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Adrian R. Bell, Chris Brooks and Paul R. Dryburgh
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CHAPTER 1

Introduction

THE CONTEXT

[T]he Wolles growyyn withynne this Reaume, here before have ben the great comodite, enrichyng and welfare of this land.

Petitioners to parliament in 1453, in making an impassioned plea over the depressed state of the wool market at that time, consciously harked back to an era when trade in wool had been *the* backbone and driving force in the English medieval economy.[1] The period which had undoubtedly witnessed the greatest activity, indeed, was the fifty years either side of the turn of the fourteenth century, when the interplay of warfare, governmental interference in the form of taxes, export duties and export bans, epidemics of disease and famine, better marketing practices, and serious competition among some of the most important elements of the European mercantile elite for the superior product of the English wool-grower, created an unparalleled cycle of boom and bust in wool exports and prices.

It should occasion no surprise, therefore, that it is the wool trade of the late thirteenth and early fourteenth centuries that has predominantly attracted the attention of modern scholars. This is particularly the case when the ample volume and rich variety of surviving source material for this period, notably including extensive, if not comprehensive customs accounts,[2] and schedules and treatises of prices and producers, is taken into consideration. Chief amongst these is the raft of contracts for the advance purchase of wool entered into by both monastic institutions and

[1] *Rotuli Parlamentorum*, V, ed. J. Strachey *et al.* (London, 1787), p. 274; quoted in T. H. Lloyd, 'The Movement of Wool Prices in Medieval England', *Economic History Review Supplement* 6 (Cambridge, 1973), p. 25. The petition continues: 'and how now late the price of the said Wolles ys so gretly decayed and amenused in the hondes of the growers'.

[2] S. Jenks has recently published a finite list of all English customs accounts from the late Middle Ages: S. Jenks, *The Enrolled Customs Accounts (TNA: PRO E 356, E 372, E 364), 1279–80 – 1508–09 (1523/1524)*, Part I (Kew: List and Index Society, 2004).

lay producers, who bargained for the sale of the produce of their flocks for up to twenty years in advance with mostly foreign and particularly Italian (more specifically Florentine and Lucchese) merchant societies often in return for huge sums of liquid capital. These were employed by E. Power in her seminal study *The Wool Trade in English Medieval History* and by T. H. Lloyd in a number of works which set a standard that few have challenged.[3] The work by Power comprises the text of her Ford Lectures, delivered in January 1939. The book was published posthumously and as such does not contain footnotes or referencing. Lloyd's *The English Wool Trade in the Middle Ages* is a much more substantial body of work. It is a general overview of the wool trade and the chapter 'Marketing the wool' focuses upon its sale. Lloyd does not investigate the advance contracts in great detail – other than discussing briefly some of the terms and amounts present in a few selected examples. While both attest to the importance of such contracts in the functioning and financing of the trade, their intention, however, was mainly to place them within the broader economic context and to examine English involvement in the western European wool and commodity markets. J. H. Munro's research is extremely relevant to this book, particularly on wool pricing, and will provide comparative data concerning the continental markets to aid our analysis.[4] Such general histories, moreover, complement studies of more specific, localised elements of the trade – the Italian merchant societies[5] and the monastic producers themselves[6] – all of which made use of the known body of contracts and brought others to light. As a consequence of this diversity of focus, though, there has been no concerted attempt to explore the fuller extent of the source base, meaning that important details may have been

[3] E. Power, *The Wool Trade in English Medieval History* (Oxford, 1941); E. Power and M. M. Postan, *Studies in English Trade in the Fifteenth Century* (London, 1933); Lloyd, 'Movement of Wool Prices'; Lloyd, *The English Wool Trade in the Middle Ages* (Cambridge, 1977).

[4] For instance: J. H. Munro, 'Wool-Price Schedules and the Qualities of English Wools in the Later Middle Ages, c. 1270–1499', *Textile History*, 9 (1978), pp. 118–169.

[5] E. S. Hunt, 'A New Look at the Dealings of the Bardi and Peruzzi with Edward III', *Journal of Economic History* 50 (1990), pp. 149–162; Hunt, *Medieval Super Companies* (Cincinnati, 1995); R. W. Kaueper, *Bankers to the Crown: The Riccardi of Lucca and Edward I* (Princeton, 1973); M. Prestwich, 'Italian Merchants in Late Thirteenth and Early Fourteenth Century England', in *The Dawn of Modern Banking* (Yale, 1979), pp. 77–104.

[6] R. J. Whitwell, 'English Monasteries and the Wool Trade in the 13th Century', *Vierteljahrsschrift für Sozial- und Wirtschaftsgeschichte* 2 (1904), pp. 1–33; N. Denholm-Young, *Seigneurial Administration in England* (London, 1937); R. A. Donkin, 'Cistercian Sheep-Farming and Wool-Sales in the Thirteenth Century', *Agricultural History Review* 6 (1958), pp. 2–8; B. Waites, 'Monasteries and the Wool Trade in North and East Yorkshire during the 13th and 14th Centuries', *Yorkshire Archaeological Journal* 52 (1980), pp. 111–121; E. Jamroziak, 'Rievaulx Abbey as a Wool Producer in the Late Thirteenth Century: Cistercians, Sheep and Debts', *Northern History* 50 (2003), pp. 197–218.

obscured from economic historians and, perhaps more pertinently, historians of the local and monastic economy.

Despite this lack of in-depth discussion, historians do still make statements regarding the early existence of sophisticated financial instruments within the wool market in England. R. Britnell, in his recent survey of the economy and society of Britain and Ireland, relying on Lloyd, comments, 'Being able to control large funds, Italians could lend to monasteries on the security of future wool deliveries'.[7] M. Keen comments, 'great wool producing abbeys, like Meaux in Yorkshire, were selling to Italian exporters futures in their wool crop'.[8] So, historians are happy to accept that these contracts are evidence of loans, or alternatively, as Keen states, evidence of 'futures'. Our study will provide a considered view on these advance wool sales and we will argue that they should be seen as financial instruments combining an element of loan and forward contract characteristics, and certainly should not be viewed as early evidence of futures contracts.

Of course, it must be made clear from the outset that the surviving contracts discussed in this volume represent but a modest fraction of the wool that changed hands in England in the period under consideration. The approximately 5,300 sacks sold by advance contract over more than about 50 years is dwarfed, for example, simply by the 7,654 sacks of wool dispatched from Boston, England's principal wool port, upon which customs were paid in 1280, a year in which around 25,000 sacks were exported from England.[9] It also only just surpasses the *c.* 3,540 sacks admitted as due to the Italian merchants in their submissions to Edward I recorded in the so-called 'Exchequer Schedule' of 1294.[10] On the whole, wool sold by advance contract represented the very best that was on offer in England and could command astronomic prices and attract multiple suitors willing to make significant outlay to fuel the burgeoning

[7] R. Britnell, *Britain and Ireland 1050–1530: Economy and Society* (Oxford, 2004), p. 126.

[8] M. Keen, *England in the Later Middle Ages: A Political History*, 2nd edn (London, 2003), p. 142. That these contracts can be considered as 'futures' is a common misconception and is repeated by R. M. Eldridge and R. Maltby, 'On the Existence and Implied Cost of Carry in a Medieval English Forward/Futures Market', *Review of Futures Markets* 11 (1992), pp. 36–49. A futures contract is a standardised agreement to buy or sell a particular quantity of a good or asset on a particular date for a price agreed now. Futures contracts, unlike forward agreements, are tradable on a secondary market. This issue is discussed in detail in Chapter 4.

[9] TNA: E 372/124; Jenks, *Enrolled Customs Accounts*, p. 1. For calculations of annual wool exports in this period see this work and E. M. Carus-Wilson and O. Coleman, *England's Export Trade, 1275–1547* (Oxford, 1963).

[10] TNA E 101/126/7. For a modern edition, see A. R. Bell, C. Brooks and P. Dryburgh, *Advance Contracts for the Sale of Wool c. 1200–1327*, vol. 315 (List and Index Society, 2006), Appendix 1. This source will be referred to subsequently as *Advance Contracts*.

and highly lucrative luxury cloth industry in the Low Countries and Italy.[11] On the economic level, therefore, they are critical in adding to the all-too-scarce information surviving on medieval prices and, more generally, on the operation of the wool trade at the upper echelons.[12] Perhaps equally as importantly, they provide a wealth of detail on diverse matters ranging from sheep husbandry, the effects of disease and developments in marketing strategy, which were couched within the religious institutions themselves, to the varying depths of penetration of foreigners into the English wool market. The contracts also shed light on the construction, function and, frequently, collapse of their trading and credit networks on both the local and national stages.

MODERN FINANCE IN THE MIDDLE AGES?

It is widely believed that 'derivative instruments', which derive their value from another ('underlying') asset, such as forward contracts and options, are recent inventions. However, as intimated above, an examination of the appropriate historical documents demonstrates the existence of quite sophisticated financial contracts much earlier.

The first official exchange for trading contracts for forward delivery, the Royal Exchange (which later became the London Commodity Exchange), was formed in 1570 as a place where metal traders could come together. A formal futures exchange occurred in the late seventeenth century in the Japanese rice markets. Whilst the US has now become the world's largest centre for derivatives trading, the first forward contract in the US (on corn) was not written until 1851 following the formation of the Chicago Board of Trade (CBOT) in 1848.[13] A highly developed options market existed for a brief period in New York between 1873 and 1875, although such markets did not gain anything near their current level of importance until the late twentieth century.[14]

Within the historical literature, however, there is an ongoing revisionism regarding the sophistication of medieval financial transactions. Recent research has included that by J. H. Munro and M. Kowaleski on

[11] J. H. Munro, 'Industrial Transformation in the North-west European Textile Trades, *c.* 1290–*c.* 1340: Economic Progress or Economic Crisis?' in B. M. S. Campbell (ed.), *Before the Black Death: Studies in the 'Crisis' of the Early Fourteenth Century* (Manchester, 1991), pp. 110–148.
[12] See Munro, 'Wool Price Schedules and the Qualities of English Wools', pp. 118–169.
[13] See for example, S. Kroll and M. J. Paulenoff, *The Business One Irwin Guide to the Futures Markets* (Homewood, IL: Business One Press, 1993).
[14] J. P. Kairys Jr. and N. Valerio III, 'The Market for Equity Options in the 1870s,' *Journal of Finance* 52 (1997), pp. 1707–1723.

transaction costs, by J. Masschaele on business partnerships and by P. Spufford on banking.[15] It is suggested that many of the financial instruments employed in the medieval economy were motivated by the illegality of interest payments on loans (usury) at that time, creating a need for relatively complex transactions that paid an implicit interest. J. Gilchrist presents an example of non-existent loans of wheat (where only cash actually changed hands) made at prices below those prevailing and where repayment occurred later at market value.[16] From the middle of the thirteenth century, there was a gradual narrowing of the definition of usury so that it eventually encompassed only loans at exorbitant rates of interest. For example, Gilchrist states: 'a merchant who forgoes a chance to make a profit because he makes a charitable loan can reasonably take interest provided that his intention was honest and that he was not accustomed to make such loans'.[17] Reasonable rates of interest were argued to be of the order 5 per cent–12 per cent, figures far lower than those implicit in most documented transactions of the time.

A further example of a fictitious deal occurred when landowners would sometimes transfer the legal title of their property to a 'financier' in exchange for cash.[18] The financier would earn a profit by collecting any rents or profits that accrued to the holder of the land, and the original landowner had the right to reclaim the land at the original price on a pre-specified date. M. S. Knoll shows that such an arrangement could be viewed as using tools from modern finance known as 'financial options'. These options would pay the holder in certain circumstances, and would artificially create the same contingent pay-offs as a loan secured on property. Both put and call options (giving the holder the right but not the obligation to sell and the right but not the obligation to buy respectively) were written on tulip bulbs in Amsterdam in the 1600s. The existence of

[15] Munro, 'Industrial transformation in the north-west European textile trades'; Munro, 'The International Law Merchant and the Evolution of Negotiable Credit in Late-Medieval England and the Low Countries', in D. Puncuh, ed., *Banchi pubblici, banchi privati e monti di pieta nell'Europa preindustriale: amministrazione, tecniche operative e ruoli economici*, Nouva Serie, Vol. XXI (Genoa: Societa Ligure di Storia Patria, 1991), pp. 49–80; reprinted in 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 and Brookfield: Ashgate, 1994); M. Kowaleski, *Local Markets and Regional Trade in Medieval Exeter* (Cambridge, 1995); J. Masschaele, *Peasants, Merchants and Markets: Inland Trade in Medieval England, 1150–1350* (Basingstoke, 1996); P. Spufford, *Power and Profit: The Merchant in Medieval Europe* (London, 2002).

[16] J. Gilchrist, *The Church and Economic Activity in the Middle Ages* (London, 1969), p. 107.

[17] *Ibid.*, p. 69.

[18] M. S. Knoll, *The Ancient Roots of Modern Financial Innovation: The Early History of Regulatory Arbitrage* (2004) Mimeo. Wharton School, University of Pennsylvania.

such instruments adds weight to our argument, detailed in Chapter 4, that the pricing formulae used by modern financial market practitioners are not necessary for the instruments to be priced and traded. The put–call parity relationship, which would now be employed to ensure that financial options are priced correctly, was developed only by a study in 1969.[19] E. J. Swan presents a comprehensive account of the history of derivatives markets.[20]

The data on which this monograph is based emanate from the ESRC-funded, one-year research project 'Modern Finance in the Middle Ages? Advance Contracts for the Sale of Wool' based at the ICMA Centre, University of Reading, UK. A multidisciplinary study, which adds to the growing literature highlighting the financial sophistication of the medieval economy, it combines empirical historical and modern financial research methods to examine the nature and extent of the forward selling of one of medieval England and Europe's most highly prized commodities at a period of considerable economic flux. This research documents more comprehensively than before the existence and volume of what are termed 'advance contracts' for the sale of wool in England around 700 years ago. The primary objective of the study was to employ valuation techniques from 'modern' finance theory to analyse a sizeable corpus of such contracts, which are recorded in governmental records from the thirteenth century, investigating whether plausible rates of interest were charged and if the wool market was informationally efficient. To our knowledge, this is the first study in either discipline to examine the information contained in advance contracts for the sale of wool in such volume and the first to consider the efficiency of the market.[21] In order to facilitate this analysis, it was necessary to collect a large body of historical data, much of which, though widely employed by economic and monastic historians before, has not been published *in extenso*.[22]

The advance contracts for the sale of wool that will be examined and discussed in great detail in the following chapters demonstrate that not only options, but also instruments akin to forward contracts, were in widespread use throughout the thirteenth and fourteenth centuries.

[19] H. R. Stoll, 'The Relation between Put and Call Prices', *Journal of Finance*, 44 (1969), pp. 801–824.
[20] E. J. Swan, *Building the Global Market: A 4000 Year History of Derivatives* (Dordrecht, 2000).
[21] The financial aspects of the contracts are discussed in Chapter 4.
[22] The contracts investigated in this project and drawn upon in this current study have been published in *Advance Contracts.*

English monasteries frequently sold their wool to Italian merchant societies for up to twenty years in advance for prices agreed on the date that the contract was signed. Lloyd states that 'Italian firms were desirous of exporting the best wools and were prepared to pay very high prices and to make long term contracts to get them . . . The Italians, for instance, took the lion's share of Cistercian wool and in 1294 were buying from 49 out of the 74 monasteries'.[23]

It also appears that Italian merchant societies, most notably the Bardi and the Peruzzi of Florence, engaged in forward exchange rate agreements for papal taxes collected in England.[24] The contracts specified the precise exchange rates and dates of exchange for a year in advance.[25] The Italian merchants were at the forefront of the development of these early derivatives markets. Forward agreements for the sale of glass and grain have also been documented, and in both cases the purchasers were Italian merchants. The Medico of Genoa contracted on 24 July 1215 to purchase four '*centenaria* of good and fine glass' for £3 Genoese, while Ser Ottonio paid £200 Veronese on 12 June 1236 for 500 '*modii* of cereals' over the next two years.[26] More evidence of financial sophistication exists in the Middle Ages. For example, M. Kohn suggests that risk transfer instruments were already in existence at that time. Marine insurance ('sea loans'), for instance, were employed in Genoa as early as the twelfth century and were in widespread use by 1200 in large ports such as Venice. Sea loans were debt contracts that were only repayable contingent upon safe arrival of the ship. There is also evidence that these early insurers were far from naïve in their use of the instruments. Indeed, they appeared to have been aware of moral hazard[27] problems, only permitting a fraction (e.g., 25 per cent–30 per cent) of the value of a cargo to be insured.[28]

The needs for derivative instruments and insurance were arguably much greater then than they are now: the processes of trade and sale were far more risky; transportation was fraught with dangers including piracy or shipwrecks at sea and theft or confiscation by corrupt officials on land. Born of

[23] Lloyd, 'The Movement of Wool Prices in Medieval England', p. 10.
[24] R. A. Goldthwaite, 'Local Banking in Renaissance Florence', *Journal of European Economic History*, 14 (1985), pp. 5–55.
[25] Kohn, 'Risk Instruments in the Medieval and Early Modern Economy', Department of Economics, Dartmouth College (1999), Unpublished, Working paper 99-07.
[26] R. S. Lopez and I. W. Raymond, *Medieval Trade in the Mediterranean World* (New York, 1955).
[27] This is a tendency for those who are insured to take greater risks than they otherwise would have done, thus increasing the probability of an insurance claim.
[28] Kohn, 'Risk Instruments in the Medieval and Early Modern Economy'.

this need for some certainty in a highly uncertain world, wool-growers were willing to forgo some of their revenue for the future sale of their product in order to receive an up-front payment. The merchants with whom the wool producers did business, by contrast, had the financial resources to be able to bear these risks and to diversify them substantially away by transacting with a large number of different producers.

THE MEDIEVAL ENGLISH WOOL MARKET

The wool market was extremely important to the English medieval economy. Wool dominated the English export trade from the late thirteenth century to its decline in the late fifteenth century. Even contemporary comment noted the significance of the wool trade – naming it 'the jewel of the realm' and demonstrated in the often quoted statement by Postan that, 'The barons of England, sitting in Parliament, asserted in 1297 that wool represented half of England's wealth or, as they put it, "half the value of the whole land"'.[29] Wool was at the forefront of the establishment of England as a European political and economic power and the importance of wool is highlighted in many well-known historical episodes: the letter from Charlemagne to King Offa, complaining that the standard of English woollen cloaks had slipped; the massive ransom of Richard the Lionheart, paid with 50,000 sacks of English wool; and the anachronism of the Lord Chancellor sitting on the Woolsack as a symbolic recognition of his power.

By the end of the thirteenth century, the heavily industrialised areas of Europe could not have existed without the export of English wool. A halt in the export trade could bring whole areas to the brink of starvation and economic ruin. The trade in raw wool, and the taxes charged on its export, financed the wars of Edward I and allowed the English to compete with the larger resources of France during the Hundred Years' War. Indeed, it is possible that this protectionist policy, introduced to finance war, ended the sophisticated and early use of forward contracts in the late thirteenth century. Fiscal control of the wool market helped finance Edward III's successful campaigns against the French during the first phase of the Hundred Years' War.[30] That some of the Italian bankers subsequently

[29] A common way of referring to the wool trade from the middle of the fourteenth century, cited in M. M. Postan, *Medieval Trade and Finance* (London, 1973), p. 342.

[30] For instance, Edward III's extraordinary indenture with his merchants in 1337 in a speculative structured wool deal to finance his alliance strategy to the tune of £200,000, *Calendar of Patent Rolls 1334–38*, pp. 480–2. For the best treatment of this 'English Wool Company', see E. B. Fryde, *William de la Pole, Merchant and King's Banker* (London, 1988), chs. 6 and 7.

went bankrupt has been widely documented and some of the blame has been levelled at Edward III. This is a misconception, and the failure of these houses has been shown to have been a much more complex affair and little to do with the actions of the English Crown.[31]

England began the period as an exporter of wool as a raw material and was transformed into an exporter of mainly manufactured woollen cloth. The peak in exports in raw wool was during the thirteenth and early fourteenth centuries with perhaps 40,000–45,000 sacks exported each year,[32] and this gradually declined with the export of 33,000 sacks in 1355 and only 9,706 sacks in 1476.[33] The Crown's decision to tax the export of wool encouraged (deliberately or not) the development of a domestic cloth industry and thus a move to the export of cloth. The increase in cloth export is seen to rise from fewer than 10,000 cloths per year in 1349–50 to 60,000 cloths in 1446–7 and around 140,000 annually by 1539–40.[34] This domestic cloth industry was further strengthened by the immigration of Flemish cloth weavers, who perhaps facilitated the growth of the textile industry in England. It can be clearly demonstrated by the export figures that the wool export market may have declined, but in its place a textile industry was born.

OUTLINE OF THIS BOOK

It might be perhaps pertinent to begin by explaining what is not covered in this book. This volume is not an attempt to write a history of the wool trade in medieval England, for this task has been more than amply completed by Lloyd, Power and the like. Rather, this book is an attempt to provide a detailed insight into an extraordinary body of evidence regarding the early use of advance contracts. This is primarily and unapologetically a study focused upon the use of an early form of financial instrument in medieval England. We will demonstrate that this important source material justifies this concentrated study and discuss how our research into this sophisticated market in wool will alter our understanding of modern finance. Financial specialists may have to accept that advances in asset pricing techniques were developed very early in Europe and that we should be cautious when ascribing such financial tools to the twentieth century.

31 See for instance: Hunt, 'A New Look at the Dealings of the Bardi and Peruzzi with Edward III'.
32 Postan, *Medieval Trade and Finance*, p. 350.
33 Lloyd, *English Wool Trade*, p. 311, Table 19. For a summary of exports, see Carus-Wilson and Coleman, *England's Export Trade*, especially pp. 122–123, England: Raw Wool Exports.
34 *Ibid.*, pp. 138–139, England: Cloth Exports.

The book is split into five chapters, including the current introduction. Chapter 2. 'Advance contracts for the supply of wool', will discuss the unique existence of advance contracts for the supply of wool from *c.* 1200 to 1327. These contracts are preserved at the National Archives and demonstrate that some of the monastic orders in England had developed a sophisticated method of financing their wool sales with continental and, primarily, Italian merchant societies. We will discuss: the sources; the contracting parties; the volume, structure and nature of the contracts; why advance contracts were written; what happened following default; the practicalities of the trade, including wool standards, delivery and distribution and local variations. Chapter 3: 'Case study – Pipewell Abbey, Northamptonshire', will focus upon one particular abbey, the Cistercian monastery of Pipewell in Northamptonshire and a series of contracts drawn up for the forward sale of its wool production. What were the monks doing with all the money? What mechanisms were used to ensure that both parties kept to their side of the bargain and what happened when such mechanisms broke down? The story of the wool contracts entered into by the abbots of Pipewell ended in dispersal, but was it greed or optimism that led the monks into this circle of indebtedness? Chapter 4: 'Modern finance in the middle ages?', will look at the structure of the forward agreements for the sale of wool, what was included and why they exist. We will also investigate from a modern finance perspective whether the wool market was efficient. Were the monks making effective deals – were reasonable interest rates charged? Did the monasteries or counterparties default on the agreements and what systems existed to deal with the aftermath? The chapter will look in detail at how the contracts were structured and priced and compare the pricing against the prevailing wool prices. Finally, Chapter 5: 'Conclusions' will summarise the main findings of this study.

We have also included three Appendices to support this volume. Appendix 1 is an example of an advance contract for the supply of wool and includes a photograph of the contract, a Latin transcription and an English translation. This is perhaps the earliest known indenture for the forward sale of wool and has been previously overlooked in other studies on the wool market. Appendix 2 is a summary of facts and figures drawn from the body of contract evidence that we have collected and Appendix 3 is a listing of the contracts we have drawn upon throughout this study.