13.148				
Rutland	9.667	11.171	13.148	8.333	9.629	13.991	37.3
March Refuse				8.333	9.629	13.991	37.3
Middle Berkshire				8.333	9.629	13.991	37.3
Staffordshire	9.500	10.978	12.921				
Buckinghamshire	9.333	10.785	12.694				
Northamptonshire	9.333	10.785	12.694				
Bedfordshire	9.333	10.785	12.694				
Huntingdonshire	9.333	10.785	12.694				
Hertfordshire	9.167	10.593	12.467				
Cambridgeshire	9.167	10.593	12.467				
Derbyshire	9.167	10.593	12.468				
Hampshire	9.167	10.593	12.467				
Surrey	8.833	10.207	12.014	7.333	8.474	12.313	32.8
Yorkshire Wolds	8.833	10.207	12.014				
Derbyshire: Peak District	8.333	9.629	11.334				
Dorset	8.667	10.015	11.787				
Essex	8.333	9.630	11.334				
Sussex	8.333	9.629	11.334				
Kent	8.000	9.244	10.881	7.667	8.86	12.873	34.3
Norfolk	7.667	8.859	10.427	7.333	8.474	12.312	32.8

County of Origin of the Wools	Calais Weight in £ ster	English Sack Weight in £ ster	English Sack Weight in £ groot	Calais Weight in £ ster-ling	English Sack Weight in £ ster	English Sack Weight in £ groot	Index % of Leominster Wool
	1475	**1475**	**1475**	**1499**	**1499**	**1499**	**1499**
Yorkshire	7.000	8.089	9.521				
Middle Young Cotswolds				7.000	8.089	11.753	31.3
Cotswolds Refuse				6.333	7.318	10.634	28.4
Middle Kesteven				6.000	6.933	10.074	26.9
Middle Holland				5.666	6.547	9.513	25.4
Middle Rutland				5.667	6.548	9.514	25.4

Calais sack = 315 lb.

English sack weight = 364 lb.

Sources:

1475: 'Noumbre of Weyghtes', in British Library, Cotton Vespasian E. ix, fo. 106r-7r.

1499: Algemeen Rijksarchief België, Rekenkamer, reg. 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; 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 (Aldershot, Hampshire; and Brookfield, Vermont: Ashgate Publishing Ltd., 1994).

Table 16a

The Purchase Prices of Ghent Woollens: by rank order of values, 1360-69
　　Values in £ groot Flemish, and Florentine florins, and in units of Flemish
　　Commodity Baskets
　　of equivalent value

Year	Name of the Cloth	Description of the Cloth in the Stadsrekeningen	Purchase Price of Cloth in £ groot Flem	Price of Cloth in florins	Value of florin in d gros
1362	Striped Cloth	Strijpten	1.400	15.273	22.000
1360	Striped Cloth	Strijpten	1.583	17.273	22.000
1365	Striped Cloth	Strijpten	1.613	14.333	27.000
1365	Striped Cloth	Strijpten	1.613	14.333	27.000
1361	Striped Cloth	Strijpten Lakekenen	1.619	17.667	22.000
1366	Striped Cloth	Strijpten	1.828	16.244	27.000
1367	Striped Cloth	Strijpten	2.043	18.156	27.000
1360	Medley Dickedinnen	Ghemingden Dickedinne	2.046	22.318	22.000
1362	Small Dickedinnen	Smaele Dickedinne	2.050	22.364	22.000
1365	Small Dickedinnen	Smaele Dickedinne	2.150	19.111	27.000
1366	Half (?) Dickedinnen	Alvere Dickedinne	2.150	19.111	27.000
1362	Striped Cloth	Strijpten	2.163	23.591	22.000
1362	Medley Dickedinnen	Ghemingden Dickedinnen	2.196	23.955	22.000
1368	Striped Cloth	Strijpten	2.204	19.593	27.000
1361	Medley Dickedinnen	Gehmingden Dickedinnen	2.267	24.727	22.000
1365	Striped Cloth	Strijpten Laken	2.311	20.543	27.000
1369	Striped Cloth	Strijpten	2.311	20.543	27.000
1366	Striped Cloth	Strijpten	2.314	20.568	27.000
1361	Medley Dickedinnen	Ghemingden Dickedinne	2.350	25.636	22.000
1365	Dickedinnen	Dickedinne	2.367	21.037	27.000
1365	Dickedinnen	Dickedinne	2.367	21.037	27.000
1365	Dickedinnen	Dickedinne (alve)	2.367	21.037	27.000
1361	Red Dickedinnen	Roeden Dickedinne	2.400	26.182	22.000
1365	Dickedinnen	Dickdedinnen	2.418	21.496	27.000
1366	Small Dickedinnen	Smaele Dickedinne	2.419	21.500	27.000
1360	Dickedinnen	Dickedinne	2.475	27.000	22.000
1367	Dickedinnen	Dickedinne	2.475	22.000	27.000
1360	Striped Cloth	Strijpten	2.475	27.000	22.000
1361	Striped Cloth	Strijpte Lakenen	2.483	27.091	22.000
1362	Striped Cloth	Strijpten Lakenen	2.483	27.091	22.000
1362	Dickedinnen	Dickedinne	2.483	27.091	22.000
1361	Medley Dickedinnen	Ghemingden Dickedinnen	2.483	27.091	22.000
1362	Dickedinnen	Dickedinne	2.483	27.091	22.000
1365	Dickedinnen	Dickdedinnen	2.579	22.926	27.000
1367	Dickedinnen	Dickedinne	2.579	22.926	27.000
1360	Medley Dickedinnen	Ghemingden Dickedinne	2.583	28.182	22.000
1362	Striped Cloth	Strijpten Lakene	2.592	28.273	22.000

Year	Name of the Cloth	Description of the Cloth in the Stadsrekeningen	Purchase Price of Cloth in £ groot Flem	Price of Cloth in florins	Value of florin in d gros
1366	Green Dickedinnen	Groenen Dickedinnen	2.742	24.370	27.000
1366	Dickedinnen	Dickedinne	2.796	24.852	27.000
1366	Dickedinnen	Dickedinne	2.796	24.852	27.000
1368	Dickedinnen	Dickedinnen	2.796	24.852	27.000
1360	Striped Cloth	Strijpten	2.800	30.545	22.000
1369	Dickedinnen	Dickedinne	2.850	25.333	27.000
1360	Striped Cloth	Strijpten Lakene	2.879	31.409	22.000
1367	Dickedinnen	Dickedinne	2.903	25.802	27.000
1367	Dickedinnen	Dickedinne	2.904	25.815	27.000
1366	Striped Cloth	Strijpten	2.904	25.815	27.000
1367	Striped Cloth	Strijpten	3.008	26.741	27.000
1367	Striped Cloth	Strijpte	3.013	26.778	27.000
1368	Dickedinnen	Dickedinnen	3.063	27.222	27.000
1365	Striped Cloth	Strijpten	3.117	27.704	27.000
1365	Striped Cloth	Strijpten	3.117	27.704	27.000
1368	Dickedinnen	Dickedinne	3.225	28.667	27.000
1368	Dickedinnen	Dickedinne	3.225	28.667	27.000
1361	Striped Cloth	Strijpte Lakenen	3.239	35.333	22.000
1368	Striped Cloth	Strijpten	3.333	29.630	27.000
1369	Dickedinnen	Dickedinnen	3.333	29.630	27.000
1360	Red-Orange cloth	Roede Haraengeren [laken]	3.496	38.136	22.000
1362	Striped Ghesterts Cloth	Srijpten Ghesteert	3.600	39.273	22.000
1367	Blue Striped Cloth	Blauwen Strijpte	3.763	33.444	27.000
1369	Striped Cloth	Strijpten	3.979	35.370	27.000
1360	Blue cloth	Blaeuwen Sticwerke	4.000	43.636	22.000
1365	Geleiden Cloth	Gheleiden Lakenen	4.038	35.889	27.000
1365	White Cloth	Witten Sticwerke	4.250	37.778	27.000
1362	Dickedinnen Broadcloth	Breeden Dickedinnen	4.321	47.136	22.000
1366	White Striped Cloth	Witten Strijpten	4.408	39.185	27.000
1361	Brownish Cloth	Buxhoernen Lakenen Sticwecken	4.500	49.091	22.000
1368	Striped Cloth	Strijpte Lakene	4.517	40.148	27.000
1368	Striped Cloth	Strijpten	4.838	43.000	27.000
1369	Striped Cloth	Strijpten Lakenen	5.163	45.889	27.000
1360	Brown Striped Scarlet	Brune Scaerlakene Strijpte	6.783	74.000	22.000
1362	Brown Striped Scarlet Cloth	Brunen Scaerlakenen Strijpten	7.500	81.818	22.000
1360	Striped Scarlet	Strijpten Scaerlakene	7.525	82.091	22.000
1362	Red Striped Scarlet	Roeden Strijpten Scaerlakene	7.992	87.182	22.000
1365	Red Striped Scarlet	Roeden Strijpten Scaerlakenen	8.492	75.481	27.000

Year	Name of the Cloth	Description of the Cloth in the Stadsrekeningen	Purchase Price of Cloth in £ groot Flem	Price of Cloth in florins	Value of florin in d gros
1362	Red Scarlet Cloth	Roeden Scaerlakenen	8.778	95.758	22.000
1361	Striped Scarlet	Scaerlaken Strijpten	9.154	99.859	22.000
1360	Brown Scarlet	Bruunen Scaerlakene	9.750	106.364	22.000
1361	Perse Scarlet Broadcloth	Breeden Persen Scaerlaken	10.000	109.091	22.000
1365	Brown Scarlet	Brunen Scaerlakenen	10.617	94.370	27.000
1366	Red Scarlet	Roeden Scaerlakenen	11.122	98.864	27.000
1367	Brown Striped Scarlet	Brunen Scaerlakene Strijpte	11.825	105.111	27.000
1366	Gheleiden Cloth	Gheleiden Lakene	12.000	106.667	27.000
1367	Perse Scarlet	Persen Scaerlakene	13.500	120.000	27.000
1369	Brown Striped Scarlet	Brunen Scaerlakenen Strijpte	13.546	120.407	27.000
1368	Red Striped Scarlet	Roeden Strijpten Scaerlakene	13.900	123.556	27.000
1369	Red Scarlet	Roeden Scaerlakenen	14.000	124.444	27.000
1368	Brown Scarlet	Brune Scaerlakene	14.000	124.444	27.000

Table 16b

The Purchase Prices of Ghent Woollens: by rank order of values, 1360-69
      Values in £ groot Flemish, units of Commodity Baskets of equivalent value,
      and the number of a master mason's day's wages required to purchase each
      cloth

Year	Name of the Cloth	Daily Wage of Master Mason in d. groot Flemish	Days' Wages to Buy One Cloth: Master mason
1362	Striped Cloth	6.75	49.78
1360	Striped Cloth	6.00	63.33
1365	Striped Cloth	7.50	51.60
1365	Striped Cloth	7.50	51.60
1361	Striped Cloth	6.00	64.78
1366	Striped Cloth	8.00	54.83
1367	Striped Cloth	8.00	61.28
1360	Medley Dickedinnen	6.00	81.83
1362	Small Dickedinnen	6.75	72.89
1365	Small Dickedinnen	7.50	68.80
1366	Half (?) Dickedinnen	8.00	64.50
1362	Striped Cloth	6.75	76.89
1362	Medley Dickedinnen	6.75	78.07
1368	Striped Cloth	8.00	66.13
1361	Medley Dickedinnen	6.00	90.67
1365	Striped Cloth	7.50	73.96
1369	Striped Cloth	8.00	69.33
1366	Striped Cloth	8.00	69.42
1361	Medley Dickedinnen	6.00	94.00
1365	Dickedinnen	7.50	75.73
1365	Dickedinnen	7.50	75.73
1365	Dickedinnen	7.50	75.73
1361	Red Dickedinnen	6.00	96.00
1365	Dickedinnen	7.50	77.39
1366	Small Dickedinnen	8.00	72.56
1360	Dickedinnen	6.00	99.00
1367	Dickedinnen	8.00	74.25
1360	Striped Cloth	6.00	99.00
1361	Striped Cloth	6.00	99.33
1362	Striped Cloth	6.75	88.30
1362	Dickedinnen	6.75	88.30
1361	Medley Dickedinnen	6.00	99.33
1362	Dickedinnen	6.75	88.30
1365	Dickedinnen	7.50	82.53
1367	Dickedinnen	8.00	77.38
1360	Medley Dickedinnen	6.00	103.33
1362	Striped Cloth	6.75	92.15

Year	Name of the Cloth	Daily Wage of Master Mason in d. groot Flemish	Days' Wages to Buy One Cloth: Master mason
1366	Green Dickedinnen	8.00	82.25
1366	Dickedinnen	8.00	83.88
1366	Dickedinnen	8.00	83.88
1368	Dickedinnen	8.00	83.88
1360	Striped Cloth	6.00	112.00
1369	Dickedinnen	8.00	85.50
1360	Striped Cloth	6.00	115.17
1367	Dickedinnen	8.00	87.08
1367	Dickedinnen	8.00	87.13
1366	Striped Cloth	8.00	87.13
1367	Striped Cloth	8.00	90.25
1367	Striped Cloth	8.00	90.38
1368	Dickedinnen	8.00	91.88
1365	Striped Cloth	7.50	99.73
1365	Striped Cloth	7.50	99.73
1368	Dickedinnen	8.00	96.75
1368	Dickedinnen	8.00	96.75
1361	Striped Cloth	6.00	129.56
1368	Striped Cloth	8.00	100.00
1369	Dickedinnen	8.00	100.00
1360	Red-Orange cloth	6.00	139.83
1362	Striped Ghesterts Cloth	6.75	128.00
1367	Blue Striped Cloth	8.00	112.88
1369	Striped Cloth	8.00	119.38
1360	Blue cloth	6.00	160.00
1365	Geleiden Cloth	7.50	129.20
1365	White Cloth	7.50	136.00
1362	Dickedinnen Broadcloth	6.75	153.63
1366	White Striped Cloth	8.00	132.25
1361	Brownish Cloth	6.00	180.00
1368	Striped Cloth	8.00	135.50
1368	Striped Cloth	8.00	145.13
1369	Striped Cloth	8.00	154.88
1360	Brown Striped Scarlet	6.00	271.33
1362	Brown Striped Scarlet Cloth	6.75	266.67
1360	Striped Scarlet	6.00	301.00
1362	Red Striped Scarlet	6.75	284.15
1365	Red Striped Scarlet	7.50	271.73
1362	Red Scarlet Cloth	6.75	312.10
1361	Striped Scarlet	6.00	366.15

Year	Name of the Cloth	Daily Wage of Master Mason in d. groot Flemish	Days' Wages to Buy One Cloth: Master mason
1360	Brown Scarlet	6.00	390.00
1361	Perse Scarlet Broadcloth	6.00	400.00
1365	Brown Scarlet	7.50	339.73
1366	Red Scarlet	8.00	333.67
1367	Brown Striped Scarlet	8.00	354.75
1366	Gheleiden Cloth	8.00	360.00
1367	Perse Scarlet	8.00	405.00
1369	Brown Striped Scarlet	8.00	406.38
1368	Red Striped Scarlet	8.00	417.00
1369	Red Scarlet	8.00	420.00
1368	Brown Scarlet	8.00	420.00

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